

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, China**Report No:** NCR-000156**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 05-Jul-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0147**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: 89m Mock-up
Procedural	Procedural	Descriptor:	89m Fit Lug Partial Mock-up

Reference Description: 04-0120F4 Special Provisions**Description of Non-Conformance:**

Caltrans Quality Assurance Ken Riley observed the following deviation by ZPMC from the approved partial mock-up procedure (ABF-SUB101R2).

1) ZPMC was to perform post weld heat treatment for controlled cool down prior to performing the second weld. After completing the first weld (MUB-MA21A/J-34) ZPMC immediately began the second weld without performing the post weld cooling procedure noted in Step 3f of the approved procedure. ZPMC simultaneously performed the post weld cooling procedure on both welds after they had been completed.

Applicable reference:

Special Provisions, Section 10-1.59, "Steel Structures", subsection "Fabrication" page 313: "For each mock-up, the Contractor shall prepare a written fabrication and welding sequence. The fabrication and welding sequence shall be submitted for review by the Engineer, and approval shall be given before the mock-up is fabricated."; ABF-SUB101R2 dated June 3, 2008.

Who discovered the problem: Ken Riley, Quality Assurance Inspector**Name of individual from Contractor notified:** Kim Xiao Jun Peng, ABFJV Quality Control Inspector**Time and method of notification:** 07/05/08; 1300; Verbal**Name of Caltrans Engineer notified:** Scott Kennedy**Time and method of notification:** 07/07/08; 1100; Verbal**QC Inspector's Name:** Zhu Zhong Hai, ZPMC Quality Control Inspector**Was QC Inspector aware of the problem:** Yes No**Contractor's proposal to correct the problem:**

None at this time

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 Josh Ishibashi, who represents the Office of Structural Materials for your project.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Inspected By:	Ishibashi,Josh	SMR
Reviewed By:	Ishibashi,Josh	SMR



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: 11-Jul-2008

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

Dear: Mr. Charles Kanapicki
Job Name: SAS Superstructure

Attention: Mr. Dave Williams Consultant
Document No: 05.03.06-000130

Subject: NCR No. ZPMC-0147

Reference Description: Failure to follow Approved Procedure / Post Weld Heat Treatment / 89m Mock-up

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:**

Remarks:

Caltrans Quality Assurance Ken Riley observed the following deviation by ZPMC from the approved partial mock-up procedure (ABF-SUB101R2).

1) ZPMC was to perform post weld heat treatment for controlled cool down prior to performing the second weld. After completing the first weld (MUB-MA21A/J-34) ZPMC immediately began the second weld without performing the post weld cooling procedure noted in Step 3f of the approved procedure. ZPMC simultaneously performed the post weld cooling procedure on both welds after they had been completed.

Action Required and/or Action Taken:

Propose a resolution that ensures that this systematic non-conformance with regard to the failure to follow the approved procedures will not continue to occur and the steps taken by the welding Quality Control Manager to prevent future failures to follow the submitted and approved procedures. The previous failures by ZPMC Production and Quality Control to follow the approved procedures for the 89m Mock-up resulted in the issuance of NCR ZPMC-0089,ZPMC-0097 and ZPMC-0146.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0147

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000130

Subject: NCR No. ZPMC-0147

Dated: 11-Sep-2008

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000139 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC takes exception to this NCR as cooling down completely to ambient temperature prior to beginning work on the second weld is not an established hold point

ZPMC takes exception to this NCR as cooling down completely to ambient temperature prior to beginning work on the second weld is not an established hold point, in fact, this process is more in line with what would happen in fabrication of these welds as it is not economically feasible to wait for these welds to cool prior to welding the next. As stated in the NCR post weld cooling began when the second weld was complete.

Submitted by:

Attachment(s): ABF-NPR-000139R00

Caltrans' comments:

Status: CLO

Date: 01-Jan-2009

Per State Letter 05.03.01-003087 dated December 8, 2008, the 77m and 89m Tower Section Mock-ups were successfully completed. The Department concurs that Non-Conformance ZPMC-0147 is closed.

As noted in ABF-CAL-LTR-000758, the Department understands that the appropriate fabrication plans will be modified in accordance with Special Provision Section 10-1.59, "Steel Structures," subsection "Working Drawings" through the FCN process.

Submitted by: Wright, Doug

Date: 02-Jan-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000130

Subject: NCR No. ZPMC-0147

Dated: 01-Oct-2008

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000159 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC acknowledges this mistake and has issued an internal NCR.

Please find attached.

Submitted by:

Attachment(s): ABF-NPR-000159R00;

Caltrans' comments:

Status: CLO

Date: 01-Jan-2009

Per State Letter 05.03.01-003087 dated December 8, 2008, the 77m and 89m Tower Section Mock-ups were successfully completed. The Department concurs that Non-Conformance ZPMC-0147 is closed.

As noted in ABF-CAL-LTR-000758, the Department understands that the appropriate fabrication plans will be modified in accordance with Special Provision Section 10-1.59, "Steel Structures," subsection "Working Drawings" through the FCN process.

Submitted by: Wright, Doug

Date: 02-Jan-2009

Attachment(s):



TRANSMITTAL LETTER

PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 09/29/2008

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: NCR-000156(ZPMC-0147)FOR CLOSURE

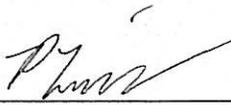
SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.CT-147
- (2) COPY OF NCR WITH NUMBER NCR-000156(ZPMC-0147).

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:



PLAN HOLDER

9/29/08 0825
DATE

ABFJV

COMPANY

PHONE NO.

PLAN NUMBER: N/A
#R787-QCP-102



No. CT-147

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2007-9-27

REGARDING: NCR-000156 (ZPMC-0147)

ZPMC received CT NCR-000156, it mentioned ZPMC did not perform post weld heat treatment for controlled cool down prior to performing the second weld. After completing the first weld, ZPMC immediately began the second weld without performing the post weld cooling procedure noted in step 3f of the approved procedure. ZPMC simultaneously performed the post weld cooling procedure on both welds after they had been completed.

ZPMC acknowledged this mistake. So ZPMC had issued out internal NCR-CT-027 to correct following fit lug welding. Also, the 24H, 48H and 72H MT did not find the defects in the weld.

Here ZPMC requests Caltrans can close NCR-000156 (ZPMC-00147).

ATTACHMENT:

NCR-000156 (ZPMC-00147)

NCR-CT-027

Agun 2008.9.27

Handwritten signature
ABF QCM
29 SEPT. 08



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: 11-Jul-2008

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Dave Williams Consultant
Subject: NCR No. ZPMC-0147

Job Name: SAS Superstructure
Document No: 05.03.06-000130

Reference Description: Failure to follow Approved Procedure / Post Weld Heat Treatment / 89m Mock-up

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:

Remarks:

Caltrans Quality Assurance Ken Riley observed the following deviation by ZPMC from the approved partial mock-up procedure (ABF-SUB101R2).

1) ZPMC was to perform post weld heat treatment for controlled cool down prior to performing the second weld. After completing the first weld (MUB-MA21A/J-34) ZPMC immediately began the second weld without performing the post weld cooling procedure noted in Step 3f of the approved procedure. ZPMC simultaneously performed the post weld cooling procedure on both welds after they had been completed.

Action Required and/or Action Taken:

Propose a resolution that ensures that this systematic non-conformance with regard to the failure to follow the approved procedures will not continue to occur and the steps taken by the welding Quality Control Manager to prevent future failures to follow the submitted and approved procedures. The previous failures by ZPMC Production and Quality Control to follow the approved procedures for the 89m Mock-up resulted in the issuance of NCR ZPMC-0089, ZPMC-0097 and ZPMC-0146.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0147 -

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe

File: 05.03.06

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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, China

Report No: NCR-000156

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 05-Jul-2008

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

NCR #: ZPMC-0147

Type of problem:

Welding Concrete Other
 Welding Curing Procedural Bridge No: 34-0006
 Joint fit-up Coating Other Component: 89m Mock-up
 Procedural Procedural Descripton: 89m Fit Lug Partial Mock-up

Reference Description: 04-0120F4 Special Provisions

Description of Non-Conformance:

Caltrans Quality Assurance Ken Riley observed the following deviation by ZPMC from the approved partial mock-up procedure (ABF-SUB101R2).

1) ZPMC was to perform post weld heat treatment for controlled cool down prior to performing the second weld. After completing the first weld (MUB-MA21A/J-34) ZPMC immediately began the second weld without performing the post weld cooling procedure noted in Step 3f of the approved procedure. ZPMC simultaneously performed the post weld cooling procedure on both welds after they had been completed.

Applicable reference:

Special Provisions, Section 10-1.59, "Steel Structures", subsection "Fabrication" page 313: "For each mock-up, the Contractor shall prepare a written fabrication and welding sequence. The fabrication and welding sequence shall be submitted for review by the Engineer, and approval shall be given before the mock-up is fabricated."; ABF-SUB101R2 dated June 3, 2008.

Who discovered the problem: Ken Riley, Quality Assurance Inspector

Name of individual from Contractor notified: Kim Xiao Jun Peng, ABFJV Quality Control Inspector

Time and method of notification: 07/05/08; 1300; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 07/07/08; 1100; Verbal

QC Inspector's Name: Zhu Zhong Hai, ZPMC Quality Control Inspector

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

None at this time

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 Josh Ishibashi, who represents the Office of Structural Materials for your project.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Inspected By: Ishibashi,Josh

SMR

Reviewed By: Ishibashi,Josh

SMR



Nonconformance Report

不符合项报告

Project Name: S.F.O.B.B
 项目名称: 美国加州海湾大桥
 NCR Number: NCR-CT-027
 NCR 编号: (NCR-0156)

Item: The Nonconformance Between The Fabrication And The Procedure
 Item Number: 件号:
 Drawing: 图号:
 名称描述: 未按制作工艺制作定位板焊接试验

Location: 89M Fit Lug Partial Mock Up
 位置: 89 米定位板焊接试验
 Date: 2008-07-15
 日期: 2008-07-15

Description of Nonconformance: 不符合项状态描述:

Caltrans Quality Assurance Ken Riley observed the following deviation by ZPMC from the approved partial mock-up procedure. (ABF-SUB101R1)

ZPMC was to perform post weld heat treatment for controlled cool down prior to performing the second weld. After completing the first weld (MUB-MA21A/J-34) ZPMC immediately began the second weld with out performing the post weld cooling procedure noted in Step 3f of the approved procedure. ZPMC simultaneously performed the post weld cooling procedure on both welds after they had been completed.

加州检验员发现 ZPMC 未按 ABF-SUB101R2 制作流程返修定位板。ZPMC 应当在第一条焊缝完成并做好后热处理后开始第二条焊缝焊接工作。但实际 ZPMC 在完成定位板一侧焊缝后立刻开始了第二条焊缝的焊接工作，最后对两侧焊缝同时作后热处理，违反了制作流程。

Work By: 施工方: zhongyishi 7-15 Prepared by: 准备: yanjun 2008-7-15 Reviewed by QCE: 质量工程师批准: zhuo shuang hua 2008-7-15

Drawing Error 图纸错误 Material Defect 材料缺陷 Fabrication Error 制作错误 Other 其他原因

Disposition: Use as is 回用 Repair 返修 Reject 拒收
 处理措施:

Recommendation:

建议: 加强施工方及现场质检与 QA 沟通。

Enhance communication between workers, QC and QA.

Prepared by: Lu Ye Zei 2008.7.15
准备

Approved by QCA: Hu Gang 2008.7.20
质量经理批准

Reason for Nonconformance:

不符合原因: ① 施工方与现场质检师傅将中文版返修工艺理解错误, 导致焊接顺序错误.

Worker and QC didn't understand repair technology completely causing post weld cooling error.

Prevention of Re-occurrence:

预防措施: ① 现场施工时多询问QA, 避免类似情况发生

Ask QA before fabrication, if it didn't understand weld cooling procedure completely to avoid this issue happened again.

Approved by/批准: Li Yefei 2008.7.15.

Technical Justification for Use-As-Is/Repair: Attachment 附件 Non-attachment 无附件

回用或返修的技术依据: 由于此定位块施焊完成后, 经过 36h、72h 操作均未发现缺陷, 且后来师傅们三块定位板均按附件要求制作。The welds were inspected by NDT after 36h, 72h, and didn't find any defects, and the following welds should be welded according to fabrication requirement.

Reviewed/批准: Grandy

Verification: Acceptable 可接受 Unacceptable 不可接受

Verified by QCI/质检确认: _____ Reviewed by QCA/质检主任审核: _____

DEPARTMENT OF TRANSPORTATION

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(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, China**Report No:** NCS-000134**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 23-Dec-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0147**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: 05-Jul-2008**Description of Non-Conformance:**

Caltrans Quality Assurance Ken Riley observed the following deviation by ZPMC from the approved partial mock-up procedure (ABF-SUB101R2).

1) ZPMC was to perform post weld heat treatment for controlled cool down prior to performing the second weld. After completing the first weld (MUB-MA21A/J-34) ZPMC immediately began the second weld without performing the post weld cooling procedure noted in Step 3f of the approved procedure. ZPMC simultaneously performed the post weld cooling procedure on both welds after they had been completed.

Contractor's proposal to correct the problem:

ZPMC acknowledges this mistake and has issued an internal NCR (NCR-CT-027) to ensure the correct fit lug welding procedures are being used.

Corrective action taken:

Fabrication procedure has been modified and partial mock-ups have been fabricated successfully. Letter No. 05.03.01-003087 concluded the successful completion of 77m and 89m mock-ups.

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 Serge Sinevod, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod, Serge

Quality Assurance Inspector

Reviewed By: Sinevod, Serge

QA Reviewer