

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-000233**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Mar-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0208**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** OBG Segment 4BE Side Plates SP32A & SP24A**Procedural****Procedural****Description:****Reference Description:** Perform of Heat Straightening without approved procedures**Description of Non-Conformance:**

Quality Assurance (QA) Inspector observed that along the outer edge of Side Plates SP32A & SP24A on OBG Segment 4BE was subjected to heat straightening without an Engineer's approved heat straightening procedure.

On Jan. 08, 2009, CT measured a maximum deflection on the distorted side panel of 45mm over the edge span of approximately 4700mm. For the 16mm thick side plate, the Special Provisions require Engineer approval for distortions over 6 in 1000. The distortion of this plate is 10 in 1000. ZPMC performed the heat straightening by the use of a torch, hydraulic jack and chain fall attached to a counter weight.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5-2002, Section 3.7.3- "Members distorted by welding shall be straightened by mechanical means or by carefully supervised application of a limited amount of localized heat as approved by the Engineer."

Special Provisions, Section 8-3, pp. 154-155- "For material less than or equal to 16 mm thick, the Contractor shall not heat straighten members more than 6 in 1000 without prior approval of the Engineer. For material more than 16 mm, the Contractor shall not heat straighten members more than 3 in 1000 without prior approval of the Engineer. The Engineer shall be notified immediately when weld distortion occurs that cannot be corrected using the standard procedures for heat straightening submitted in the WQCP."

Who discovered the problem: Dan Hernandez

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 1800 hours, 03-11-09, verbal

Name of Caltrans Engineer notified: Stanley Ku

Time and method of notification: 1845 hours, 03-11-09, verbal

QC Inspector's Name: Wang Lu

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

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: 19-Mar-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: 05.03.06-000201

Subject: NCR No. ZPMC-0208

Reference Description: Perform of Heat Straightening without approved procedures

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:

Quality Assurance (QA) Inspector observed that along the outer edge of Side Plates SP32A & SP24A on OBG Segment 4BE was subjected to heat straightening without an Engineer's approved heat straightening procedure. On Jan. 08, 2009, CT measured a maximum deflection on the distorted side panel of 45mm over the edge span of approximately 4700mm. For the 16mm thick side plate, the Special Provisions require Engineer approval for distortions over 6 in 1000. The distortion of this plate is 10 in 1000. ZPMC performed the heat straightening by the use of a torch, hydraulic jack and chain fall attached to a counter weight.

Action Required and/or Action Taken:

Please propose a resolution for the identified non-conformance.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0208

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: 05.03.06-000201

Subject: NCR No. ZPMC-0208

Dated: 06-Apr-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000207 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC proceeded with heat straightening with a "Heat Straightening Record" and not a "Heat Straightening Report". ZPMC QA stopped the work and generated the required HSR for approval.

ZPMC proceeded with heat straightening with a "Heat Straightening Record" and not a "Heat Straightening Report". ABFJV QCM notified ZPMC QA when this heat straightening was being performed and that is required engineering approval. ZPMC QA stopped the work and generated the required HSR for approval. Attached is the HSR and inspection records of the welds affected. ZPMC requests this NCR be closed.

Submitted by:

Attachment(s): ABF-NPR-000207R00;

Caltrans' comments:

Status: CLO

Date: 14-Apr-2009

The proposed resolution is acceptable. The heat straightening report is included, and the welds in the area in question were accepted as shown on the attached MT reports. The Department concurs that Non-Conformance ZPMC-0208 is closed.

Submitted by: Wright, Doug

Date: 14-Apr-2009

Attachment(s):



火工校正报告

Heat Straightening Report(HSR)

报告号 Report#

HSR(B)-266

版本号 Revision #

1

日期 Date

2009.03.19

美国海湾大桥 San Francisco Oakland Bay Bridge

CALTRANS #04-0120F4

工程编号 JOB#: ZP06-787

装配 Assembly:

质检代表/Quality Control Representative

部装 Sub-Assembly:

Signature 2009.3.19

梁段 Gird: 4BE

质检经理/Quality Assurance Manager-Approval

塔段 Tower:

N/A

Li Jianhua

焊缝号 Weld No:

N/A

焊缝地图号 Weld Map No: SEG020A

情况描述 Description of Condition

Cause原因 Welding distortion 焊接变形

Type of Defect缺陷类型 Welding distortion 焊接变形

Inspection Method检查方法 Visual 目视

处置方法 Disposition

缺陷去除方法/Defect Removal Method: Oxy-acetylene hand torch and applied force

后续/NDE (Post-Removal):

Jacking shall not be used to plastically deform the component. The jack will only be used as a fixture. After finishing heat straightening operation, all welds in the heated areas shall have MT performed. Provide notification to CT prior to performing MT inspection after heat straightening.

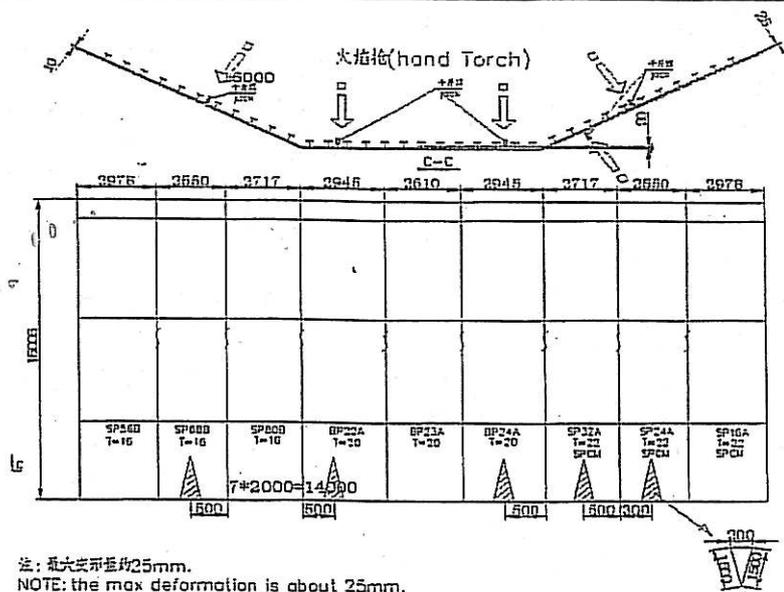
纠正措施/Corrective Action(s):

Limit the amount of rework by training the welders to improve anti-distortion welding techniques.

实施次数(Number of application): 1~3

最高温度(Maximum temperature): <600°C

简图 Sketch



检验员 Inspector:

Li Jianhua

签字 Signature:

Signature 09.04.02

CWI #

07120701

II 级探伤 NDE Certification:

Level II

Closing Date:

质检经理 QC Manager

审核日期 Review Date:

Note: All repair work shall be performed in accordance with applicable CALTRANS approved procedures, contract specifications and AWS D1.5 2002.

#R787-QCP-1100

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
Section 5-1.02 of the
Standard Specifications
Initial *Signature* Date: 3/24/09



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8954 DATE日期 2009.04.03 PAGE OF页码 1/1 Revision No: 0

PROJECT NO. 工程编号: ZP06-787 CONTRACTOR: 用户: CALTRANS

DRAWING NO. 图号: SP68B OBG EAST BOX SIDE PLATE 4B-E7 CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4

REFERENCING CODE 参考规范编码: AWS D1.5-2002 ACCEPTANCE STANDARD 接受标准: AWS D1.5-2002 PROCEDURE NO. 程序编号: ZPQC-MT-01 CALIBRATION DUE DATE 仪器校正有效期: Dec. 28ST, 2009

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

MAGNETIZING METHOD 磁化方法: Continuous magnetic yoke 磁轭式连续法 CURRENT 电流: AC

PARTICLE TYPE 磁粉类型: Dry magnet powder 干磁粉 YOKE SPACING 磁轭间距: 70~150mm

MATERIAL TO BE EXAMINED 检测材料: WELDING 焊接件 Material & thickness 母材,厚度: A709M-345F2-X 9/16 mm
 CASTING 铸件
 FORGING 锻造

WELDING PROCESS 焊接方法: FCAW TYPE OF JOINT 焊缝类型: CORNER JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SP068-001-021				ACC.		100%MT
SP068-001-022				ACC.		100%MT

AFTER HSR(B)-266

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EXAMINED BY主探: B. J. Timmer 2009.04.03 REVIEWED BY审核: [Signature] 2009.04.03
 LEVEL - II SIGN 签名 / DATE日期 LEVEL-II SIGN / DATE日期

质量经理 / QCM: _____ 用户CUSTOMER: _____
 签字 SIGN / 日期 DATE 签字 SIGN / 日期 DATE



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-8953	DATE日期 2009.04.03	PAGE OF页码 1/1	Revision No: 0
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PROJECT NO. 工程编号: ZP06-787	CONTRACTOR: 用户: CALTRANS
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DRAWING NO. 图号: SP80A OBG EAST BOX SIDE PLATE 4B-E7	CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4
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REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2009
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EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
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MAGNETIZING METHOD 磁化方法 Continuous magnetic yoke 磁轭式连续法	CURRENT 电流 AC
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PARTICLE TYPE 磁粉类型 Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距 70~150mm
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MATERIAL TO BE EXAMINED 检测材料 √ WELDING 焊接件 □ CASTING 铸件 □ FORGING 锻造	Material & thickness 母材, 厚度 A709M-345F2-X 8/16 mm
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WELDING PROCESS 焊接方法 FCAW	TYPE OF JOINT 焊缝类型 CORNER JOINT
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WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
SP080-001-001				ACC.		100%MT
SP080-001-002				ACC.		100%MT
SP080-001-003				ACC.		100%MT
SP080-001-004				ACC.		100%MT
SP080-001-005				ACC.		100%MT
SP080-001-006				ACC.		100%MT
SP080-001-007				ACC.		100%MT
SP080-001-008				ACC.		100%MT
SP080-001-009				ACC.		100%MT
SP080-001-010				ACC.		100%MT
SP080-001-011				ACC.		100%MT
SP080-001-012				ACC.		100%MT

AFTER HSR(B)-266

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EXAMINED BY主探 <u>Bo Thru</u> 2009.04.03	REVIEWED BY审核 <u>C. C. Wu</u> 2009.04.03
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LEVEL - II SIGN 签名 / DATE日期	LEVEL-II SIGN / DATE日期
-----------------------------	------------------------

质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE
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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-000204**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 15-Apr-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0208**Type of problem:**

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

Date the Non-Conformance Report was written: 13-Mar-2009**Description of Non-Conformance:**

Quality Assurance (QA) Inspector observed that along the outer edge of Side Plates SP32A & SP24A on OBG Segment 4BE was subjected to heat straightening without an Engineer's approved heat straightening procedure.

On Jan. 08, 2009, CT measured a maximum deflection on the distorted side panel of 45mm over the edge span of approximately 4700mm. For the 16mm thick side plate, the Special Provisions require Engineer approval for distortions over 6 in 1000. The distortion of this plate is 10 in 1000. ZPMC performed the heat straightening by the use of a torch, hydraulic jack and chain fall attached to a counter weight.

Contractor's proposal to correct the problem:

In NPR 207R00, the contractor proposed the following:

ABFJV QCM notified ZPMC QA when this heat straightening require engineering approval. "ZPMC QA stopped the work and generated the required HSR for approval." The HSR and inspection records of the welds are submitted.

Corrective action taken:

The heat straightening was performed according to the submitted HSR. The welds affected by the straightening were inspected by MT. The documentation of the acceptable result was provided. The corrective action taken was acceptable.

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 Eric Tsang, +(86) 1500.042.2372, who represents the Office of Structural Materials for your project.

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Inspected By: Tsang, Eric

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer