

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-000615**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 09-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0588**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: South Tower, Lift 5, Skin E
Procedural	Procedural	Description:	

Reference Description: Welding was performed with insufficient preheat temperature on Skin E (Lift 5, South Tower)

Description of Non-Conformance:

This Caltrans QA Inspector observed ZPMC personnel performing Flux Cored Arc Welding (FCAW) of complete joint penetration (CJP) weld attaching a temporary lifting lug plate to the outside of South Tower, lift 5, skin E (70 mm thickness), without sufficient base material preheat. QA observed the 160 degree Celsius Temp-stick temperature indicator mark did not melt when the mark was applied to the adjacent base material within approximately 30mm from the point of welding. The Y location of the weld is approximately 175mm from top of lift 5.

Applicable reference:

Welding Procedure Specification WPS-B-T-4233-Tc-U5-F, designated as the applicable WPS by ZPMC QC, requires a minimum preheat temperature of 160° Celsius. AWS D1.5 (2002), Section 4.2.7 requires the base metal material to be at or above the specified minimum temperature for a distance not less than 75mm in all directions from the point of welding.

Who discovered the problem: Umesh Gaikwad**Name of individual from Contractor notified:** Li Nan**Time and method of notification:** 1055 hours, 01/09/2010, Verbal**Name of Caltrans Engineer notified:** Scott Kennedy**Time and method of notification:** 0030 hours, 01/10/2010, Email**QC Inspector's Name:** Deng Zhi Bing**Was QC Inspector aware of the problem:** Yes No**Contractor's proposal to correct the problem:**

N/A

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, (818) 292-0659, who represents the

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Office of Structural Materials for your project.

Inspected By: Ng,Michael

QA Inspector

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: 10-Jan-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-0588

Job Name: SAS Superstructure
Document No: 05.03.06-000578

Reference Description: Inadequate preheat / South Shaft Lift 5 Skin E / Temporary Lifting Lug

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:** 05

Remarks:

Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel performing Flux Cored Arc Welding (FCAW) of complete joint penetration (CJP) weld attaching a temporary lifting lug plate to the outside of South Shaft, Lift 5, Skin E (70 mm thickness), without sufficient base material preheat. QA observed the 160 degree Celsius Temp-stick temperature indicator mark did not melt when the mark was applied to the adjacent base material within approximately 30mm from the point of welding. The Y location of the weld is approximately 175mm from top of lift 5.

Welding Procedure Specification WPS-B-T-4233-Tc-U5-F, designated as the applicable WPS by ZPMC QC, requires a minimum preheat temperature of 160° Celsius. AWS D1.5 (2002), Section 4.2.7 requires the base metal material to be at or above the specified minimum temperature for a distance not less than 75mm in all directions from the point of welding.

Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance including documentation that the welds placed are in compliance with the contract requirements. In addition to addressing Production’s failure to perform the required preheat of the material, address the failure of Quality Control to identify the inadequate preheat. Provide documentation of the steps/actions taken by Production and Quality Control to prevent future occurrences. Also detail what steps/actions are being taken by ABFJV to address the quality control failures of ABFJV’s fabricator/ZPMC.

The response for the resolution of this issue is requested within 7 days.

Transmitted by: Ken Lee Transportation Engineer
Attachments: ZPMC-0588

NCT

(*Continued Page 2 of 2*)

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: 05.03.06-000578

Subject: NCR No. ZPMC-0588

Dated: 01-Feb-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000549 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC acknowledges the lack of preheat and has discussed this NCR with the production foreman, in the future such incidences will be prevented by greater oversight by the QC Department.

ZPMC acknowledges the lack of preheat and has discussed this NCR with the production foreman, in the future such incidences will be prevented by greater oversight by the QC Department. ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000549R00;

Caltrans' comments:

Status: CLO

Date: 01-Feb-2010

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0588 is closed.

Submitted by: Lee, Ken

Attachment(s):

Date: 01-Feb-2010



No. T-122

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-2-01

REGARDING: NCR-000615(ZPMC-0588)

ZPMC received NCR-000615(ZPMC-0588), it mentioned that QA observed ZPMC personnel performing FCAW welding on a temporary lifting lug outside of South Tower Lift 5 Skin E without sufficient base metal preheat.

ZPMC had realized that temporary welds shall be subject to the same WPS requirements as final welds. And ZPMC also inculcated the foreman to enhance the management and control of welding and it must be checked by QC before and during welding. Here attached the NDT report to show the temporary weld is sound, the result shows the preheating issue didn't influence the weld quality.

So ZPMC hope Caltrans could take a review and close this NCR.

ATTACHMENT:

NCR-000615(ZPMC-0588)

T-787-MT-7971

Zhang Jundi 2010.2.1



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-7971 DATE日期 2010.01.31 PAGE OF页码 1/1 Revision No: 0

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

DRAWING NO. SSD1-FESA5-FE5-1 CALTRANS CONTRACT NO.: 04-0120F4
 图号: TOWER(S) THE 5TH LIFTING SKIN E PLATE 加州工程编号

REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28 ST , 2010

EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617
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MAGNETIZING METHOD Continuous magnetic yoke CURRENT AC
 磁化方法 磁轭式连续法 电流

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

MATERIAL TO BE EXAMINED 检测材料	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-HPS485WT2-Z 70/30mm
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WELDING PROCESS FCAW TYPE OF JOINT T-JOINT
 焊接方法 焊缝类型

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			
SSD1-FESA5-FE5-1				ACC.		100%MT

BLANK

EXAMINED BY 主探 Li Liming <i>Li Liming</i> LEVEL - II SIGN 签名 / DATE日期 10.1.31 质量经理 / QCM <i>[Signature]</i> 2010.1.31 签字 SIGN / 日期 DATE	REVIEWED BY 审核 Xu Hai <i>Xu Hai</i> LEVEL-II SIGN / DATE日期 10.1.31 用户 CUSTOMER 签字 SIGN / 日期 DATE
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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: 10-Jan-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: 05.03.06-000578

Subject: NCR No. ZPMC-0588

Reference Description: Inadequate preheat / South Shaft Lift 5 Skin E / Temporary Lifting Lug

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

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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.
- Non-Conformance Resolved.

Material Location: Tower **Lift:** 05

Remarks:

Caltrans Quality Assurance (QA) Inspector observed ZPMC personnel performing Flux Cored Arc Welding (FCAW) of complete joint penetration (CJP) weld attaching a temporary lifting lug plate to the outside of South Shaft, Lift 5, Skin E (70 mm thickness), without sufficient base material preheat. QA observed the 160 degree Celsius Temp-stick temperature indicator mark did not melt when the mark was applied to the adjacent base material within approximately 30mm from the point of welding. The Y location of the weld is approximately 175mm from top of lift 5.

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Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance including documentation that the welds placed are in compliance with the contract requirements. In addition to addressing Production's failure to perform the required preheat of the material, address the failure of Quality Control to identify the inadequate preheat. Provide documentation of the steps/actions taken by Production and Quality Control to prevent future occurrences. Also detail what steps/actions are being taken by ABFJV to address the quality control failures of ABFJV's fabricator/ZPMC.

The response for the resolution of this issue is requested within 7 days.

Transmitted by: Ken Lee Transportation Engineer
Attachments: ZPMC-0588

02.02:15.04
 05.03.06-000578,NCT

Received
 NCT-000578 11 Jan 10 Page 1 of 2

NCT

(Continued Page 2 of 2)

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

File: 05.03.06

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 Quality Assurance and Source Inspection



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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-000615

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 09-Jan-2010

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

NCR #: ZPMC-0588

Type of problem:

Welding **Concrete** **Other**

Welding **Curing** **Procedural** **Bridge No:** 34-0006

Joint fit-up **Coating** **Other** **Component:** South Tower, Lift 5, Skin E

Procedural **Procedural** **Description:**

Reference Description: Welding was performed with insufficient preheat temperature on Skin E (Lift 5, South Tower)

Description of Non-Conformance:

This Caltrans QA Inspector observed ZPMC personnel performing Flux Cored Arc Welding (FCAW) of complete joint penetration (CJP) weld attaching a temporary lifting lug plate to the outside of South Tower, lift 5, skin E (70 mm thickness), without sufficient base material preheat. QA observed the 160 degree Celsius Temp-stick temperature indicator mark did not melt when the mark was applied to the adjacent base material within approximately 30mm from the point of welding. The Y location of the weld is approximately 175mm from top of lift 5.

Applicable reference:

Welding Procedure Specification WPS-B-T-4233-Tc-U5-F, designated as the applicable WPS by ZPMC QC, requires a minimum preheat temperature of 160° Celsius. AWS D1.5 (2002), Section 4.2.7 requires the base metal material to be at or above the specified minimum temperature for a distance not less than 75mm in all directions from the point of welding.

Who discovered the problem: Umesh Gaikwad

Name of individual from Contractor notified: Li Nan

Time and method of notification: 1055 hours, 01/09/2010, Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 0030 hours, 01/10/2010, Email

QC Inspector's Name: Deng Zhi Bing

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

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, (818) 292-0659, who represents the

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Office of Structural Materials for your project.

Inspected By: Ng, Michael

QA Inspector

Reviewed By: Wahbeh, Mazen

SMR

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DIVISION OF ENGINEERING SERVICES

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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-000496**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 02-Feb-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0588**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: 09-Jan-2010**Description of Non-Conformance:**

This Caltrans QA Inspector observed ZPMC personnel performing Flux Cored Arc Welding (FCAW) of complete joint penetration (CJP) weld attaching a temporary lifting lug plate to the outside of South Tower, lift 5, skin E (70 mm thickness), without sufficient base material preheat. QA observed the 160 degree Celsius Temp-stick temperature indicator mark did not melt when the mark was applied to the adjacent base material within approximately 30mm from the point of welding. The Y location of the weld is approximately 175mm from top of lift 5.

Contractor's proposal to correct the problem:

Perform NDT to verify soundness of weld, improve QC to prevent reoccurrence.

Corrective action taken:

Weld integrity was verified by MT (report T-787-MT-7971). ZPMC discussed this issue with the foreman to enhance management regarding the control of welding.

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: Guest, Skyler

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer