

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



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

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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

Report No: NCR-000670

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 01-Feb-2010

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

NCR #: ZPMC-0638

Type of problem:

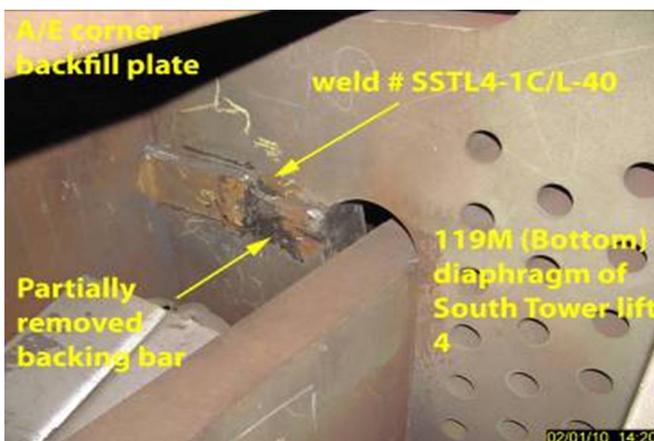
Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: South Tower Lift 4, A/E Corner Backfill Plate
Procedural	Procedural	Description:	

Reference Description: Partial Backing Bar Removal, South Tower Lift 4, A/E Corner Backfill Plate

Description of Non-Conformance:

During random verification Ultrasonic Testing (UT) of A/E corner backfill plate of South Tower Lift 4, Caltrans Quality Assurance (QA) observed the following issues:

- Backing has been partially removed at two weld locations, SSSL4-1C/L-40 at 119M (bottom) diaphragm and SSSL4-1F/L-100 at 123M (top) diaphragm.
- These welds join the backfill plates and double diaphragm plates of South Tower lift 4.
- The members are located in Tower Bay 10.



Applicable reference:

Weld Joint Detail No. WT-63

AWS D1.5 (2002) Section 3.13.2: "Groove welds made with the use of steel backing shall have the weld metal thoroughly fused with the backing. Steel backing shall be continuous for the full length of each weld made with

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

backing.”

Who discovered the problem: Umesh D. Gaikwad
Name of individual from Contractor notified: Xiao Jun Peng
Time and method of notification: 1500 Hrs, 02/01/10, Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 1100 Hrs, 02/02/10, Verbal
QC Inspector's Name: Gao Zhi Chun
Was QC Inspector aware of the problem: Yes No
Contractor's proposal to correct the problem:

Comments:

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

Inspected By:	Guest, Skyler	SMR
Reviewed By:	Wahbeh, Mazen	SMR



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: 03-Feb-2010

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0638

Job Name: SAS Superstructure
Document No: 05.03.06-000629

Reference Description: Partial Backing Bar Removal/ South Shaft Lift 4 / A/E Corner Backfill Plate

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:** 04

Remarks:

During random verification Ultrasonic Testing (UT) of A/E corner backfill plate of South Tower Lift 4, Caltrans Quality Assurance (QA) observed the following issues:

- Backing has been partially removed at two weld locations, SSSL4-1C/L-40 at 119M (bottom) diaphragm and SSSL4-1F/L-100 at 123M (top) diaphragm.
- These welds join the backfill plates and double diaphragm plates of South Tower lift 4.
- The members are located in Tower Bay 10.

Weld Joint Detail No. WT-63

AWS D1.5 (2002) Section 3.13.2: "Groove welds made with the use of steel backing shall have the weld metal thoroughly fused with the backing. Steel backing shall be continuous for the full length of each weld made with backing".

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance including documentation that the deficiencies have been brought into compliance with the contract requirements. In addition to the material/workmanship non-conformance, propose a resolution that addresses the Quality Control issue with regard to the partial removal of backing bars. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0638

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: 05.03.06-000629

Subject: NCR No. ZPMC-0638

Dated: 10-Feb-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000590 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has removed the backing bar entirely and is providing NDT of the weld to show that it is acceptable. ZPMC requests closure of this NCR.

ZPMC has removed the backing bar entirely and is providing NDT of the weld to show that it is acceptable. Discussions between the ABFJV QCM and ZPMC prompted ZPMC to remove the remaining backing bar. ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000590R00;

Caltrans' comments:

Status: CLO

Date: 10-Feb-2010

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0638 is closed.

Submitted by: Lee, Ken

Date: 10-Feb-2010

Attachment(s):



No. T-129

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-2-10

REGARDING: NCR-000670(ZPMC-0638)

ZPMC recently received NCR-000670(ZPMC-0638), it mentioned that during verification UT of A/E corner backfill plate of South Tower Lift 4, CT observed the backing had been partially removed at two welds locations, SSTL4-1C/L-40 and SSTL4-1F/L-100.

For this case, ZPMC especially discussed with ABF and CT and made the decision finally. It included as following: "the involved backing bar would be wholly removed and the welds will be UT again". So ZPMC did it as the decision, also the related backing bar and welds were finally rechecked and accepted by CT site inspector. Here provide the NDT report to show the welds were sound.

So, we hope CT can take a review and close this NCR.

ATTACHMENT:

NCR-000670(ZPMC-0638)

T787-UT-2658

Zhang Jia Di
2010. 2. 10



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: 03-Feb-2010

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

Dear: Mr. Charles Kanapicki

Job Name: SAS Superstructure

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Document No: 05.03.06-000629

Subject: NCR No. ZPMC-0638

Reference Description: Partial Backing Bar Removal/ South Shaft Lift 4 / A/E Corner Backfill Plate

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- Quality Control (QC) not performed in conformance with contract documents.
- Recurring QC issue that constitutes a systematic problem in quality control.
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Transmitted by: Ken Lee, Transportation Engineer
Attachments: ZPMC-0638

cc: Rick Morrow, Gary Pursell, Mark Woods, Scott Kennedy
File: 05.03.06

02.02.15.04
 03.06-000629,NCT

Received
 NCT-000629 03 Feb 10 Page 1 of 1

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 File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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

Report No: NCR-000670

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 01-Feb-2010

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

NCR #: ZPMC-0638

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

Bridge No: 34-0006

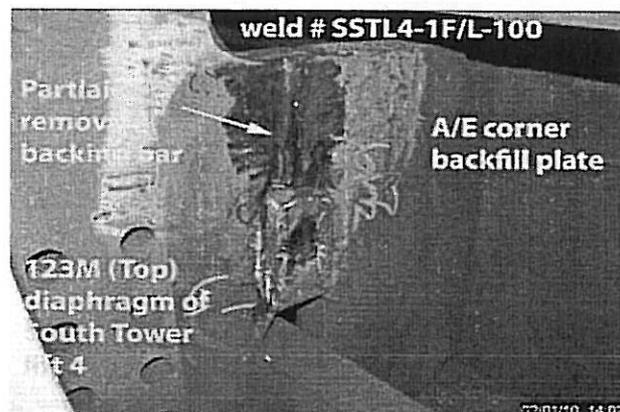
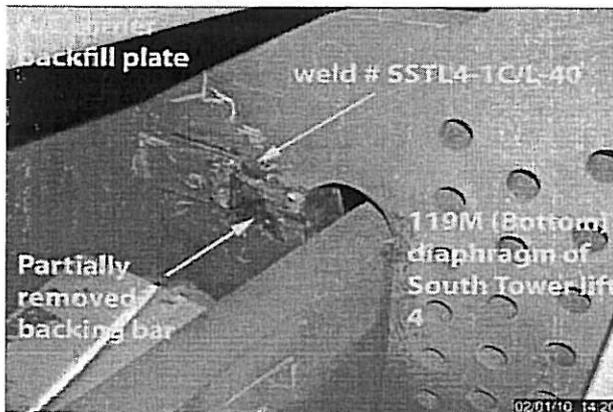
Component: South Tower Lift 4, A/E Corner Backfill Plate

Reference Description: Partial Backing Bar Removal, South Tower Lift 4, A/E Corner Backfill Plate

Description of Non-Conformance:

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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Name of individual from Contractor notified: Xiao Jun Peng
Time and method of notification: 1500 Hrs, 02/01/10, Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 1100 Hrs, 02/02/10, Verbal
QC Inspector's Name: ☞ Gao Zhi Chun
Was QC Inspector aware of the problem: Yes No
Contractor's proposal to correct the problem:

Comments:

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Inspected By:	Guest, Skyler	SMR
Reviewed By:	Wahbeh, Mazen	SMR



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 T787-UT-2658 DATE 2010.02.08 PAGE 1 OF 1 Revision No: 0

PROJECT NO.: 工程编号 ZP06-787		CONTRACTOR: CALTRANS	
ITEMS NAME: 部件名称 FOURTH LIFTING TOWER(S) AE	DRAWING NO.: 图号 SSTL4-1C/L,F/L	CALTRANS CONTRACT NO.: 04-0120F4 加州工程编号	
REFERENCING CODE 参考规范 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002(Table 6.3)	PROCEDURE NO. 程序编号 ZPQC-UT-01	
WELDING PROCESS 焊接方法 SMAW	JOINT TYPE 焊缝类型 BUTT	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2010	
EQUIPMENT 设备 UT SCOPE	MANUFACTURER 制造商 PANAMETRICS	MODEL NO. 样式编号 EPOCH-4B	SERIAL NO. 序列编号 071565311, 061488510, 061495811, 070152011,
CALIBRATION BLOCK 试块 AWS IIW BLOCK TYPE II	COUPLANT 耦合剂 C.M.C	MATERIAL/THICKNESS 材料厚度 A709M-HPS-485T2-Z 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
SSTL4-1C/L-40		70					34								ACC.	100%
		45					32								ACC.	100%
SSTL4-1F/L-100		70					34								ACC.	100%
		45					32								ACC.	100%

after backing bar removed

EXAMINED BY 主探 <i>Xu Ruyang</i> 2010.02.08 LEVEL - II SIGN / DATE	REVIEWED BY 审核 <i>Tang Xingshan</i> 2010.02.08 LEVEL - II SIGN / DATE
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-000514**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 11-Feb-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0638**Type of problem:**

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

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

During random verification Ultrasonic Testing (UT) of A/E corner backfill plate of South Tower Lift 4, Caltrans Quality Assurance (QA) observed the following issues:

- Backing has been partially removed at two weld locations, SSTL4-1C/L-40 at 119M (bottom) diaphragm and SSTL4-1F/L-100 at 123M (top) diaphragm.
- These welds join the backfill plates and double diaphragm plates of South Tower lift 4.
- The members are located in Tower Bay 10.

Contractor's proposal to correct the problem:

Remove the remaining backing bars, provide NDT to show that the welds are acceptable.

Corrective action taken:

Backing bars were removed and UT report T787-UT-2658 was provided showing the welds are 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:**

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Inspected By: Guest, Skyler

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer