

DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 Office of Structural Materials
 Quality Assurance and Source Inspection



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

Contract #: 04-0120F4
 Cty: SF/ALA Rte: 80 PM: 13.2/13.9
 File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000516

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 13-Dec-2009

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

NCR #: ZPMC-0489

Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: North Tower
Procedural	Procedural	Description: North Tower Interior Splice Plate	

Reference Description: Excessive weld pass width on North Tower Lift 3 to 4 Interior Splice Plate weld

Description of Non-Conformance:

During in-process Visual Inspection (VT), QA observed a 23mm FCAW weld pass, performed in the flat position, on CJP weld NSD1-SPSA4-18-2A/B. The maximum FCAW weld pass width allowed in the flat position for groove welds is 16mm.



Applicable reference:

AWS D1.5-2002, Section 4.14.1.5 - FCAW: "When the width of a layer of a groove weld in the flat, horizontal, or overhead position is 16 mm [5/8 in.] or greater, a multiple-pass split-layer technique shall be used."

Who discovered the problem: Umesh Gaikwad

Name of individual from Contractor notified: Zhang Qin Jian

Time and method of notification: 12/13/2009, 10:00; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 12/17/2009, 16:00; Verbal

QC Inspector's Name: Jiang La Mei

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Serge Sinevod, 139-1686-1597, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
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Reviewed By:	Wahbeh,Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge

333 Burma Road

Oakland CA 94607

Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 18-Dec-2009

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0489

Job Name: SAS Superstructure
Document No: 05.03.06-000479

Reference Description: Excessive weld pass width/ Tower (North Lift 3 to 4)/ Interior Splice Plate weld

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

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

Material Location: Tower **Lift:** N/A

Remarks:

During in-process Visual Inspection (VT), QA observed a 23mm FCAW weld pass, performed in the flat position, on CJP weld NSD1-SPSA4-18-2A/B. The maximum FCAW weld pass width allowed in the flat position for groove welds is 16mm.

AWS D1.5-2002, Section 4.14.1.5 - FCAW: "When the width of a layer of a groove weld in the flat, horizontal, or overhead position is 16 mm [5/8 in.] or greater, a multiple-pass split-layer technique shall be used."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance including documentation that the welds placed are in compliance with the contract requirements. In addition to the material/workmanship non-conformance, propose a resolution that addresses the failure of Quality Control to identify the lack of preheat of the base material. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0489

cc: Rick Morrow, Gary Pursell, Mark Woods, Scott Kennedy

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000479

Subject: NCR No. ZPMC-0489

Dated: 30-Dec-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000451 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has verified the nonconformance with the CT inspector on site and has taken the appropriate action to remove the over width weld pass, make the correct weld and inspect.

ZPMC has verified the nonconformance with the CT inspector on site and has taken the appropriate action to remove the over width weld pass, make the correct weld and inspect. The weld has been completed and green tagged. Attached are the corresponding UT reports. ZPMC requests closure of this NCR.

Submitted by: Lawton, Steve

Attachment(s): ABF-NPR-000451R00;

Caltrans' comments:

Status: AAP

Date: 30-Dec-2009

The Department's inspector verified that the over width weld pass has been corrected, but NSD1-SPSA4-18 has not been green tagged. However, the Department accepts the attached UT report for NSD1-SASA4-18-2A/B as the evidence of acceptability for this non-conformance. Please address the failure of Quality Control to identify this non-conformance and steps taken by the QCM to prevent future occurrences.

Submitted by: Lee, Ken

Attachment(s):

Date: 30-Dec-2009



No. T-110

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2009-12-29

REGARDING: NCR-000516(ZPMC-0489)

ZPMC received NCR-000516(ZPMC-0489), it mentioned that QA discovered a 23mm FCAW weld pass, performed in the flat position on CJP weld NSD1-SPSA4-18-2A/B. The maximum FCAW weld pass width allowed in the flat position for groove welds should be 16mm.

ZPMC acknowledged this problem when the CT inspector warned it, and immediately removed the over width weld pass with grinding under the agreement of the CT inspector, and finally re-welded it again. ZPMC had also inculcated foreman to enhance the management and control of welding and it must be checked by QC during welding pass.

Finally the influenced weld was inspected and green tagged by CT.

Here attached the UT report to prove the weld was finally sound, ZPMC hope Caltrans could take a review and close this NCR.

ATTACHMENT:

NCR-000516(ZPMC-0489)

T787-UT-2574

Zhang Jindai
2009.12.29



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 T787-UT-2574 DATE 2009.12.29 PAGE 1 OF 2 Revision No: 0

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

ITEMS NAME: 第四吊塔(FOURTH LIFTING TOWER(N)) DRAWING NO.: NSD1-SPSA4-18 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

REFERENCING CODE 参考规范 ACCEPTANCE STANDARD 接受标准 PROCEDURE NO. 程序编号
 AWS D1.5-2002 AWS D1.5-2002(Table 6.4) ZPQC-UT-01

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 FCAW T JOINT Dec. 28ST, 2009

EQUIPMENT 设备 MANUFACTURER 制造商 MODEL NO. 样式编号 SERIAL NO. 序列编号
 UT SCOPE PANAMETRICS EPOCH-4B 071565311, 061488510, 061495811, 070152011,

CALIBRATION BLOCK 试块 COUPLANT 耦合剂 MATERIAL/THICKNESS 材料厚度
 AWS IIW BLOCK TYPE II C.M.C A709M-345T2-Z 70/75mm

TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5MHz	18×18mm	Changchao	45°	2.5MHz	18×18mm
Changchao	0°	2.5MHz	20mm				

Reference Level 参考灵敏度 20dB

Base metal inspected per AWS D1.5-2002 Section 6.19.5 0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注	
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)							
									a	b	c	d	Length 长度			Sound Path 声程
NSD1-SPSA4-18-1A/B		70				34									ACC.	100%
	1	45	C	1	38	32	6	0	30	98	70	+5	60	REJ.	FROM A35	
		0	C			20								ACC.	100%	
NSD1-SPSA4-18-2A/B		70				34								ACC.	100%	
		45				32								ACC.	100%	
		0	C			20								ACC.	100%	
NSD1-SPSA4-18-3A/B		70				34								ACC.	100%	
		45				32								ACC.	100%	

EXAMINED BY 主探 *[Signature]* 2009.12.29
 LEVEL - II SIGN / DATE

REVIEWED BY 审核 *[Signature]* 2009.12.29
 LEVEL - II SIGN / DATE

质量经理 / QCM *[Signature]* 2009.12.29
 签字 SIGN / 日期 DATE

用户 CUSTOMER _____
 签字 SIGN / 日期 DATE



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 18-Dec-2009

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

Dear: Mr. Charles Kanapicki
 Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0489

Document No: 05.03.06-000479

Reference Description: Excessive weld pass width/ Tower (North Lift 3 to 4)/ Interior Splice Plate weld

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

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

Material Location: Tower

Lift: N/A

Remarks:

During in-process Visual Inspection (VT), QA observed a 23mm FCAW weld pass, performed in the flat position, on CJP weld NSD1-SPSA4-18-2A/B. The maximum FCAW weld pass width allowed in the flat position for groove welds is 16mm.

AWS D1.5-2002, Section 4.14.1.5 - FCAW: "When the width of a layer of a groove weld in the flat, horizontal, or overhead position is 16 mm [5/8 in.] or greater, a multiple-pass split-layer technique shall be used."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance including documentation that the welds placed are in compliance with the contract requirements. In addition to the material/workmanship non-conformance, propose a resolution that addresses the failure of Quality Control to identify the lack of preheat of the base material. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0489

cc: Rick Morrow, Gary Pursell, Mark Woods, Scott Kennedy

File: 05.03.06

02:15 04
 05.03.06-000479,NCT

Received
 NCT-000479 18 Dec 09 Page 1 of 1

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

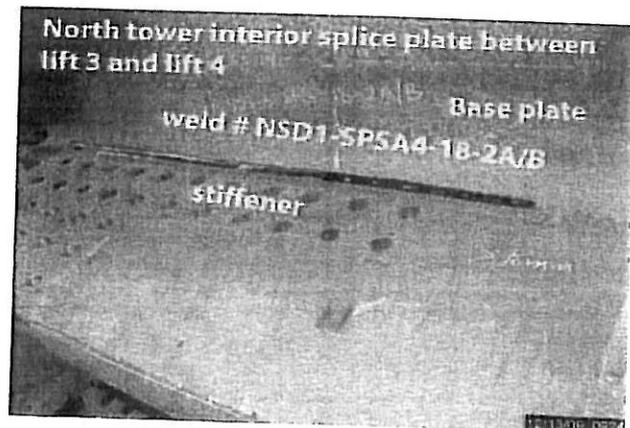
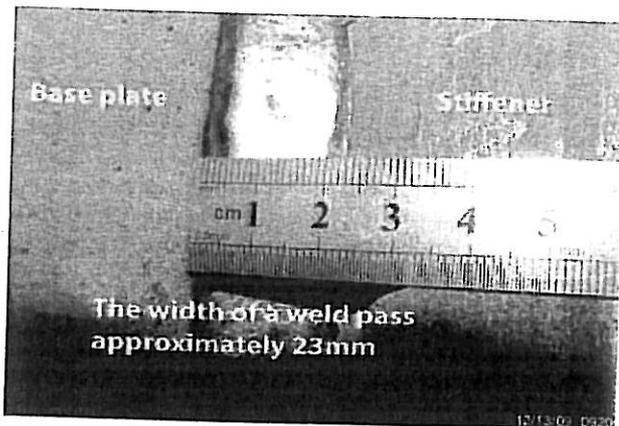
Office of Structural Materials

Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave. St. 150
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, PRC**Report No:** NCR-000516**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0489**Type of problem:**Welding Concrete Other Welding Curing Procedural Joint fit-up Coating Other Procedural Procedural **Bridge No:** 34-0006**Component:** North Tower**Description:** North Tower Interior Splice Plate**Reference Description:** Excessive weld pass width on North Tower Lift 3 to 4 Interior Splice Plate weld**Description of Non-Conformance:**

During in-process Visual Inspection (VT), QA observed a 23mm FCAW weld pass, performed in the flat position, on CJP weld NSD1-SPSA4-18-2A/B. The maximum FCAW weld pass width allowed in the flat position for groove welds is 16mm.

**Applicable reference:**

AWS D1.5-2002, Section 4.14.1.5 - FCAW: "When the width of a layer of a groove weld in the flat, horizontal, or overhead position is 16 mm [5/8 in.] or greater, a multiple-pass split-layer technique shall be used."

Who discovered the problem: Umesh Gaikwad**Name of individual from Contractor notified:** Zhang Qin Jian**Time and method of notification:** 12/13/2009, 10:00; Verbal**Name of Caltrans Engineer notified:** Scott Kennedy**Time and method of notification:** 12/17/2009, 16:00; Verbal**QC Inspector's Name:** Jiang La Mei

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Serge Sinevod, 139-1686-1597, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod,Serge

ASMR

Reviewed By: Wahbeh,Mazen

SMR

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000479

Subject: NCR No. ZPMC-0489

Dated: 20-Jan-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000451 **Rev:** 01

Contractor's Proposed Resolution:

Reference Resolution: ABFJV QCM has discussed this incident with the ZPMC QC department to reinforce the importance of continuous inspection.

The ZPMC QA department and the ABFJV QCM has discussed this incident with the ZPMC QC department to reinforce the importance of continuous inspection to prevent the welders from welding excessive weld passes and thus prevent non conformances. The ZPMC QC department has acknowledged the lapse inspection and will continue to improve in this area. Based on these steps and previously submitted NDT documentation ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000451R01

Caltrans' comments:

Status: CLO

Date: 20-Jan-2010

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0489 is closed.

Submitted by: Lee, Ken

Date: 20-Jan-2010

Attachment(s):

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, PRC**Report No:** NCS-000481**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 20-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0489**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: 13-Dec-2009**Description of Non-Conformance:**

During in-process Visual Inspection (VT), QA observed a 23mm FCAW weld pass, performed in the flat position, on CJP weld NSD1-SPSA4-18-2A/B. The maximum FCAW weld pass width allowed in the flat position for groove welds is 16mm.

Contractor's proposal to correct the problem:

Repair weld and verify with NDT.

Corrective action taken:

The overwidth weld pass was removed and repaired; documentation was provided (T787-UT-2574). To prevent reoccurrence, the ABF QCM discussed this issue with ZPMC QC and reinforced the importance of continuous inspection.

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 Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By: Ng, Michael

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer