

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

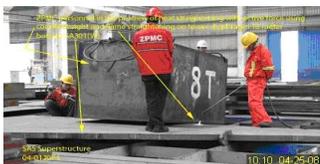
Quality Assurance and Source Inspection



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-000129**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Apr-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0123**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:****Procedural****Procedural****Descriptor:** ABF QC allowed ZPMC to perform unauthorized process**Reference Description:** ZPMC WQCP, Section 11**Description of Non-Conformance:**

ABF has allowed ZPMC to perform Heat Straightening (HS) using methods which were not approved by the Engineer. The use of weight an active method to straighten during heating is not a step in the ABF/ZPMC approved fabrication plan for the Tower Diaphragm plates and this process has previously been identified as unapproved by the Department in NCR-0090. The observed diaphragm plate with this heat straightening method is the 18 Meter elevation diaphragm plate SA301(W). The referenced heat straightening procedure was recorded as ZPMC (HS) Report Number HSR1(T)-516.

**Applicable reference:**

ZPMC WQCP, Section 11.1.6: "Plates will be heat straightened if the distortion tolerance is exceeded after welding. The heating temperature shall not exceed 650C and shall be allowed to cool in still air. Restraining forces may be used, as provided in the approved Heat Straightening Procedure, when approved by the Engineer."  
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**Who discovered the problem:** Sherri Brannon, Quality Assurance Inspector

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Name of individual from Contractor notified:** Steve Lawton, ABF Quality Control Manager

**Time and method of notification:** verbal, 04/28/08 0900 hours

**Name of Caltrans Engineer notified:** Scott Kennedy, Structure Representative

**Time and method of notification:** verbal, 04/28/08 0800 hours

**QC Inspector's Name:** Xu Jun

**Was QC Inspector aware of the problem:** Yes No

**Contractor's proposal to correct the problem:**

The Contractor (ZPMC) believes that this process is compliant with contract documents and disagrees with the NCR.

**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 Office of Structural Materials for your project.

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<b>Inspected By:</b>	McReynolds,Robert	SMR
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<b>Reviewed By:</b>	Wahbeh,Mazen	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 Enterprises, a JV  
375 BURMA ROAD  
OAKLAND CA 95607

**Date:** 13-May-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:** 05.03.06-000103

**Subject:** NCR No. ZPMC-0123

**Reference Description:** ZPMC WQCP, Section 11

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:

ABF has allowed ZPMC to perform Heat Straightening (HS) using methods which were not approved by the Engineer. The use of weight an active method to straighten during heating is not a step in the ABF/ZPMC approved fabrication plan for the Tower Diaphragm plates and this process has previously been identified as unapproved by the Department in NCR-0090.

### Action Required and/or Action Taken:

Propose a resolution that ensures that this systematic non-conformance with 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. In the event that the Contractor's intent is to modify the procedure, a revised procedure must be submitted for review and approval prior to being implemented.

**Transmitted by:** Scott Kennedy Sr. Bridge Engineer

**Attachments:** ZPMC-0123

**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:** 05.03.06-000103

**Subject:** NCR No. ZPMC-0123

**Dated:** 18-Aug-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000069 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC acknowledges that this heat straightening with mechanical assistance should have been documented correctly on an HSR and issued an internal NCR before proceeding with work.

Please see attached.

**Submitted by:** Kanapicki, Charles

**Attachment(s):** ABF-NPR-000069R00;

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### Caltrans' comments:

**Status:** REJ

**Date:** 11-Sep-2008

The response is not acceptable.

ZPMC's Letter of Response, Item I, states that "For non-SPCM parts, ZPMC will conduct the operation and comply with the Heat Straightening Guide in the confirm letter ZPMC20080409-02. If the plate needs the mechanical assistance and does not exceed the maximum deformation for heat straightening without engineer approval, it will be shown on the sketch and approved by the ZPMC QAM."

Per Section 3.7.3 of AWS D1.5 2002, members distorted by welding shall be straightened by mechanical means or by carefully supervised applications of a limited amount of localized heat as approved by the Engineer. The use of mechanical force must be evaluated on a case by case basis by the Engineer therefore the proposed resolution is not acceptable. Also, the referenced "Heat Straightening Guide" addresses the global tolerances but does not include the local tolerances for heat straightening, and therefore is not complete.

**Submitted by:** Wright, Doug

**Date:** 11-Sep-2008

**Attachment(s):**

## DEPARTMENT OF TRANSPORTATION

CHINA FABRICATION TEAM

506 Shangcheng Rd., Pudong New District  
Shanghai 200120, PRC

## REVIEW OF CONTRACTOR'S TRANSMITTAL

To: Dave Williams, American Bridge – Fluor, a Joint Venture  
Gary Pursell, Resident Engineer

Review Date: 08/04/2008From: Joshua Ishibashi, Structural Materials RepresentativeContract No.: 04-0120F4Date/Time Submittal Recieved: 07/18/2008/ 1236
 China Standard Time  
(GMT+08:00)
Contractor's Transmittal #: TL-08-1522 Rev. # 0

<input type="checkbox"/>	substantially <b>complies</b> with contract requirements and is approved		
<input type="checkbox"/>	substantially <b>complies</b> with contract requirements and is approved as noted.		
<input checked="" type="checkbox"/>	Lacks sufficient information and/or contains unacceptable items that must be corrected or prior to resubmittal		
Verbal Notification	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	Date: _____ Time: _____
Name of individual from Contractor Notified: _____			
This submittal is a:	<input type="checkbox"/> Welding Report	<input type="checkbox"/> Critical Weld Repair	
	<input type="checkbox"/> Request for Information	<input type="checkbox"/> Heat Straightening Request	
	<input type="checkbox"/> Fabrication Procedures	<input checked="" type="checkbox"/> Other: NCR Resolution	
Submitting Contractor: <u>ZPMC</u>			
ITEMS REVIEWED	COMPLIES		COMMENTS
1. Serial Letter ABF-SL-08-0134	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Response to NCR #ZPMC-0123
2.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
3.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Remarks: METS recommends that ABF-TRN-TL-08-1522 be resubmitted. METS takes exception to ZPMC's Letter of Response, Item 1 which states that "For non-SPCM parts, ZPMC will conduct the operation and comply with the Heat Straightening Guide in the confirm letter ZPMC20080409-02. If the plate needs the mechanical assistance and does not exceed the maximum deformation for heat straightening without engineer approval, it will be shown on the sketch and approved by the ZPMC QAM." Per AWS D1.5 2002, Section 3.7.3 "Members distorted by welding shall be straightened by mechanical means or by carefully supervised applications of a limited amount of localized heat as approved by the Engineer." The use of mechanical force must be evaluated on a case by case basis by the Engineer therefore the proposed resolution is not acceptable. Second, the attached "Heat Straightening Guide" addresses the global tolerances but does not include the local tolerances for heat straightening therefore is not complete.

Reviewer: Joshua Ishibashi JTIDate: 08/04/2008
 Construction Concurrence: Initials DLW Date 2008-08-05
Received by (ABFJV): [Signature] Date 8/5/08 Time 0955



17 July 2008

Reply to: SL-ABF-08-0134

**Attention:** Gary Pursell

**Reference:** San Francisco Oakland Bay SAS Bridge Superstructure  
Caltrans Contract No. 04-0120F4  
ABF Job No. 660110

**Subject:** NCR# ZPMC-0123

Mr. Pursell:

This letter is issued to provide formal response addressing the proposed resolution to NCR # ZPMC-0123.

ABF has allowed ZPMC to perform Heat Straightening (HS) using methods which were not approved by the Engineer. The use of weight as an active method to straighten during heating is not a step in the ABF/ZPMC approved fabrication plan for the Tower Diaphragm plates and this process has previously been identified as unapproved by the Department in NCR-0090.

The Heat Straightening listed above was not documented within the approved fabrication procedure, however, it would be difficult to predict all heat straightening occurrences ahead of time and have documented in a procedure. ZPMC acknowledges that this heat straightening with mechanical assistance should have been documented correctly on an HSR and issued an internal NCR to document and make affected personnel aware of the correct documentation needed before proceeding with work. See attached ZPMC response to this NCR-0123 clarifying the documentation and approval steps to be taken.

If further clarifications are needed, please contact me.



Steve Lawton

Foreign Quality Assurance Manager  
American Bridge Fluor Joint Venture



TRANSMITTAL LETTER

PROJECT: SAN FRANCISCO OAKLAND BAY BRIDGE

DATE: 06/20/2008

TO: RUBY/ ABFJV QA DEPARTMENT

FROM: ZPMC QA DEPARTMENT

SUBJECT: RESUBMITTED NCR-000129 FOR CLOSURE

SUBMITTED FOR YOUR APPROVAL.

ENCLOSED WITH THIS TRANSMITTAL IS ONE

- (1) COPY OF LETTER OF RESPONSE WITH NO.T-0014 FOR CLOSURE.
- (2) COPY OF ORIGINAL REJECTED NCR INCLUDING ONE COPY OF NCR WITH NUMBER NCR-000129 (ZPMC-0123),ONE COPY OF ZPMC INTERNAL NCR NCR-T-006 AND ONE COPY OF HSR HSR1(T)-516.

PLEASE SIGN THIS TRANSMITTAL AND RETURN TO ME.

ACKNOWLEDGEMENT:

*Ruby L.*

PLAN HOLDER

RECEIVED 20 JUN 2008

*0826*

DATE



COMPANY

PHONE NO.

PLAN NUMBER: N/A

#R787-QCP-102



No. T-0014

## LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2007-6-19

REGARDING: NCR-000129 (ZPMC-0123)

Dear Mr. Steve Lawton,

As to NCR-000129 (ZPMC-0123), before CT issued out this NCR ZPMC had noticed the non-conformance between HSR1(T)-516 and the worksite operation. The worker took the mechanical method during the heat straightening, however it was not showed and approved on the HSR1. So ZPMC issued the internal NCR-T-006 to prevent the same problem. ZPMC requires the heat straightening operator should obey the requirement strictly.

But ZPMC has the different opinion about the usage of mechanical assistance herein. ZPMC takes action as following:

- 1- For the non-SPCM parts, ZPMC will conduct the operation and comply with the Heat Straightening Guide in the confirm letter ZPMC20080409-02. If the plate needs the mechanical assistance and does not exceed the maximum deformation for heat straightening without engineer approval, it will be shown on the sketch and approved by ZPMC QAM.
- 2- For the SPCM parts, the Heat Straightening Guide will also take effect. But whenever to use the active force for the SPCM, the heat straightening report shall be submitted to engineer for approval despite whether the deformation has exceeded the maximum allowable amount or not.

So ZPMC requests Caltrans can close the NCR-000129 (ZPMC-0123).

ATTACHMENT:

Copies of TL-08-1367

A handwritten signature in black ink, appearing to read 'L. J. Lawton'.

2008-6-19

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000103

**Subject:** NCR No. ZPMC-0123

**Dated:** 31-Mar-2009

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000069 Rev: 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:**

In response to CT rejection of this NCR, ZPMC understands the requirements of the AWS D1.5 Code paragraph 3.7.3 requiring Engineers approval when limited amounts of localized heat as approved by the engineer and the use of straightening by mechanical force must be evaluated on a case by case basis. ZPMC will seek engineers approval of heat straightening by use of mechanical force on a case by case basis, however in cases already pre-approved in section 11 of the WQCP, ZPMC will only require Engineers approval if the dimension of distortion is outside the allowable tolerance within the Special Provisions.

**Submitted by:**

**Attachment(s):** ABF-NPR-000069R01

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**Caltrans' comments:**

**Status:** CLO

**Date:** 08-Apr-2009

The proposed resolution is acceptable. All of the welds on this diaphragm have been accepted, and the diaphragm has subsequently received a green tag. The Department concurs that Non-Conformance ZPMC-0123 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-000202**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 05-Mar-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0123**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b>
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Date the Non-Conformance Report was written:** 25-Apr-2008**Description of Non-Conformance:**

ABF has allowed ZPMC to perform Heat Straightening (HS) using methods which were not approved by the Engineer. The use of weight an active method to straighten during heating is not a step in the ABF/ZPMC approved fabrication plan for the Tower Diaphragm plates and this process has previously been identified as unapproved by the Department in NCR-0090. The observed diaphragm plate with this heat straightening method is the 18 Meter elevation diaphragm plate SA301(W). The referenced heat straightening procedure was recorded as ZPMC (HS) Report Number HSR1(T)-516.

**Contractor's proposal to correct the problem:**

ZPMC has been notified that heat straightening shall be in accordance with the approved Dimensional Control Plan.

**Corrective action taken:**

ZPMC acknowledges the problem and has informed the worker teams and QC inspectors that using active force is forbidden during heat straightening. If necessary, ZPMC will submit a heat straightening report for engineer's approval. The diaphragm has since been jointly green tagged by the Department, ABF, and ZPMC.

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

**Inspected By:** Sinevod, Serge

Quality Assurance Inspector

**Reviewed By:** Wahbeh, Mazen

QA Reviewer