

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection

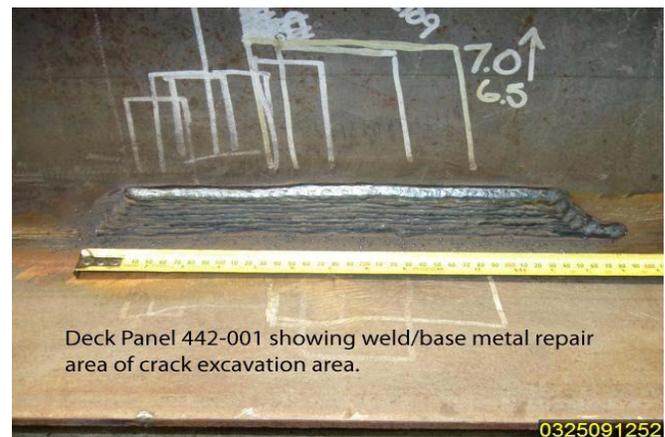
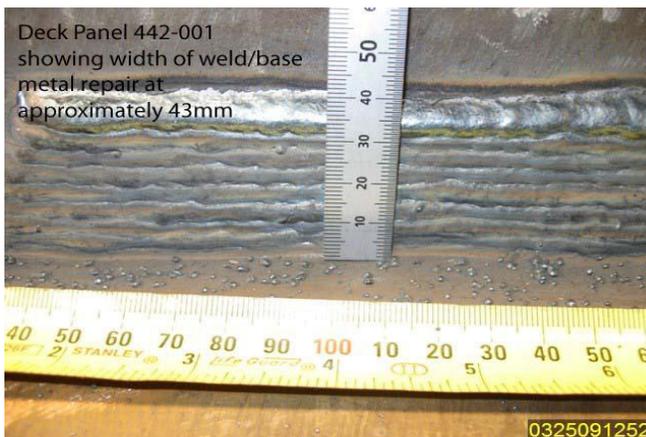


Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCR-000239**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Mar-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0213**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG U-Rib Deck Panels**Procedural****Procedural****Description:****Reference Description:** Deck panel distortion due to excessive welding repair**Description of Non-Conformance:**

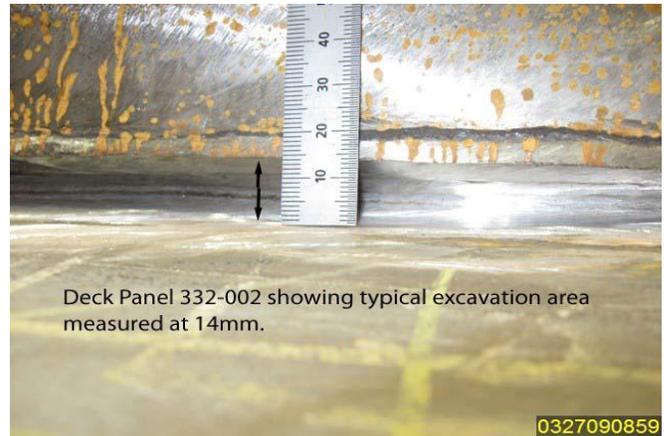
Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP332-002, DP492-001, DP249-001, DP442-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001.

QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

AWS D1.5 (2002) - paragraph 3.4 "Control of Distortion"; paragraph 12.17.1 "Repair Welding WPS Requirements"

Who discovered the problem: Erik Prue

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 03/26/2009, 1100, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 03/29/2009, 1300, Verbal

QC Inspector's Name: Sun Bo

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Reviewed By: Wahbeh,Mazen

SMR



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Tel: 021-56856666 ext 207061 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 06-Apr-2009

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

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project Manager - OBG

Document No: 05.03.06-000206

Subject: NCR No. ZPMC-0213

Reference Description: Deck panel distortion due to excessive welding repair

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

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

Material Location: OBG **Lift:**

Remarks:

Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP332-002, DP492-001, DP249-001, DP442-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001. QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.

Action Required and/or Action Taken:

Please propose a resolution for the identified non-conformance.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0213

cc: Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, Ching Chao

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000206

Subject: NCR No. ZPMC-0213

Dated: 20-May-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000215 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: As for the distortion observed, ZPMC generated an HSR then performed the heat straightening, subsequently CT performed the PAUT test. ZPMC requests closure of this NCR.

ABF acknowledges the weld repairs shown are excessive and has discussed this with ZPMC QA/QC/Production staff. Approval of Base Metal repairs by the engineer however, is not required unless it is a 3rd time repair as stated in the approved ZPMC WQCP section 9 and the CT special provisions. Welding technique was the issue as undercut exceeding .25mm was observed at the toe of the weld requiring another weld pass, this continued until the undercut was not observed resulting in excessive weld. As for the distortion observed, ZPMC generated an HSR then performed the heat straightening, subsequently CT performed the PAUT test. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000215R00

Caltrans' comments:

Status: REJ

Date: 08-Jun-2009

The proposed resolution is not acceptable. Section 9.2.1.2 of the Welding Quality Control Plan (WQCP) states that "... prior approval of the Engineer shall be obtained for repairs to base metal ...".

Prior approval of base metal repairs is required on the first time excavation, not at the third-time excavation as stated in this NPR.

Submitted by: Wright, Doug

Date: 08-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Dated: 09-Oct-2009

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

Attention: Pursell, Gary
Resident Engineer

Job Name: SAS Superstructure

Ref: 05.03.06-000206

Document No.: ABF-NPR-000215 **Rev:** 01

Subject: NCR No. ZPMC-0213

Contractor's Proposed Resolution:

Reference Resolution: PAUT was performed by CT subsequent to the repairs and found acceptable therefore ZPMC requests closure of this NCR.

ABF acknowledges the weld repairs shown are excessive and has discussed this with ZPMC QA/QC/Production staff. Attached is the WRR which was used at the time to repair the Base Metal. ABFJV and ZPMC acknowledge that Engineer approval of base metal repairs is required. PAUT was performed by CT subsequent to the repairs and found acceptable therefore ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000215R01;

Caltrans' comments:

Status: AAP

Date: 17-Nov-2009

The WRR submitted only addressed one of the issues in NCR. Although the welds in questions have been accepted and verified by CT inspectors, the HSR and the NDT documents for the affected welds still need to be submitted or updated in the QA database for closing this NCR.

Submitted by: Chao, Ching

Date: 17-Nov-2009

Attachment(s):



No. B-475

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-9-18

REGARDING: NCR-000239 (ZPMC-0213)

With this letter of response, ZPMC requests closure for Caltrans NCR-000239 (ZPMC-0213). Per the comments of the NPR, we are providing the WRR for evidence that the weld repair have been performed and the panels are all complete with the PAUT inspection and accepted by three parties base on the PAUT reports and QA form which we submitted before.

Please reference attached documentation for acceptance and closure the NCR-000239 (ZPMC-0213).

ATTACHMENT:

NCR-000239 (ZPMC-0213)

The weld repair report

Chao Shuangbao

2009. 9. 18



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	DP442/332/492/249/3 05/357/495/469/330/4 15	报告编号 Report No.	B-WR7623
合同号 Contract No.:	04-0120F4	部件名称 Items Name	顶板板单元 Deck plate comp onent	NDT报告编号 Report No.of NDT	
项目编号 Project No.:	ZP06-787				NA

焊缝缺陷描述:

Description of welding discontinuity:

CT对顶板板单元DP442-001,DP332-002,DP492-001,DP249-001,DP305-001,DP357-001,DP495-001,DP469-001,DP330-002,DP415-001 PAUT检测时发现裂纹。

Caltrans found crack at DP442-001,DP332-002,DP492-001,DP249-001,DP305-001,DP357-001,DP495-001,DP469-001,DP330-002,DP415-001 by use of PAUT.

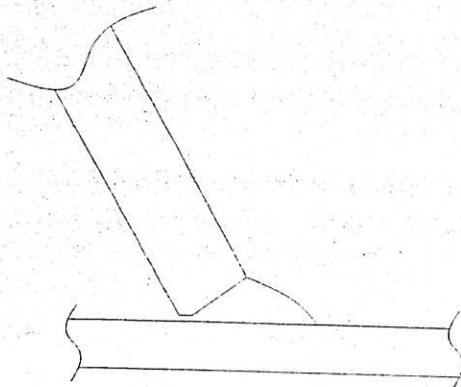
检验员 (Inspector):

Sun Yan Fei
SunYanFei

日期(Date): 2009.09.15

焊缝返修位置示意图:

Draft of welding discontinuity:



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): *Li Hai fei* 日期(Date): *09.09.16*

处理意见

Disposition:

1. 利用打磨的方法去除裂纹;
 2. 按照焊接返修工艺规程(WPS)准备焊缝接头形式;
 3. 返修前对坡口作100%VT与MT检查, 确保缺陷完全去除;
 4. 按照批准的焊缝返修工艺规程(WPS)进行预热和焊接修补;
 5. 打磨焊缝区域使其与邻近焊缝平齐;
 6. 对修补区域作100%VT与MT检测;
-
1. Remove the defects by means of grinding cleanly.
 2. Prepare excavation in accordance with an approved repair WPS.
 3. Perform VT and MT to the groove to ensure the removal of the defects before repairing.
 4. Preheat and weld according to the relevant repair WPS.
 5. Grind the weld flush with adjacent welds.
 6. Perform 100% VT and MT to the repair area.

工艺: *Hexiulin*
Technical engineer

09.09.16

审核:
Approved by

日期
Date



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No.	DP442/332/492/249/3 05/357/495/469/330/4 15	报告编号 Report No.	B-WR7623
合同号 Contract No.:	04-0120F4	部件名称 Items Name	顶板板单元 Deck plate component	NDT报告编号 Report No. of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective 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): *Litai fei*日期(Date): *09.09.16*

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-2 G(2F)-Repair WPS-345-FCAW-2 G(2F)-Repair-1	工艺员 technologist	<i>Hexiao Lin</i> <i>09-09-16</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>NA</i>	返修的缺陷 Description of discontinuity	<i>Crack</i>
焊前处理检查 Inspection before welding	<i>Au</i>	焊前预热温度 Preheat temperature before welding	<i>115</i>
最大碳刨深度 Max. depth of gouging	<i>10.0 mm</i>	碳刨总长 Total length of gouging	<i>NA</i>
焊工 welder	<i>203805</i>	焊接类型 welding type	<i>FCAW</i>
焊接电流 Current	<i>285 A</i>	焊接电压 Voltage	<i>30.5 V</i>
		焊接位置 position	<i>2G</i>
		焊接速度 Speed	<i>500 mm/min</i>

返修后检查

Inspection After repairing:

外观检查 VT result	<i>See</i>	检验员 Inspector	<i>Chen</i>	日期 Date	<i>2009.9.16</i>
NDT复检 NDT result		探伤员 NDT person		日期 Date	

见证:

Witness/Review:

备注:

Remark:

#R787-QCP-900

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000206

Subject: NCR No. ZPMC-0213

Dated: 10-Dec-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000215 Rev: 02

Contractor's Proposed Resolution:

Reference Resolution: Non destructive testing was performed after repairs were complete by ZPMC and Caltrans. Acceptance of the NDT was documented in QA Verification Forms

In ABF-NPR-000215R00, ABFJV stated that ZPMC performed heat straightening. It was later determined by ZPMC that the flatness of the deck plate did not exceed the allowable tolerances so heat straightening was not performed. Please see the attached ZPMC internal NCR section "Technical Justification for Use As Is/Repair". Non destructive testing was performed after repairs were complete by ZPMC and Caltrans. Acceptance of the NDT was documented in QA Verification Forms: DP442-001, #6429, dated 04/08/2009; DP332-002, #6538, dated 04/10/2009; DP492-001, #6425, dated 04/08/2009; DP249-001, #6404, dated 04/07/2009; DP305-001, #6424, dated 04/08/2009; DP357-001, #6540, dated 04/10/2009; DP495-001, #6539, dated 04/10/2009; DP469-001, #6432, dated 04/18/2009; DP330-002, #6408, dated 04/07/2009; DP415-001, #6433, dated 04/08/2009. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000215R02;

Caltrans' comments:

Status: AAP

Date: 17-Dec-2009

Photo in NCR shows distortion (apparently) beyond the allowable. Submit ZPMC information indicating flatness has been achieved.

Submitted by: Howe, Bill

Date: 17-Dec-2009

Attachment(s):



No. B-521

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-12-08

REGARDING: NCR-000239(ZPMC-0213)

With this letter of response, ZPMC requests closure for CALTRANS NCR-000239(ZPMC-0213), what mentioned that QA observed excessive welding on repair area..

Before these repair working, ZPMC has got an approved repair procedure. After repair the dimensions of these panels are acceptable and they were green tagged already.

So with the internal NCR from ZPMC, "Repair Procedure for Closed-rib Welds" and the reasons above, ZPMC hoping CALTRANS could take a review and consider close this NCR.

ATTACHMENT:

NCR-B-140

NCR-000239(ZPMC-0213)

Repair Procedure for Closed-rib Welds

Jay 
12/08/09



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-140 (NCR-00239)

Item: Deck panel distortion
 due to excessive welding
 repair
 名称描述: 额外的焊接返修
 造成顶板单元变形

Item Number:
 件号:

Drawing:
 图号: DP442-001, DP332-002, DP492-001, DP249-001,
 DP305-001, DP357-001, DP495-001, DP469-001, DP330-
 002, DP415-001

Location:
 位置: BAY 12

Date:
 日期: 2009-04-16

Description of Nonconformance:

Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP332-002, DP492-001, DP249-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001.

QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.

加州 QA 检验员监控 ZPMC 的焊工对顶板单元进行相控阵返修时, 发现返修的焊缝高度已经高出面板 40 毫米, 大大超出原来的焊缝范围, 监造认为已经涉及到母材返修。具体板单元编号是: DP442-001, DP332-002, DP492-001, DP249-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, DP415-001。

在焊接一结束, QA 检验员还发现由于返修次数过多, 在相控阵返修区域的顶板单元变形严重。QA 检验员也从 ZPMC QC 孙波处证实返修时没有合适的返修工艺。这些返修没有根据项目的要求执行。

Work By: *Shoy Yanjun*

Prepared by: *Furukawa*
 准备: *2009.4.16*

Reviewed by QCE: *Zhuo Sheng*
 质量工程师批准:

施工方: *林江军*

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

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

Recommendation:

建议:

Prepared by: _____
 准备

Approved by QCA: _____
 质量经理批准

Reason for Nonconformance:

不符合原因: (1) 因现场多次返修, 造成隔直位置上的导致缺口过大, 为不造成咬边, 特增加焊缝

(2) 焊工现场焊接方法不当

- 1) The defect moved upward for several repair and enlarged groove and caused undercut, so increase weld pass.
- 2) welder operated inadequately.

Prevention of Re-occurrence:

预防措施:

(1) 加强焊工的技术培训和责任心教育。
(2) 加强现场监督。

- 1) Train and educate welder to improve technology.
- 2) Enhance supervision on-site.

Approved by/批准: Li Haifeng

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:

根据顶板U肋焊接修补工艺2.1与2.2要求: "If the damage to base metal does not exceed the allowance by ASTM A6, grind the damaged base metal to a smooth transition with adjacent area. If damaged depth exceeds A6 allowance, repair according to step 2.2." 以及2.3要求: "If undercut defects are found, take actions as following" 详见附图材料。另顶板平整度根据EPC规格测量没有超差, 可以回用。

In accordance with the repair procedure for DP V-Ribs 2.1 and 2.2: "If the damage to base metal does not exceed the allowance by ASTM A6, grind the damaged base metal to a smooth transition with adjacent area. If damaged depth exceeds A6 allowance, repair according to step 2.2 and 2.3. If undercut defects are found, take actions as following. attached material for detail. Besides, deck plate can be used since its flatness not exceeding the allowance provided by DE.

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: _____



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: 06-Apr-2009

Contract No: 04-0120F4

Job Name: 04-SF-80-13.2 / 13.9

Document No: SAS Superstructure
 05.03.06-000206

Dear: Mr. Charles Kanapicki
 Attention: Mr. Thomas Nilsson Project Manager - OBG
 Subject: NCR No. ZPMC-0213

Reference Description: Deck panel distortion due to excessive welding repair

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

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

Material Location: OBG

Lift:

Remarks: Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP532-002, DP492-001, DP249-001, DP442-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001. QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.

Action Required and/or Action Taken:

Please propose a resolution for the identified non-conformance.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0213

cc: Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, Ching Chao

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) 649-6453
(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-000239

Date: 25-Mar-2009

NCR #: ZPMC-0213

Type of problem:

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

Bridge No: 34-0006

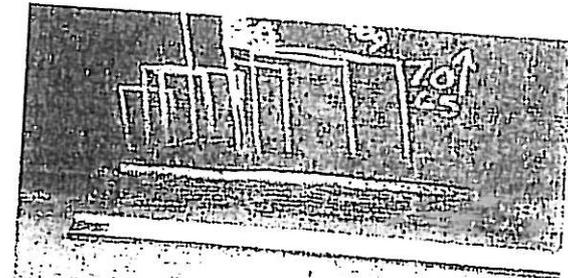
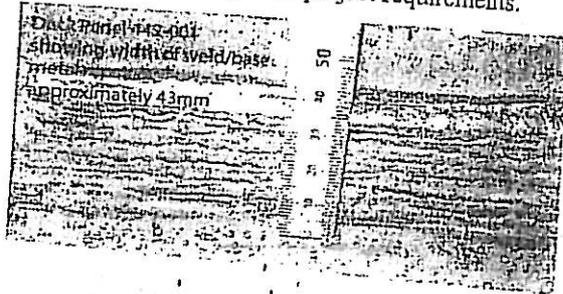
Component: OBG U-Rib Deck Panels

Reference Description: Deck panel distortion due to excessive welding repair

Description of Non-Conformance:

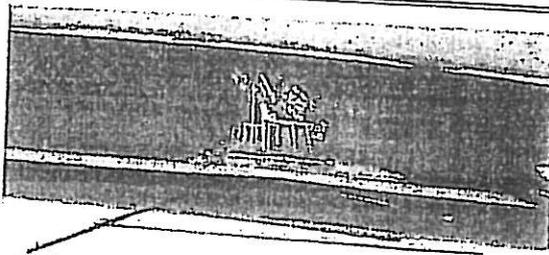
Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP332-002, DP492-001, DP249-001, DP442-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001.

QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.



Deck Panel 442-001 showing weld/base metal repair area of crack excavation area.

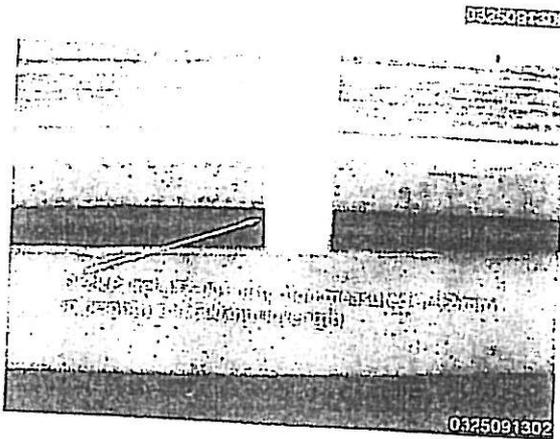
QUALITY ASSURANCE -- NON-CONFORMANCE REPORT
(Continued Page 2 of 3)



Deck Panel 442-001 showing distortion of deck panel due to welding



Deck Panel 332-002 showing typical excavation area measured at 14mm.



0325091302

0327090859

0325091302

Applicable reference:

AWS D1.5 (2002) - paragraph 3.4 "Control of Distortion"; paragraph 12.17.1 "Repair Welding WPS Requirements"

Who discovered the problem: Erik Prue

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 03/26/2009, 1100, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 03/29/2009, 1300, Verbal

QC Inspector's Name: Sun Bo

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Reviewed By: Wabbeh, Mazen

SMR

Repair Procedure for U-rib Welds (surface defects only)

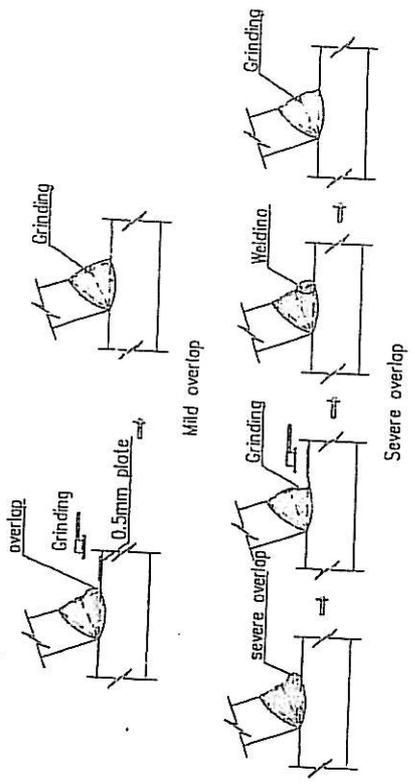
The repair procedures are for repairing the welds between closed-ribs and deck plate, where there are defects. For different defects, see the following:

1. General requirements:
 - 1.1 Perform weld repair according to AWS D1.5 approved WPS and the requirements specified below;
 - 1.2 welders used shall be qualified for the position and methods.
2. closed-ribs exterior defects:
 - 2.1 Repair method for overlap:

Remove the excessive weld metal by grinding it flush with adjacent base metal or weld surface. During grinding, a sheet metal will be placed on top of deck plate to prevent damaging it. If damage to base metal does not exceed the allowance by ASTM (A574 A6 allowance is 0.3 mm)

A6, grind the damaged base metal to a smooth transition with adjacent area. If damaged depth exceeds A6 allowance, repair according to step 2.2. Weld profile after grinding should produce a workmanlike finish as stated in AWS D1.5, section 3.6.3. Disc grinder may be used for initial

grinding, but a small grinding tool, such as stone grinder, will be used to achieve the desired profile. Once grinding is completed, QC will measure the weld size and check its profile. In case undercut or undersize weld is noticed through VT, weld should be repaired according to step 2.2.



2.2 Repair for undersize welds, underfill crater or lack-of-fusion:

APPROVED FOR CONSTRUCTION

APPROVED FOR CONSTRUCTION
 Submitted to Overseas Marine
 Office of Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 California State Office
 1010
 State of California
 State of California



SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
 ROUTE 80 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA.
 BRIDGE Nos: 34-0008L PM B.2, KP 13.2 & 34-0008R PM B.7, KP 13.9
 STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-0120F4
 ENGINEER: CALTRANS --- T. YILIN / MOFFATT & NICHOL, JV.
 CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV.
 repair procedure for closed-ribs welds

ID	DATE	REVISIONS	BY	CHECKED	ORDER NO.

06 BIZ

repair procedure for closed-ribs welds

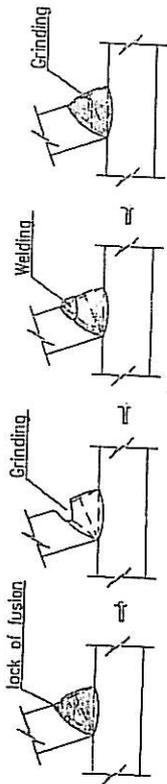
2.2.1 Prior to repair, remove all the weld slags, and clean the welds and adjacent base metal surface.

2.2.2 Lack of fusion will be removed by grinding. MT will be performed to ensure the removal of all defects.

2.2.3 Choose either WPS (WPS-345-FCAW-2G(2F)-repair-1 or WPS-345-SMAW-2G(2F)-repair) to deposit the additional weld metal. Minimum deposit weld size shall follow the corresponding WPS, ^(in the required profile per section 2.1)

2.2.4 Grind flush with the adjacent base metal or weld surface.

2.2.5 Perform MT to the repaired area.

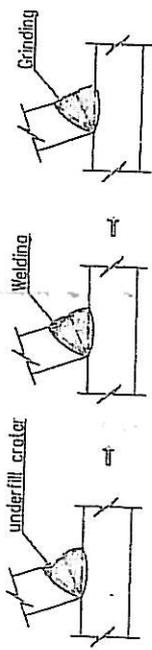


lack of fusion

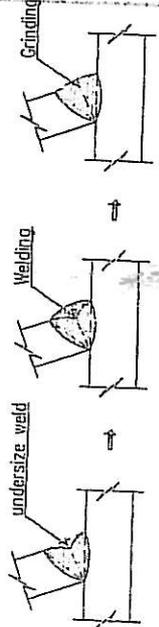
2.3 If undercut defects are found, take actions as following:

2.3.1 When undercut values $\leq 0.25\text{mm}$, no actions are needed.

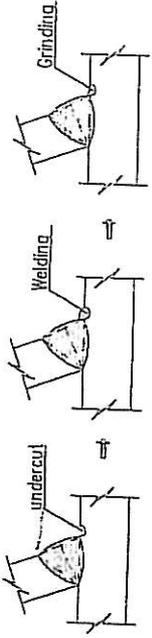
2.3.2 When undercut value $> 0.25\text{mm}$, clean the weld surface to prepare for weld repair, and repair the welds according to step 2.2.



underfill crater



undersize weld



undercut

APPROVED
 APPROVED AND ADJUSTED
 RETURNED FOR CORRECTION
 Pursuant to Section 91406
 of the Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 Highway 715, Building 8010
 Sacramento, California 95834
 Date: 10-21-08
 Signature: [Signature]



SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
 ROUTE 80 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA.
 BRIDGE Nos.: 34-000BL PM B.2, KP 13.2 & 34-000BR PM B.7, KP 13.9
 STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-D120F4
 ENGINEER: CALTRANS ----- T.Y. LIN / MOFFATT & NICHOL, JV.
 CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV.

NO.	DATE	BY	REMARKS
			No. 1212
CHECKED			BY
DRAWN			BY
SHEET NO.			ORDER NO.
RF-002			

repair procedure for closed fillet welds

2.4 Repair for defects occurring during GMAW root welding process, such as pores, incomplete fusion and cracks, etc.:

2.4.1 Remove all the weld slags, and clean the welds and adjacent base metal surface.

2.4.2 Remove the defects by grinding, and perform MT to ensure removal of all defects for pores or incomplete fusion, for crack locations, 50mm ^{on both} either side; if applicable inline with WQCP.

2.4.3 Preheat and reweld the repaired area according to the approved repair procedure:

WPS-B-T-2342-UI(U-rib)-4 or

WPS-345-FCAW-2G(2F)-Repair-1(when the repair length is less than 300mm) minimum pre-heat to be 65°C.

2.4.4 Grind flush with the adjacent base metal or weld surface.

2.4.5 Perform MT to the repaired area.

2.4.6 Repaired area to be distinctly indentified on the closed rib for later NDT.

2.5 Repair of cracked tack welds prior to depositing the root run:

2.5.1 The extent of the crack to be determined by MT.

All the cracks in the tack weld shall be removed at this stage to the final shape/extent of the repair.

2.5.2 Carefully remove the crack by grinding in accordance with AWS D1.5 Section 3.7.2.4.

2.5.3 If the tack has to be reinstated check root gap to ensure that the gap is no greater than 0.5mm. Weld inline with 2.5.4.

2.5.4 Perform the tack weld according to the approved WPS:

WPS-B-T-2342-U2(U-rib).

2.5.5 Grind transition at each end of the tack weld.

2.5.6 VT/MT of the tack weld, per Section 2.5.2 (shall be performed in the transition on both sides)

Note: If removal of crack causes root gaps exceeding 0.9 mm, refer Item 3.2 for repair.

APPROVED FOR CORRECTION
 Approved for Correction
 of the Standard Specifications
 of the State of California
 DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 DIVISION OF BRIDGES
 DIVISION OF STRUCTURES
 DATE: 10/3/88
 BY: [Signature]

ZPMC SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
 ROUTE 80 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA.
 BRIDGE No.: 34-0008L PM B.2, KP 13.2 & 34-0008R PM B.7, KP 13.9
 STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-D120F4
 ENGINEER: CALTRANS --- T.Y. LIN / MOFFATT & NICHOL, J.V.
 CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, J.V.

repair procedure for closed Rib Welds

NO.	DATE	REVISIONS	BY

REVISIONS	CHECKED	SHEET NO.	ORDER NO.
		RP-003	

3. Interior weld defects:

3.1 For all interior defects and indications, perform the following procedure.

3.1.1 Prepare excavation (defect length + 50mm each side)

- Preheat to 65 °C and carbon-arc gouge (using a 6mm diameter carbon-arc rod) or grind the weld to a depth of 5 mm thru 8 mm (if ground no preheat required).

- Finish grind to bright metal surface to a depth of 9.6+1/-0mm. (Refer to Item 3.2 for repair of over grind areas)

- Measure excavation depth with a template.

- The contour and profile of excavation shall be suitable for welding.

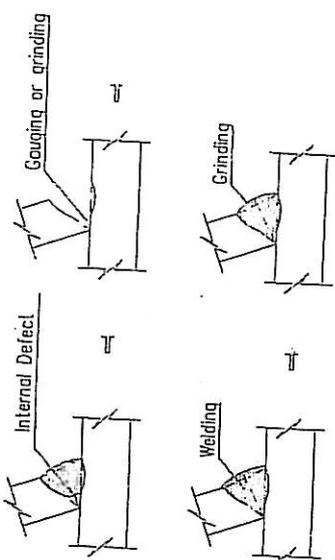
3.1.2 Weld excavation

- Preheat to minimum of 100°C
- Weld the excavation according to repair procedure WPS-345-FCAW-2G(G2F)-repair-1
- MT root pass

3.1.3 Grind repair flush with base metal or adjacent weld surface to a smooth transition

no sharper than 1:10, and to the required profile per Section 2.1.

3.1.4 100% VT, MT and UT
 defects found will be addressed.



All Internal Defect Repairs

APPROVED
 AS NOTED
 RETURNED FOR CORRECTION
 Pursuant to Section 5-102
 of the Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
 Construction Administration
 Date 1/8/98
 Signature: [Handwritten Signature]



SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
 ROUTE 60 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA.
 BRIDGE Nos. 34-000BL PM 8.2, KP 13.2 & 34-000BR PM 8.7, KP 13.9
 STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-0120F4
 ENGINEER: CALTRANS --- T.Y. LIN / MOFFATT & NICHOL, JV.
 CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV.

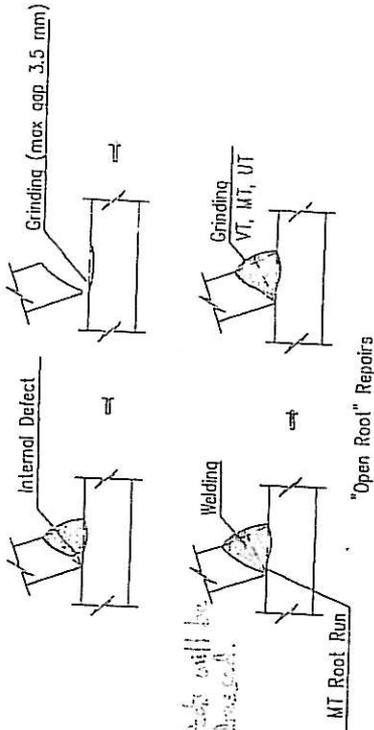
repair procedure for closed rib welds

NO.	DATE	BY	REVISIONS
			REVISOR'S

DRAWN	CHECKED	SHEET NO.	ORDER NO.
		RP-004	

3.2 Procedure for "Open Root" repair (3.5 mm gap maximum)

- 3.2.1 Prepare joint excavation according to approved SMAW WPS (WPS-345-SMAW-2G(F)-Repair-1)
- 3.2.2 Preheat to 60°C minimum.
- 3.2.3 Weld joint according to approved SMAW WPS.
- 3.2.4 After root run, grind, and perform 100% MT. *any defects will be grinding out.*
- 3.2.5 Continue welding according to WPS.
- 3.2.6 Grind repair flush with base metal or adjacent weld surface to a smooth transition no steeper than 1:10, *and to the required profile.*
- 3.2.7 Perform 100% VT, MT, UT of repair. *Per Section 2.1.*



"Open Root" Repairs

APPROVED
 RETURNED FOR CORRECTION
 Pursuant to Section 54000 of the Standard Specifications of the State of California
 State of California
 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
Chun Hui Lee
 Structural Representative
 10-27-08



SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

SAN FRANCISCO OAKLAND BAY BRIDGE, EAST SPAN SELF-ANCHORED SUSPENSION SPAN
 ROUTE 80 EAST OF YERBA BUENA ISLAND, DISTRICT 04, SF COUNTY, CA.
 BRIDGE Nos.: 34-0006L PM B.2, KP 13.2 & 34-0006R PM B.7, KP 13.9
 STATE OF CALIFORNIA DEPT. OF TRANSPORTATION CONTRACT NO. 04-0120F-4
 ENGINEER: CALTRANS T.Y.LIN / MOFFATT & NICHOL, JV.
 CONTRACTOR: AMERICAN BRIDGE / FLUOR ENTERPRISES, JV.

repair procedure for closed rib welds

BY	DRAWN	SHEET NO.	ORDER NO.
CHECKED		HP-005	

REMARKS

DATE

NO.

REVISIONS

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000206

Subject: NCR No. ZPMC-0213

Dated: 27-Jan-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000215 Rev: 03

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing flatness data of the plates in question. Based on this ZPMC is requesting closure of this NCR.
ZPMC is providing flatness data of the plates in question. Based on this ZPMC is requesting closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000215R03;

Caltrans' comments:

Status: CLO

Date: 02-Feb-2010

The documentation received is sufficient to close this NCR.

Submitted by: Howe, Bill

Date: 02-Feb-2010

Attachment(s):



No. B-539

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-12-31

REGARDING: NCR-000239(ZPMC-0213)

With this letter of response, ZPMC requests closure for CALTRANS NCR-000239(ZPMC-0213) what mentioned that QA observed Deck Panel distortion due to excessive welding repair. ZPMC has submitted NDT documentations related to these Deck Panels in NCR. As requests in ABF-NPR-000215 R2 by CT, ZPMC providing the flatness check reports, hoping CALTRANS could take a review and consider close this NCR.

ATTACHMENT:

ABF-NPR-000215 R2

NCR-000239(ZPMC-0213)

THE INSPECTION AFTER WELDING FOR TOP PLATE SEGMENT (DP442-001, DP332-002, DP492-001, DP249-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, DP415-001)

by [signature]
12/31/09



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: 05.03.06-000206
Subject: NCR No. ZPMC-0213

Dated: 10-Dec-2009
Contract No.: 04-0120F4
04-SF-80-13.2 / 13.9
Job Name: SAS Superstructure
Document No.: ABF-NPR-000215 Rev: 02

Contractor's Proposed Resolution:

Reference Resolution: Non destructive testing was performed after repairs were complete by ZPMC and Caltrans. Acceptance of the NDT was documented in QA Verification Forms

In ABF-NPR-000215R00, ABFJV stated that ZPMC performed heat straightening. It was later determined by ZPMC that the flatness of the deck plate did not exceed the allowable tolerances so heat straightening was not performed. Please see the attached ZPMC internal NCR section "Technical Justification for Use As Is/Repair". Non destructive testing was performed after repairs were complete by ZPMC and Caltrans. Acceptance of the NDT was documented in QA Verification Forms: DP442-001, #6429, dated 04/08/2009; DP332-002, #6538, dated 04/10/2009; DP492-001, #6425, dated 04/08/2009; DP249-001, #6404, dated 04/07/2009; DP305-001, #6424, dated 04/08/2009; DP357-001, #6540, dated 04/10/2009; DP495-001, #6539, dated 04/10/2009; DP469-001, #6432, dated 04/18/2009; DP330-002, #6408, dated 04/07/2009; DP415-001, #6433, dated 04/08/2009. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua
Attachment(s): ABF-NPR-000215R02;

Caltrans' comments:

Status: AAP

Date: 17-Dec-2009

Photo in NCR shows distortion (apparently) beyond the allowable. Submit ZPMC information indicating flatness has been achieved.

Submitted by: Howe, Bill
Attachment(s):

Date: 17-Dec-2009



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: 06-Apr-2009

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project Manager - OBG
Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0213
Document No: 05.03.06-000206

Reference Description: Deck panel distortion due to excessive welding repair

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

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

Material Location: OBG

Lift:

Remarks:

Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP332-002, DP492-001, DP249-001, DP442-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001. QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.

Action Required and/or Action Taken:

Please propose a resolution for the identified non-conformance.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0213

cc: Rick Morrow, Gary Pursell, Brian Boal, Jason Tom, Ching Chao

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 #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

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

Report No: NCR-000239

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 25-Mar-2009

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

NCR #: ZPMC-0213

Type of problem:Welding Concrete Other Welding Curing Procedural Joint fit-up Coating Other Procedural Procedural Description:

Bridge No: 34-0006

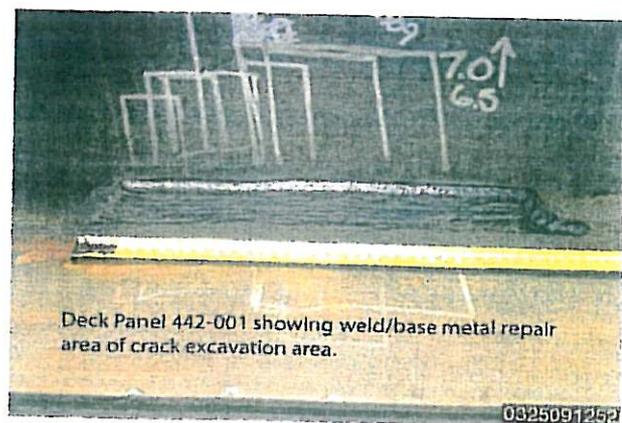
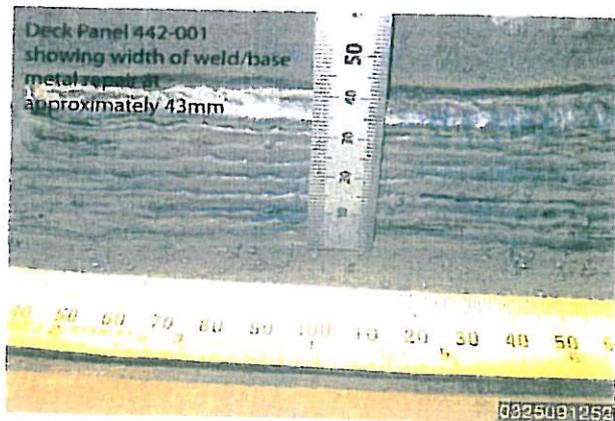
Component: OBG U-Rib Deck Panels

Reference Description: Deck panel distortion due to excessive welding repair

Description of Non-Conformance:

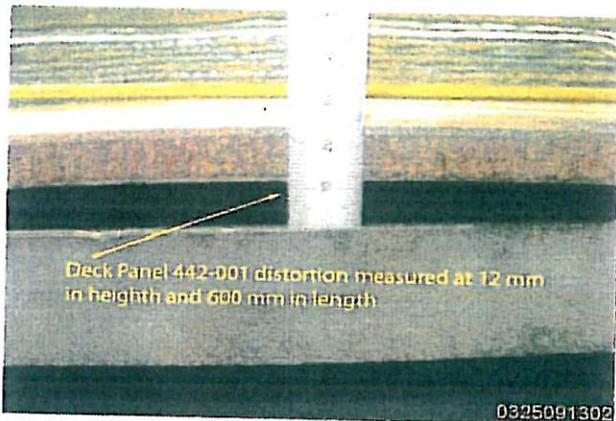
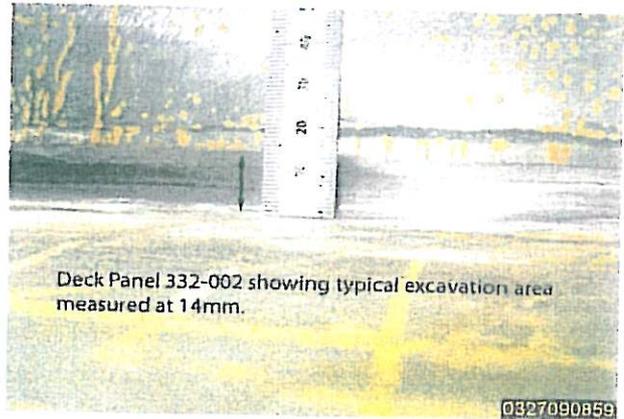
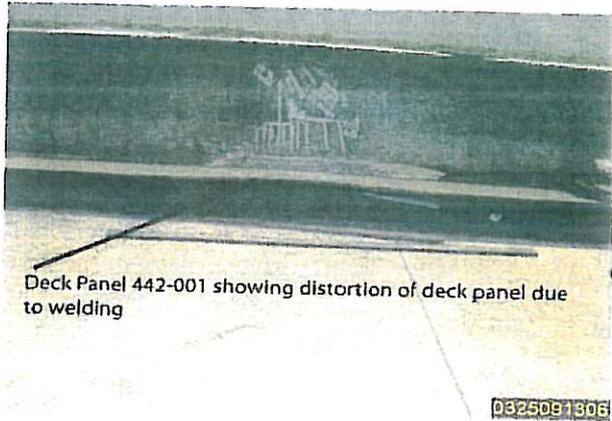
Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP332-002, DP492-001, DP249-001, DP442-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001.

QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

AWS D1.5 (2002) - paragraph 3.4 "Control of Distortion"; paragraph 12.17.1 "Repair Welding WPS Requirements"

Who discovered the problem: Erik Prue

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 03/26/2009, 1100, Verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 03/29/2009, 1300, Verbal

QC Inspector's Name: Sun Bo

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Reviewed By: Wahbeh, Mazen

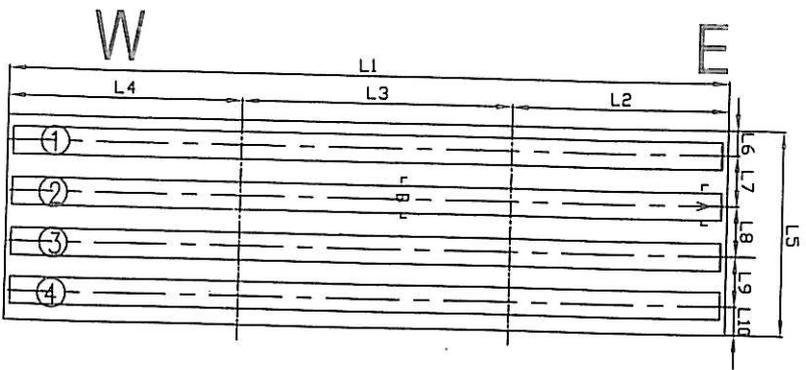
SMR



美国钢桥顶板单元焊后检查记录卡
The inspection after welding for top plate segment

787-B-QCR-600

工程编号: The serial no. of project:	ZP06-787	图号: The drawing no.:	DP442	构件名称: The part name.:	桥面U肋顶板
材质: Material:	A709M-345T2-X-S	炉批号: The hearno of plate:	B704802	桥段名称: Section name:	7E7
移位是否准确: Material mark checking:	Acc	轧制方向标注是否准确: Rolling direction checking:	Acc	钢板编号: Plate ID:	WY0708362161



尺寸测量数值		The plate dimension checking								
测量点 Measure position:	标准值 Standard value:	L1	L2	L3	L4	L5	L6	L7	L8	L9
测量点 Measure position:	标准值 Standard value:	13606	4301	5003	4302	2400	300	600	600	600
测量点 Measure position:	测量值 Measure result:	13611	4302	5005	4304	2401	300	600.5	600	600.5
测量点 Measure position:	标准值 Standard value:	300								
测量点 Measure position:	测量值 Measure result:	300								
测量点 Measure position:	标准值 Standard value:									
测量点 Measure position:	测量值 Measure result:									
纵向平面度 Long flatness		Acc								
横向平面度 Trans flatness		Acc								

检验员 (Inspector): Sun Bo

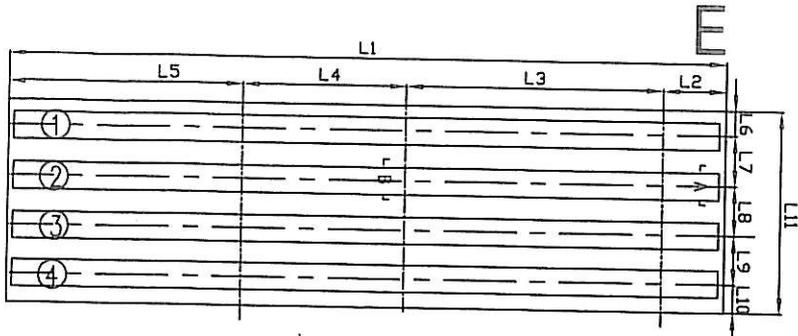
日期 (Date): 2009.3.11



美国钢桥顶板单元焊后检查记录卡
The inspection after welding for top plate segment

787-B-QCR-600

工程编号: The serial no. of project: ZP006-787	图号: The drawing no.: P332 (002)	零件名称: The part name: 桥面顶板
材质: Material: A209M-345T2-X-1	炉批号: The heatho of plate: B702881-4	桥段名称: Section name: 7CE
移位是否准确: Material mark checking: Acc	轧制方向标注是否准确: Rolling direction checking: Acc	钢板编号: Plate ID: W1070736Q237



尺寸测量数值		The plate dimension checking								
测量点 Measure position:	L1	L2	L3	L4	L5	L6	L7	L8	L9	
标准值 Standard value:	15007	699	5003	5002	4303	300	600	600	600	
测量值 Measure result:	15012	699	5005	5004	4304	300	600	600	600	
测量点 Measure position:	L10	L11								
标准值 Standard value:	300	2400								
测量值 Measure result:	300	2400.5								
测量点 Measure position:										
标准值 Standard value:										
测量值 Measure result:										
纵向平面度 long. flatness	Acc									
横向平面度 trans. flatness					Acc					

检验员 (Inspector): Sun Bo 日期 (Date): 2009.3.30

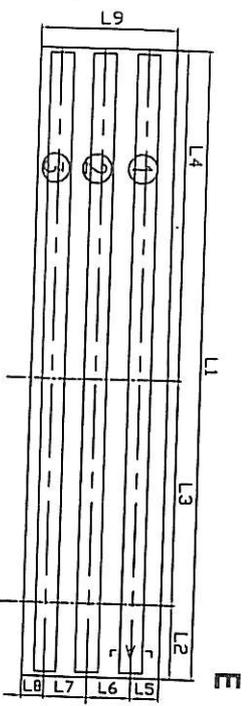


787-B-QCR-600

美国钢桥顶板单元焊后检查记录卡

The inspection after welding for top plate segment

工程编号: The serial no. of project: 2906-787	图号: The drawing no.: DP492	构件名称: The part name: 桥面顶板
材质: Material: A3709M-345T-1-5	炉批号: The headao of plate: 0710385505	桥段名称: Section name: 7A2
移位是否准确: Material mark checking: Acc	轧制方向标注是否准确: Rolling direction checking: Acc	钢板编号: Plate ID: W50708236022



尺寸测量数值		The plate dimension checking								
测量点 Measure position:	标准值 Standard value:	L1	L2	L3	L4	L5	L6	L7	L8	L9
测量点 Measure position:	标准值 Standard value:	10004	700	5002	4302	230	600	600	300	1730
测量点 Measure position:	测量值 Measure result:	10017	700	5004	4303	230	600.5	600	300	1730.5
测量点 Measure position:	标准值 Standard value:									
测量点 Measure position:	测量值 Measure result:									
测量点 Measure position:	标准值 Standard value:									
测量点 Measure position:	测量值 Measure result:									
纵向平面度 long. flatness	测量值 Measure result:	Acc								
横向平面度 trans. flatness	测量值 Measure result:	Acc								

检验员 (Inspector): Sun Bo

日期 (Date): 2007.3.29

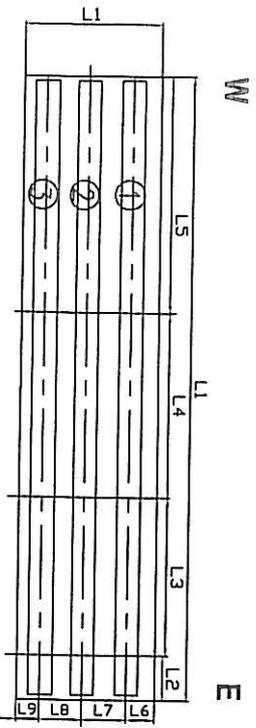


787-B-QCR-600

美国钢桥顶板单元焊后检查记录卡

The inspection after welding for top plate segment

工程编号: The serial no. of project: 2106-787	图号: The drawing no.: b1345	构件名称: The part name: 桥面顶板
材质: Material: A709M-36WT2-C-1	炉批号: The heatho of plate: 0710385507	桥段名称: Section name: 2CF
移位是否准确: Material mark checking: Acc	轧制方向标注是否准确: Rolling direction checking: Acc	钢板编号: Plate ID: M40708224039



尺寸测量数值		The plate dimension checking								
测量点 Measure position:	L1	L2	L3	L4	L5	L6	L7	L8	L9	
标准值 Standard value:	15007	699	5003	5002	4303	300	600	600	230	
测量值 Measure result:	15011	699	5004	5004	4304	300	600	500	230	
测量点 Measure position:	L10									
标准值 Standard value:	1730									
测量值 Measure result:	1730.5									
测量点 Measure position:										
标准值 Standard value:										
测量值 Measure result:										
纵向平面度 long. flatness	Acc									
横向平面度 trans. flatness					Acc					

检验员 (Inspector): Sun Bo

日期 (Date): 2009.3.30



787-B-QCR-600

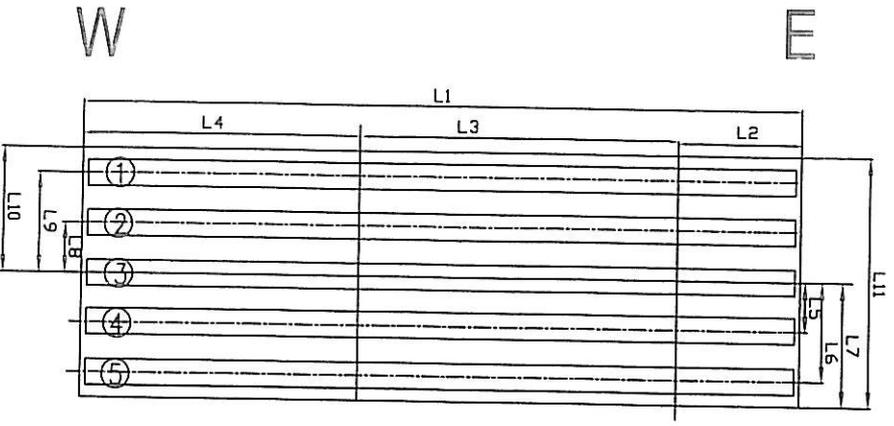
美国钢桥顶板单元焊后检查记录卡

The inspection after welding for top plate segment

工程编号: The serial no. of project: 2106-787	图号: The drawing no.: DP357	构件名称: The part name: 桥面顶板
材质: Material: A209M-305T2-K5	炉批号: The heatno of pile: B700283-6-1	桥段名称: Section name: 7A E
移位是否正确: Material mark checking: Acc	轧制方向标注是否正确: Rolling direction checking: Acc	钢板编号: Plate ID: W90705262215

尺寸测量数值 The plate dimension checking

测量点 Measure position:	L1	L2	L3	L4	L5	L6	L7	L8	L9
标准值 Standard value:	10004	700	5002	4302	600	1200	1500	600	1200
测量值 Measure result:	10006	700	5005	4303	600	1200.5	1500.5	600	1200.5
测量点 Measure position:	L10	L11							
标准值 Standard value:	1500	3000							
测量值 Measure result:	1500.5	3001							
测量点 Measure position:									
标准值 Standard value:									
测量值 Measure result:									
纵向平面度 Inq. flatness	Acc								
横向平面度 Trans. flatness					Acc				



检验员 (Inspector): Sun Bo 日期 (Date): 2007.4.9

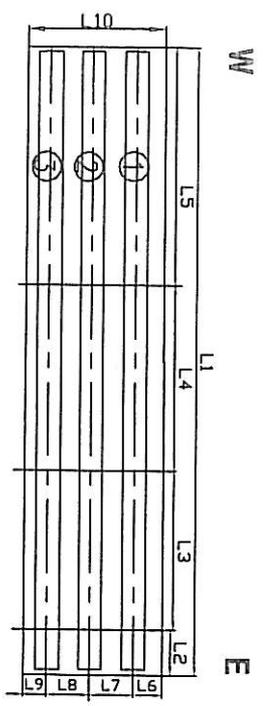


美国钢桥顶板单元焊后检查记录卡

The inspection after welding for top plate segment

787-B-QCR-600

工程编号: The serial no. of project: ZP06-787	图号: The drawing no.: DP495	炉批号: The height of plate: 0710380604	桥段名称: Section name: 桥面顶板
材质: Material: A709M-345T~N5	轧制方向标注是否正确: Rolling direction checking: All	钢板编号: Plate ID: M40708224016	



尺寸测量数值		The plate dimension checking								
测量点 Measure position:	L1	L2	L3	L4	L5	L6	L7	L8	L9	
标准值 Standard value:	15005	699	5002	5002	4302	230	600	600	300	
测量值 Measure result:	15010	699	5004	5004	4303	230	600	600	300	
测量点 Measure position:	L10									
标准值 Standard value:	1730									
测量值 Measure result:	1731									
测量点 Measure position:										
标准值 Standard value:										
测量值 Measure result:										
纵向平面度 long. flatness	All									
横向平面度 trans. flatness					All					

检验员(Inspector): Sun Bo 日期(Date): 2009.11.18

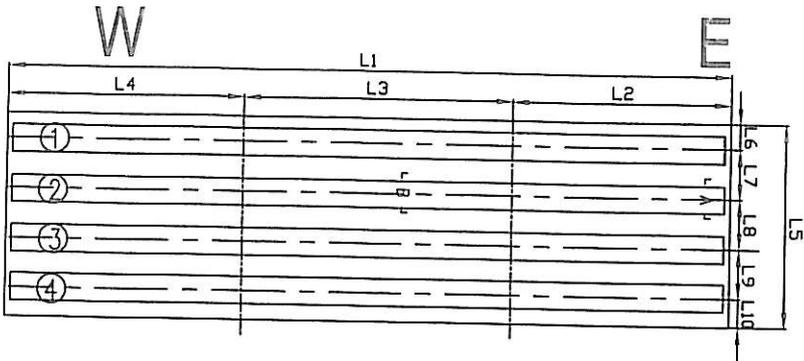


787-B-QCR-600

美国钢桥顶板单元焊后检查记录卡

The inspection after welding for top plate segment

工程编号: The serial no. of project: 2406-787	图号: The drawing no.: VP469	构件名称: The part name: 桥面顶板
材质: Material: A304 M-304T2-1/2	炉批号: The heado of plate: B704802	桥段名称: Section name: 7E
移植是否正确: Material mark checking: All	轧制方向标注是否正确: Rolling direction checking: All	钢板编号: Plate ID: W670836Q021



尺寸测量数值		The plate dimension checking								
测量点 Measure position:	L1	L2	L3	L4	L5	L6	L7	L8	L9	
标准值 Standard value:	13606	4301	5003	4302	2400	300	600	600	600	
测量值 Measure result:	13609	4301	5005	4303	2401	300	600.5	600.5	600.5	
测量点 Measure position:	L10									
标准值 Standard value:	300									
测量值 Measure result:	300									
测量点 Measure position:										
标准值 Standard value:										
测量值 Measure result:										
纵向平面度 long flatness	All									
横向平面度 trans flatness					All					

检验员 (Inspector): Sun Bo 日期 (Date): 2009.3.30

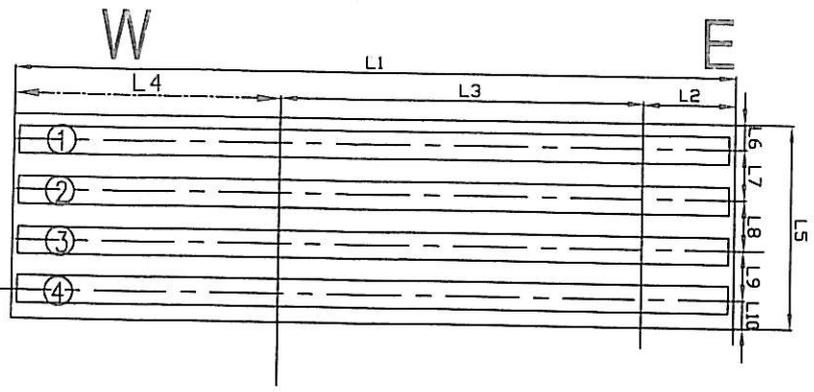


美国钢桥顶板单元焊后检查记录卡

787-B-QCR-600

The inspection after welding for top plate segment

工程编号: The serial no. of project: ZP06-787	图号: The drawing no.: DP330(002)	构件名称: The part name: 桥面顶板
材质: Material: A209M-345T-20-5	炉批号: The header of pile: B700518-7-3	桥段名称: Section name: 7AE
移址是否准确: Material mark checking: Acc	轧制方向标注是否准确: Rolling direction checking: Acc	钢板编号: Plate ID: WY6707066Q110



尺寸测量数值		The plate dimension checking								
测量点 Measure position:	L1	L2	L3	L4	L5	L6	L7	L8	L9	
标准值 Standard value:	10004	700	5002	4302	2400	300	600	600	600	
测量值 Measure result:	10000	700	5004	4303	2401	300.	600.5	600.5	600	
测量点 Measure position:	L10									
标准值 Standard value:	300									
测量值 Measure result:	300									
测量点 Measure position:										
标准值 Standard value:										
测量值 Measure result:										
纵向平面度 long. flatness	Acc									
横向平面度 trans. flatness					Acc					

检验员 (Inspector): Sun Bo 日期 (Date): 2009.3.30

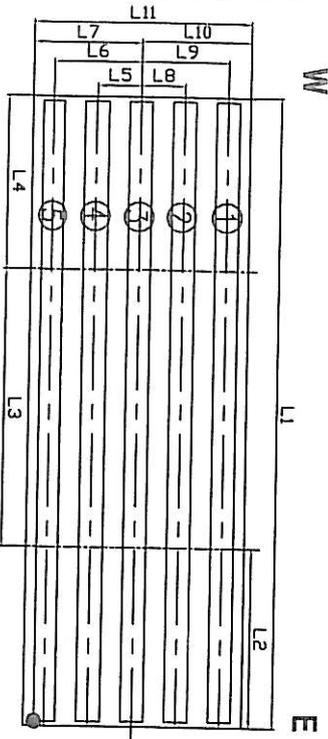


The inspection after welding for top plate segment

美国钢桥顶板单元焊后检查记录卡

787-B-QCR-600

工程编号 The serial no. of project: 2P06-787	图号 The drawing no.: DP415	构件名称 The part name: 桥面顶板
材质 Material: A289m-745722-5	炉批号 The heatho of plate: P204802	桥段名称 Section name: 722
移植是否正确 Material mark checking: Acc	轧制方向标注是否正确 Rolling direction checking: Acc	钢板编号 Plate ID: WY070836a160



尺寸测量数值		The plate dimension checking								
测量点 Measure position:		L1	L2	L3	L4	L5	L6	L7	L8	L9
标准值 Standard value:		13606	4301	5003	4302	600	1200	1500	600	1200
测量值 Measure result:		13616	4302	5004.5	4303.5	600.5	1200.5	1500.5	600	1200.5
测量点 Measure position:		L10	L11							
标准值 Standard value:		1500	3000							
测量值 Measure result:		1500.5	3001							
测量点 Measure position:										
标准值 Standard value:										
测量值 Measure result:										
纵向平面度 long. flatness		Acc								
横向平面度 trans. flatness		Acc								

检验员 (Inspector): Sun Bo 日期 (Date): 2009.3.31

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000387**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 22-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0213**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: 25-Mar-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed ZPMC welders performing base metal repairs on closed ribs of the deck panels. The repairs were located above the excavated cracks on the PJP weld joint for DP442-001, DP332-002, DP492-001, DP249-001, DP442-001, DP305-001, DP357-001, DP495-001, DP469-001, DP330-002, and DP415-001.

QA Inspector observed excessive welding on these repair area. Shortly after the welding, QA Inspector also noted the distortion of the deck panels. Also, QA Inspector confirmed with ZPMC QC Inspector Mr. Sun Bo that the repairs were done without an approved base metal repair procedure. These welding repairs were not performed according to the project requirements.

Contractor's proposal to correct the problem:

Perform weld repair and subsequent NDT to verify that the repair is acceptable.

Corrective action taken:

Repair has been made with acceptable NDT result.

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, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer