

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



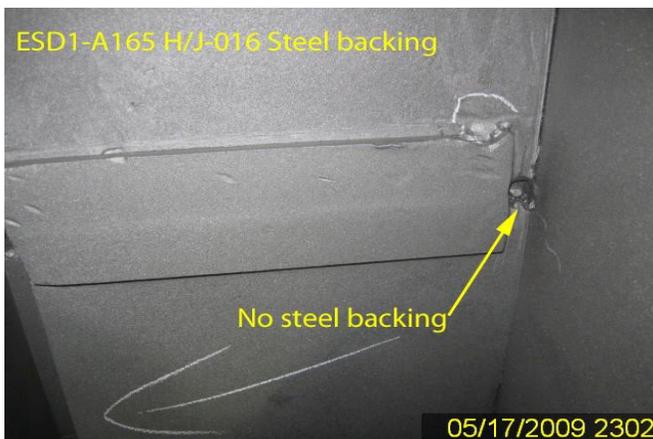
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, PRC**Report No:** NCR-000268**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 17-May-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0242**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: East Tower, Lift 1
Procedural	Procedural	Description: East Tower, Lift 1, 43m to 47.6m Diaphragms	

Reference Description: East Tower, Lift 1, Visual Indications Between 43m to 47.6m Diaphragms after Shot Blast**Description of Non-Conformance:**

QA performed random internal visual inspection of East Tower, Lift 1 between 43m and 47.6m diaphragms after grit blasting. It was observed that steel backing tack welds were cracked for 47.6m diaphragm to diaphragm insert plate CJP welds at Skin AE and ED corners. ZPMC personnel did not weld a continuous fillet the full length of the steel backing. ZPMC backing for Weld ESD1-A165 H/J-016 did not run the full length of the weld. It was also noted that gouges up to 4 mm were found at steel backing tack weld locations. Other discontinuities were found including slag, porosity, crater cracks, weld spatter, base metal gouges, and arc strikes.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

Special Provisions Section 8.3 – Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.

AWS D1.5-2002, Section 6.26.2 – Welds that are subject to MT in addition to visual inspection shall have no cracks.

AWS D1.5-2002, Section 3.3.7.6 - Tack welds used to attach steel backing and placed external to the weld joint shall be made continuous by fillet welding for the full length of the backing or shall be removed.

AWS D1.5 (02) 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”

Who discovered the problem: Joe Alaniz, Larry Viars, Umesh Gaikwad

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 5/18/2009, 13:00; E-mail

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 5/18/2009, 13:00; Verbal

QC Inspector's Name:

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, 134-8257-0045, 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: 05.03.06-000233

Subject: NCR No. ZPMC-0242

Dated: 27-May-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000237 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC will grind away the cracked tack welds. As for the lack of backing plate, ZPMC will backgouge this area and repair. All welds will be re-inspected as required.

ZPMC will grind away the cracked tack welds. As for the lack of backing plate, ZPMC will backgouge this area and repair. All welds will be re-inspected as required. Documents will be submitted at a later date.

Submitted by:

Attachment(s): ABF-NPR-000237R00

Caltrans' comments:

Status: REJ

Date: 05-Jun-2009

The proposed resolution is not acceptable. This proposed resolution does not address one of the issues requested in the Non-Conformance Transmittal, the failure of Quality Control to indentify the deficiencies.

Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences of the recurring issue, and provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0242 at that time.

Submitted by: Wright, Doug

Date: 05-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000233

Subject: NCR No. ZPMC-0242

Dated: 12-Nov-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000237 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing the UT and MT reports for the weld in question to show that the weld is sound. ZPMC requests closure of this NCR.

ZPMC is providing the UT and MT reports for the weld in question to show that the weld is sound. Any deficiencies found in the Tower during or after shot blasting will be tracked on a outstanding work punchlist. Items on the punchlist will be resolved prior to shipment. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000237R01;

Caltrans' comments:

Status: AAP

Date: 15-Nov-2009

The proposed resolution is acceptable. However, this proposal does not address the failure of Quality Control to identify the deficiencies or the steps taken by the Quality Control Manager to prevent future occurrences. Please address all issues listed in the Department's transmittal letter.

Submitted by: Lee, Ken

Date: 15-Nov-2009

Attachment(s):



No. T-077

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2009-11-12

REGARDING: NCR-000268 (ZPMC-0242)

ZPMC received NCR-000268 (ZPMC-0242), it mentioned that East tower lift 1 visual indications between 43m to 47.6m diaphragms after shot blast.

About this situation we did the works as follows:

1、 About ESD1-A165H/J-016 we did the grind work at the area which did not run the full length of the weld(see the NCR photo)and did the MT work, then re-welded this area and at last we did the MT+UT about this weld to make sure no problem about this weld.

2、 About the ESD1-A165H/J-214 we did the grind work then did the MT to make remove the tack crack.

3、 About the ESD1-A165H/J-134 we did the grind work then weld then MT+UT to make sure no problem about this fit lug.

About these problems CT people did the verification after received notification 3759. So ZPMC hope Caltrans could take a review and consider close the NCR.

ATTACHMENT:

NCR-000268 (ZPMC-0242)

Notification 3759

T787-MT-5132

T787-UT-2055

A handwritten signature in black ink is located below the attachment list. Below the signature, the date "2009-11-12" is written in black ink.



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

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 18-May-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/Fabrication Manager
Document No: 05.03.06-000233

Subject: NCR No. ZPMC-0242

Reference Description: Visual Indications After Shot Blasting / Tower East Shaft Lift 1 / Between 43m to 47.6m Diaphragms

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:** 01

Remarks:

QA performed random internal visual inspection of East Tower, Lift 1 between 43m and 47.6m diaphragms after grit blasting. It was observed that steel backing tack welds were cracked for 47.6m diaphragm to diaphragm insert plate CJP welds at Skin AE and ED corners. ZPMC personnel did not weld a continuous fillet the full length of the steel backing. ZPMC backing for Weld ESD1-A165 H/J-016 did not run the full length of the weld. It was also noted that gouges up to 4 mm were found at steel backing tack weld locations. Other discontinuities were found including slag, porosity, crater cracks, weld spatter, base metal gouges, and arc strikes.

Action Required and/or Action Taken:

Propose resolutions for the identified non-conformances and documenting that the various deficiencies have been brought in compliance with the contract requirements. Address how these identified deficiencies and any additional deficiencies that become apparent during/after shot blasting will be tracked as it appears that the shaft will be painted prior to remediation of the deficiencies.

In addition, to the material/workmanship non-conformance, propose a resolution for the identified non-conformances that addresses the failure of Quality Control to identify the deficiencies. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0242

cc: Rick Morrow, Gary Pursell, Mark Woods, Jason Tom

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 #: 04-0120F4
 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-000268
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 17-May-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0242

Type of problem:

- Welding Concrete Other
 Welding Curing Procedural **Bridge No:** 34-0006
 Joint fit-up Coating Other **Component:** East Tower, Lift 1
 Procedural **Description:** East Tower, Lift 1, 43m to 47.6m Diaphragms

Reference Description: East Tower, Lift 1, Visual Indications Between 43m to 47.6m Diaphragms after Shot Blast

Description of Non-Conformance:

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

Special Provisions Section 8.3 – Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.

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Who discovered the problem: Joe Alaniz, Larry Viars, Umesh Gaikwad

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 5/18/2009, 13:00; E-mail

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 5/18/2009, 13:00; Verbal

QC Inspector's Name:

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, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR



NDT客户检验通知单

NDT Inspection Notification Sheet

文件编号:003759
Document No.

申请递交时间:
Submit time:
2009-7-23 9:40

Shift	序号 No	检验内容 Inspection	待检验构件 Inspection part	产品分类 Section	检验场地 Inspection Place	计划检验时间 Inspection Time
DAY AFTER NOON SHIFT	1	UT FOR WELDS	WSD1-FCSA4-2A/C- 86A/B, 85A/B, 84A/B, 28A/B, 29A/B, 30 A/B	EAST TOWER LIFT 4 SKIN C	BAY 11	2009-7-23 10:15
	2	UT FOR WELDS	WSD1-TL7K/L-1~14, 28~40	EAST TOWER LIFT 2 B/C CORNER DIAGONAL PLATE	BAY 11	2009-7-23 10:15
	3	UT FOR WELDS	WSD1-TL7K/L-15~27, 41~54	EAST TOWER LIFT 2 C/D CORNER DIAGONAL PLATE	BAY 11	2009-7-23 10:15
	4	UT/MT/VT FOR WELDS	ESD1-A165F/J-97	EAST TOWER LIFT 1 BACKING PLATE AT 38M DIAPHRAGM	BAY 11	2009-7-23 10:15 CLOSE NCR 273 (ZPMC- 247)
	5	MT/VT FOR WELDS	ESD1-A165H/J-134	EAST TOWER LIFT 1 FIT LUG AT 47.6M DIAPHRAGM UPPER	ASSEMBLY FERRY	2009-7-23 10:15 CLOSE NCR 268 (ZPMC- 242)
	6	UT/MT/VT FOR WELDS	ESD1-A165H/J-016	EAST TOWER LIFT 1 STEEL BACKING AT 47.6M DIAPHRAGM LOWER	ASSEMBLY FERRY	2009-7-23 10:15 CLOSE NCR 268 (ZPMC- 242)
	7	MT/VT FOR WELDS	ESD1-A165H/J-214	EAST TOWER LIFT 1 STEEL BACKING AT 47.6M DIAPHRAGM	ASSEMBLY FERRY	2009-7-23 10:15 CLOSE NCR 268 (ZPMC- 242)
	16					

备注:
Note:

- 1、见证通知发出后，现场等待时间通常不超过30分钟；如有变动，现场通知。
- 1、When ZPMC give this table to Caltrans, Zpmc will do the inspection in 30 minutes. If we change the plan, we will inform Caltrans in the shop.
- 2、ZPMC根据自己的检验控制点 (HOLD POINT) 进行日常检验。
- 2、ZPMC will do any inspection according to the HOLD POINT.
- 3、此单为临时试用单，仅适用于完工焊缝的NDT检验见证通知。
- 3、This table is a temporary one, just for final NDT inspection notification.
- 4、QC检验完成后，QA是否需要复验，由QA自行决定，QC不再另行通知。复验等待时间通常为24小时。
- 4、When ZPMC QC finish NDT inspection, Caltrans QA can decide if they want to retest it. ZPMC QC will not inform Caltrans again. The waiting time is 24 hours ordinarily.

联系人:
Requested By:

L. King

CT签收人:
CT Receiver:

[Signature]

签收时间:

10:06

7/23/09



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 T787-UT-2055 DATE 2009.07.28 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: 部件名称 FIRST LIFTING TOWER(E) DRAWING NO.: 图号 ESD1-A165H/J CALTRANS CONTRACT NO.: 04-0120F4 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 6.3) 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
 SMAW BUTT 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-HPS-485WT2-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
ESD1-A165H/J-016		70				32									ACC.	100%
		45				32									ACC.	100%

BLANK

EXAMINED BY 主探 <i>Dai Gen cheng</i> LEVEL - II SIGN / DATE 09.07.28	REVIEWED BY 审核 <i>Xu Dong gang</i> LEVEL - II SIGN / DATE 09.07.28
质量经理 / QCM <i>Lu Jianhua 2009.7.28</i> 签字 SIGN / 日期 DATE	用户 CUSTOMER 签字 SIGN / 日期 DATE

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000233

Subject: NCR No. ZPMC-0242

Dated: 09-Dec-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000237 Rev: 02

Contractor's Proposed Resolution:

Reference Resolution: ABFJV's QCM has conducted training with ZPMC's MT inspectors and submitted the training agenda and sign in sheet to the Department.

The ZPMC QC and QA Departments are aware of the high number of missed indications in the Tower. In order to improve identification of these indications ABFJV's QCM has conducted training with ZPMC's MT inspectors and submitted the training agenda and sign in sheet to the Department. Refresher training will be conducted to continue the emphasis on performing quality inspections. In addition, ABFJV has implemented NDT verification of welds in the Tower to ensure that welds are acceptable prior to being inspected by the Engineer. Based on these actions, ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000237R02

Caltrans' comments:

Status: CLO
Date: 09-Dec-2009

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0242 is closed.

Submitted by: Lee, Ken

Attachment(s):

Date: 09-Dec-2009

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-000245**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0282**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: 08-Jun-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed magnetic particle testing (MT) that had been performed on light pipe brackets on Counterweight CW018 (OBG Segment 2BW). The MT was performed through protective coating and/or rust and was accepted by ZPMC Quality Control (QC) MT technicians.

Contractor's proposal to correct the problem:

Contractor has acknowledged that this item must be addressed, and the item was added to the Master Punchlist.

Corrective action taken:

Work was completed and item was cleared on Master Punchlist by Caltrans on 8-7-09. Submittal of documentation by Contractor being tracked on Documentation Punchlist.

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 Jim Simonis, who represents the Office of Structural Materials for your project.

Inspected By: Simonis, Jim

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer