

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-000201**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 20-Sep-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0179**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Tower
Procedural	Procedural	Descriptor:	North Tower 43M Diaphragm

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

Quality Assurance identified a 35mm linear indication during magnetic particle testing, indicative of crack in the PJP groove weld, 43M Diaphragm plate weld number NSD1-SA27 B/B-8. ZPMC Quality Control Inspectors had previously tested and accepted the weld using magnetic particle testing and turned over the weld for Quality Assurance verification testing. Once the crack was identified ZPMC repaired the indication without approval from the Engineer as is required by the Special Provisions and AWS D1.5 2002.

**Applicable reference:**

AWS D1.5, Section 3.7.4 and Section 12.17 and Special Provisions, Section 8-3, "In addition to the provisions in AWS D1.5, Section 3.7.4 and Section 12.17, third-time repairs of welds or base metal, regardless of NDT method, and all repairs of cracks require prior approval of the Engineer."

Who discovered the problem: Greg Bertlesman, Quality Assurance Inspector**Name of individual from Contractor notified:** Li Shi You, ABFJV Quality Control**Time and method of notification:** 9/20/08;1300;Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 9/22/08;0700;Verbal

QC Inspector's Name: Zhao Chen Sun, ZPMC Quality Control

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

Inspected By:	Ishibashi,Josh	SMR
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Reviewed By:	Smith,Ryan	SMR
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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: 29-Sep-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: 05.03.06-000172

Subject: NCR No. ZPMC-0179

Reference Description: Failure to Identify Indication and Obtain Approval of Repair / Diaphragm Assembly / Lift 1

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:

Quality Assurance identified a 35mm linear indication during magnetic particle testing, indicative of crack in the PJP groove weld, 43M Diaphragm plate weld number NSD1-SA27 B/B-8. ZPMC Quality Control Inspectors had previously tested and accepted the weld using magnetic particle testing and turned over the weld for Quality Assurance verification testing. Once the crack was identified ZPMC repaired the indication without approval from the Engineer as is required by the Special Provisions and AWS D1.5 2002.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the repaired weld is in compliance with the contract requirements. Documentation provided for the Engineer's review of the acceptability of the weld repair shall at a minimum include the procedure utilized/CWR and the NDT results.

In addition to the material/workmanship non-conformance, propose a resolution that addresses the failure of Quality Control to identify the linear indication (NDT) and once identified allowing the repair to proceed without a CWR approved by the Engineer. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0179

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: 05.03.06-000172

Subject: NCR No. ZPMC-0179

Dated: 06-Nov-2008

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000180 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has since completed the repair and will forward the repair information to ABF for NCR closure.

ABF has notified ZPMC that they have violated contract and AWS D1.5 code requirements. ZPMC has since completed the repair and will forward the repair information to ABF for NCR closure.

Submitted by:

Attachment(s): ABF-NPR-000180R00

Caltrans' comments:

Status: REJ

Date: 13-Nov-2008

The proposed resolution is not acceptable.

Please provide documentation of the weld repairs that were performed and that the repairs were acceptable. Also, as requested in the Non-Conformance transmittal, provide documentation of what measures were taken by the Quality Control Manager to try to prevent future occurrences of this issue.

The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0179 at that time.

Submitted by: Wright, Doug

Date: 13-Nov-2008

Attachment(s):

NCR PROPOSED RESOLUTION

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

Dated: 15-Dec-2008

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

Attention: Pursell, Gary
Resident Engineer

Job Name: SAS Superstructure

Document No.: ABF-NPR-000180 Rev: 01

Ref: 05.03.06-000172

Subject: NCR No. ZPMC-0179

Contractor's Proposed Resolution:

Reference Resolution: ZPMC requests closure of this NCR based on attached documentation.

Please see attached.

Submitted by:

Attachment(s): ABF-NPR-000180R01; docs to close this NCR

Caltrans' comments:

Status: REJ

Date: 28-Dec-2008

The proposed resolution is not acceptable.

Provide documentation of what measures were taken by the Quality Control Manager to try to prevent future occurrences of this issue. Or if nothing was done by the Quality Control Manager, please note that in the response.

Submitted by: Wright, Doug

Date: 30-Dec-2008

Attachment(s):



PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 12/12/2008

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: CALTRANS NCR FOR CLOSURE

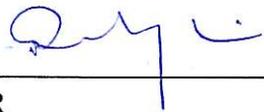
SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.T-020 FOR CLOSURE.
- (2) COPY OF NCR WITH NUMBER NCR-000201(ZPMC-0179).
- (3) COPY OF ABF-NPR-000180
- (4) COPY OF MT REPORTS.

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:



PLAN HOLDER

RECEIVED 12 DEC 2008
1410

DATE



COMPANY

PHONE NO.

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



No. T-020

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2008-12-11

REGARDING: NCR-201 ZPMC-179

ZPMC received NCR-201(ZPMC-179), it mentioned that CT quality assurance identified a 35mm linear indication during magnetic particle testing, indicative of crack in the PJP groove weld, 43M diaphragm plate weld number NSD1-SA27 B/B-8. ZPMC quality control inspector had previously tested and accepted the weld using magnetic particle testing and turned over the weld for Quality Assurance verification testing.

ZPMC had verified the problem and did the MT again. The ZPMC inspector found the linear indication was on the surface of the weld, so the defect was removed after a little bit grinding. MT report T787-MT-769 showed this weld had been accepted, and north tower 43M double diaphragm has been tagged after CT's inspection. ZPMC also reminded the workers not to repair the weld at random until ZPMC QA communicated with AB/F and CT personnel.

So here ZPMC attached AB/F NCR proposed solution ABF-NPR-000180 and hoped Caltrans can take a review and close this NCR.

ATTACHMENT:

NCR-000201 (ZPMC-0179)

ABF-NPR-000180

T787-MT-769

2008-12-12

ABF QCM
15 DEC. 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: 29-Sep-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-0179

Job Name: SAS Superstructure
Document No: 05.03.06-000172

Reference Description: Failure to Identify Indication and Obtain Approval of Repair / Diaphragm Assembly / Lift 1

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:

Quality Assurance identified a 35mm linear indication during magnetic particle testing, indicative of crack in the PJP groove weld, 43M Diaphragm plate weld number NSD1-SA27 B/B-8. ZPMC Quality Control Inspectors had previously tested and accepted the weld using magnetic particle testing and turned over the weld for Quality Assurance verification testing. Once the crack was identified ZPMC repaired the indication without approval from the Engineer as is required by the Special Provisions and AWS D1.5 2002.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the repaired weld is in compliance with the contract requirements. Documentation provided for the Engineer's review of the acceptability of the weld repair shall at a minimum include the procedure utilized/CWR and the NDT results.

In addition to the material/workmanship non-conformance, propose a resolution that addresses the failure of Quality Control to identify the linear indication (NDT) and once identified allowing the repair to proceed without a CWR approved by the Engineer. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0179

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

File: 05.03.06

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



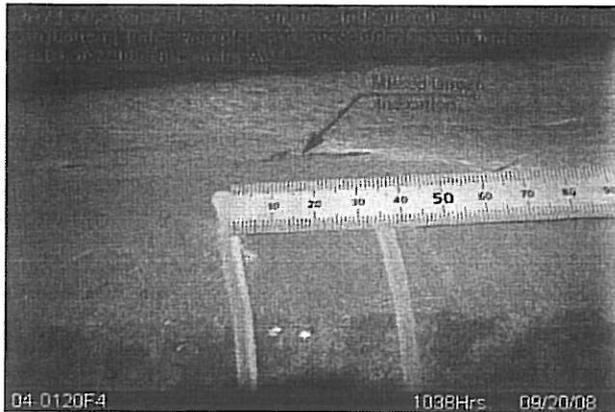
Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, PRC**Report No:** NCR-000201**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 20-Sep-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0179**Type of problem:**

Welding **Concrete** **Other**
Welding **Curing** **Procedural** **Bridge No:** 34-0006
Joint fit-up **Coating** **Other** **Component:** Tower
Procedural **Procedural** **Description:** North Tower 43M Diaphragm

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

Quality Assurance identified a 35mm linear indication during magnetic particle testing, indicative of crack in the PJP groove weld, 43M Diaphragm plate weld number NSD1-SA27 B/B-8. ZPMC Quality Control Inspectors had previously tested and accepted the weld using magnetic particle testing and turned over the weld for Quality Assurance verification testing. Once the crack was identified ZPMC repaired the indication without approval from the Engineer as is required by the Special Provisions and AWS D1.5 2002.

**Applicable reference:**

AWS D1.5, Section 3.7.4 and Section 12.17 and Special Provisions, Section 8-3, "In addition to the provisions in AWS D1.5, Section 3.7.4 and Section 12.17, third-time repairs of welds or base metal, regardless of NDT method, and all repairs of cracks require prior approval of the Engineer."

Who discovered the problem: Greg Bertlesman, Quality Assurance Inspector**Name of individual from Contractor notified:** Li Shi You, ABFJV Quality Control**Time and method of notification:** 9/20/08;1300;Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 9/22/08;0700;Verbal

QC Inspector's Name: Zhao Chen Sun, ZPMC Quality Control

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

Inspected By: Ishibashi,Josh

SMR

Reviewed By: Smith,Ryan

SMR



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-769		DATE 日期 2008.09.21		PAGE OF 页码 1/1	Revision No: 0	
PROJECT NO. 工程编号: ZP06-787			CONTRACTOR: 用户: CALTRANS			
DRAWING NO. 图号: SA335(N) SA27(N) TOWER(N) 43M DIAPHRAGM			CALTRANS CONTRACT NO.: 加州工程编号 04-0120F4			
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS.D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 th , 2008			
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			
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC			
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70~150mm			
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-HPS-485WT2-Z 75/60/40 mm			
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	T-JOINT			
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			
NSD1-SA27 B/B-3				ACC.		
NSD1-SA27 B/B-4				ACC.		
NSD1-SA27 B/B-15				ACC.		
NSD1-SA27 B/B-16				ACC.		
NSD1-SA27 B/B-7				ACC.		
NSD1-SA27 B/B-8				ACC.		
NSD1-SA27 B/B-11				ACC.		
NSD1-SA27 B/B-12				ACC.		
BLANK						
EXAMINED BY 主操 zhou dongyun			REVIEWED BY 审核 L L... 2008.09.21			
LEVEL - II SIGN 签名 / DATE 日期 08.09.21			LEVEL-II SIGN / DATE 日期			
质量经理 / QCM Hu... 2008.09.21			用户 CUSTOMER			
签字 SIGN / 日期 DATE			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: 05.03.06-000172

Subject: NCR No. ZPMC-0179

Dated: 31-Mar-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000180 Rev: 02

Contractor's Proposed Resolution:

Reference Resolution: In reply to the CT comment, be advised that several items have been completed in action to prevent recurrence of this issue.

Several training sessions have been conducted as well as informal discussions with ZPMC QA/QC and production. ABF also discusses these issues on a weekly basis with ZPMC. A Green Tagging system has since been established that requires a 3 party acceptance. With that said, the QCM has done many things to ensure preventive actions have taken place and goal of continual improvement is realized by both ZPMC and ABF.

ZPMC and ABF consider the NCR closed.

Submitted by:

Attachment(s): ABF-NPR-000180R02

Caltrans' comments:

Status: CLO

Date: 08-Apr-2009

The proposed resolution is acceptable. The welds in question were accepted as shown on the NDT reports attached to Rev 1 of this NPR, and training has been provided to the welding inspectors. The Department concurs that Non-Conformance ZPMC-0179 is closed.

Submitted by: Wright, Doug

Date: 08-Apr-2009

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-000180**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Jan-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0179**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: 20-Sep-2008**Description of Non-Conformance:**

Quality Assurance identified a 35mm linear indication during magnetic particle testing, indicative of crack in the PJP groove weld, 43M Diaphragm plate weld number NSD1-SA27 B/B-8. ZPMC Quality Control Inspectors had previously tested and accepted the weld using magnetic particle testing and turned over the weld for Quality Assurance verification testing. Once the crack was identified ZPMC repaired the indication without approval from the Engineer as is required by the Special Provisions and AWS D1.5 2002.

Contractor's proposal to correct the problem:

ABF has notified ZPMC that they have violated the contract and AWS D1.5 Code requirements. ZPMC has since completed the repair and will forward the repair information to ABF for NCR closure.

Corrective action taken:

ZPMC has provided Magnetic Particle Testing (MT) results indicating sound welds and the 43M Diaphragm has been green tagged. ZPMC has also provided dry Magnetic Particle Testing (MT) training to its NDT operators to prevent future occurrences, as indicated in their response to NCR-ZPMC-0187.

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, (86) 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod, Serge

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer