

**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-000183**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 27-Aug-2008**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0166**Type of problem:**

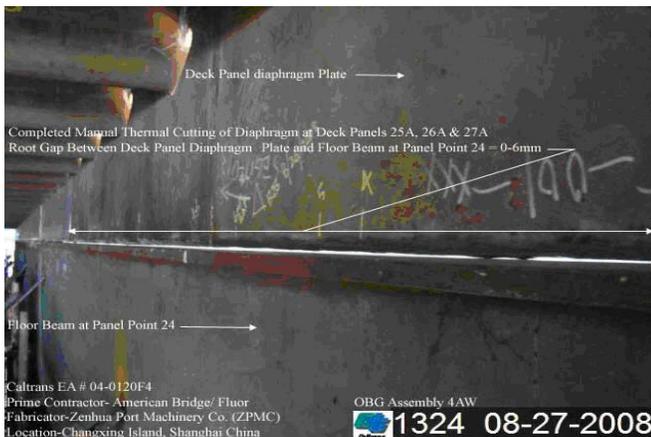
<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> DP025-001, DP026-001, DP027-001
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b>	OBG Deck Panels

**Reference Description:** Unapproved Freehand Thermal Cutting**Description of Non-Conformance:**

The Contractor's workmanship was not in conformance to contract documents. The Contractor performed freehand thermal cutting of OBG diaphragm plates without Engineer approval. This occurred on the OBG diaphragm plate on deck panels DP025-001, DP026-001 and DP027-001 at panel point PP24 at the floorbeam FB-015A connection on segment SEG 4AW.

**Applicable reference:**

AWS D1.5, Sec. 3.2.2: "Freehand thermal cutting shall be done only where approved by the Engineer."

**Who discovered the problem:** Caltrans Quality Assurance Robert Cuellar**Name of individual from Contractor notified:** ABFJV QC Inspector Art Peterson**Time and method of notification:** Verbal notification at 1245 hrs.**Name of Caltrans Engineer notified:** Kannu Balan

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**Time and method of notification:** Verbal notification of similar incident on 08-25-2008

**QC Inspector's Name:** ZPMC QC Inspector Mr. Wang Lu

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

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<b>Inspected By:</b>	Velasco,Abifhram	SMR
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<b>Reviewed By:</b>	Velasco,Abifhram	SMR
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**DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge**  
666 Feng Bin Road Room 708, Changxing Island  
Shanghai 201913 PR China  
Tel: 021-56856666 ext 207061 Fax:

## NON-CONFORMANCE REPORT TRANSMITTAL

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

**Date:** 09-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:** 05.03.06-000158

**Subject:** NCR No. ZPMC-0166

**Reference Description:** Unapproved Freehand Thermal Cutting

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:** OBG **Lift:** 04

### Remarks:

The Contractor's workmanship was not in conformance to contract documents. The Contractor performed freehand thermal cutting of OBG diaphragm plates without Engineer approval. This occurred on the OBG diaphragm plate on deck panels DP025-001, DP026-001 and DP027-001 at panel point PP24 at the floorbeam FB-015A connection on segment SEG 4AW.

Please refer to the attached NCR #ZPMC-0166 for details.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences.

**Transmitted by:** Ching Chao

**Attachments:** ZPMC-0166

**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Ching Chao

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000158

**Subject:** NCR No. ZPMC-0166

**Dated:** 11-Sep-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000153 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC is drafting an RFI requesting the use of free hand cutting in areas not accessible for mechanical cutting.

ZPMC performed free hand cutting on as it was not practical to set up mechanical devices to cut these pieces. ABF reminded ZPMC that free hand cutting is not unacceptable, however, free hand cutting must be approved by the Engineer. ZPMC is drafting an RFI requesting the use of free hand cutting in areas not accessible for mechanical cutting as long as the profile of cut is acceptable and the CT inspector is notified verbally prior to cutting.

### Submitted by:

**Attachment(s):** ABF-NPR-000153R00

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### Caltrans' comments:

**Status:** REJ

**Date:** 01-Oct-2008

The proposed resolution is not acceptable. The Request for Information (RFI) mentioned in this proposed resolution has not been received. Please re-submit the proposed resolution when the RFI to request the use of free hand thermal cutting has been resolved. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0166 at that time.

**Submitted by:** Wright, Doug

**Date:** 01-Oct-2008

**Attachment(s):**

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000158

**Subject:** NCR No. ZPMC-0166

**Dated:** 19-Dec-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000153 Rev: 01

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC is drafting an RFI requesting the use of free hand cutting in areas not accessible for mechanical cutting. ZPMC will notify the onsite engineers representative prior to performing free-hand cutting. Freehand cutting will be performed in accordance with the attached procedure. The attached procedure is submitted for information only.

**Submitted by:**

**Attachment(s):** ABF-NPR-000153R01;

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**Caltrans' comments:**

**Status:** REJ

**Date:** 22-Dec-2008

The proposed resolution is not acceptable. Freehand thermal cutting shall only be done where the Engineer has given prior approval in writing.

The freehand flame cutting procedure attached to this NPR was submitted in ABF-SUB-000872, and returned for correction as detailed in State letter 5.03.01-2934. Revisions to fabrication procedures should be addressed through a formal submittal, and not through a proposed resolution to an NCR.

**Submitted by:** Wright, Doug

**Date:** 23-Dec-2008

**Attachment(s):**

### Freehand Flame Cutting.

Freehand flame cutting procedure:

Freehand flame cutting procedure may be performed in areas where it is impractical to use machine flame cutting or a mechanical guide. Freehand flame cutting should follow this procedure unless otherwise approved by Engineer.

1. Mark the cutting line on steel plate.
2. Carefully freehand flame cut to approximately 3mm above the cutting line.
3. Grind the remaining 3mm to the cutting line.
4. Occasional notches or gouges deeper than the cutting line, which are not subsequently welded, should be removed by fairing to the material edge with a slope not steep than 1:10 and with grinding marks parallel to the material surfaces. The repair should not remove more than 2% of the nominal section.
5. Maximum roughness for the flame cut surface should meet the requirements in AWS D1.5.
6. Sharp corners that are not to be incorporated into a weld shall be removed by chamfering the edge.

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000158

**Subject:** NCR No. ZPMC-0166

**Dated:** 02-Feb-2009

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000153 Rev: 02

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC will notify the onsite engineers prior to freehand flame cutting materials over 25mm.

ZPMC will notify the onsite engineers prior to freehand flame cutting materials over 25mm. Materials less than or equal to 25mm will be performed on a pre-approved basis in accordance with the attached procedure. ZPMC requests closure of this NCR.

**Submitted by:**

**Attachment(s):** ; ABF-NPR-000153R02

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**Caltrans' comments:**

**Status:** CLO

**Date:** 17-Feb-2009

The proposed resolution is acceptable. The freehand flame cutting procedure was submitted as part of ABF submittal 872R01, and was approved as noted in State letter 3475. The Department concurs that Non-Conformance ZPMC-0166 is closed.

Flame cutting of materials greater than 25mm in thickness requires Engineer approval prior to cutting.

**Submitted by:** Wright, Doug

**Date:** 17-Feb-2009

**Attachment(s):**

**Subject:** Free Hand Flame Cutting Procedure

**1.0** **Purpose**

- 1.1 The purpose of this procedure is to request Engineer's approval for flame cutting when mechanically guided flame cutting is not practical due to accessibility, cross sectional geometry and or position.

**2.0** **Scope**

- 2.1 This procedure outlines the technique and process for flame cutting of materials 25mm and less when mechanical guides are not available.
- 2.2 Flame cutting of materials greater than 25mm shall require notification of the Engineer prior to cutting.

**3.0** **Procedure**

- 3.1 Mark a cutting line on the item to be cut.
- 3.2 Protect surrounding materials with cover plates or suitable nonflammable material. Or remove surrounding material that may be damaged.
- 3.3 Carefully cut to approximately 3mm above the cutting line. If possible, the use of a cutting guide such as a piece of angle iron, flat bar or other template shall be used to guide the torch tip in a straight line while cutting.
- 3.4 Grind the remaining 3mm to the cutting line. Ground edges shall be inspected for discontinuities per AWS D1.5 Section 3.2.3. All repairs shall be per AWS D1.5 Section 3.2.3.
- 3.5 Occasional notches of gouges deeper than the cutting line in the material edges, which are not subsequently welded, should be removed by fairing to the material edge with a slope not steeper than 1 : 10 and with grinding marks parallel to the material surfaces. The repair should not remove more than 2% of the nominal section.
- 3.6 Maximum roughness for the flame cut surface should meet the requirements in AWS D1.5 Section 3.2.3.
- 3.7 Sharp corners that are not to be incorporated into a weld shall be removed by chamfering the edge.

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(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-000201**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 27-Feb-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0166**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>Descriptor:</b>	

**Date the Non-Conformance Report was written:** 27-Aug-2008**Description of Non-Conformance:**

The Contractor's workmanship was not in conformance to contract documents. The Contractor performed freehand thermal cutting of OBG diaphragm plates without Engineer approval. This occurred on the OBG diaphragm plate on deck panels DP025-001, DP026-001 and DP027-001 at panel point PP24 at the floorbeam FB-015A connection on segment SEG 4AW.

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

ZPMC will notify the onsite engineers prior to freehand flame cutting materials over 25mm. ZPMC will work according to the approved as noted submittal ABF-SUB-000872R01 "Freehand Flame Cutting Shop Procedure - ZPMC Fabrication Procedure," dated January 27, 2009.

**Corrective action taken:**

The proposed resolution is acceptable. The freehand flame cutting procedure was submitted as part of the ABF submittal 872R01, and was approved as noted in State letter 3475. ZPMC will work according to this approved as noted submittal. Also, ZPMC/ABF will notify CT and obtain Engineer's approval prior to flame cutting of materials greater than 25mm thick.

**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 Eric Tsang, +(86) 150.0042.2372, who represents the Office of Structural Materials for your project.

**Inspected By:** Tsang, Eric

Quality Assurance Inspector

**Reviewed By:** Wahbeh, Mazen

QA Reviewer