

**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 #: 04-0120F4  
 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-000743

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 22-May-2010

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

**NCR #:** ZPMC-0706

### 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> Lift 13E Floorbeam
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Reference Description:** Unknown Material being tacked onto a Lift 13 Floorbeam. Performed work is not conforming to the requirements in AWS D1.5 Section 12.

### Description of Non-Conformance:

During the Quality Assurance (QA) random visual inspection of Orthotropic Box Girder (OBG) Floor beam Lift 13E, this QA Inspector discovered the following issues:

- ZPMC has temporarily tack welded steel plate to a Seismic Performance Critical Member (SPCM).
- The approved shop drawings do not specify any welds in these areas.
- The size and length of the tack welds do not meet the requirements of AWS D1.5 2002, table 12.2.
- The member is a Floor beam identified as: FB3108-001.
- The location of the temporary tack welds are Floor beam web splice plate X3370B.
- The Floor beam web splice plate is designated on the approved shop drawings as SPCM.
- The material composition of the added steel plate being welded to the Floor beam is not known.
- OBG Floor beam FB3108-001 is located in the Bay 3.



### Applicable reference:

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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AWS D1.5-2002 Section 6.5.1: "The Inspector shall make certain that the size, length, and location of all welds conform to the requirements of this code and to the detail drawings and that no unspecified welds have been added without approval".

AWS D1.5-2002 Section 3.3.8 Temporary welds: "Temporary welds shall be subject to the same WPS requirements as final welds." "Temporary welds at other locations shall be shown on the shop drawings."

AWS D1.5-2002 Section 12.13.1.1 Location: All tack welds used in assembly shall be located within the joint unless otherwise approved by the Engineer.

AWS D1.5-2002 Table 12.2: Specifies tack welds outside the joint shall be a minimum of 75mm in length and refers to footnote 3 which specifies. "Tack welds outside the joint shall require the Engineer's approval."

AWS D1.5-2002 Section 12.4 Approved Base Metals: All steels described in 1.2.2 are approved for use in the construction of FCMs. Other steels may be approved by the Engineer.

**Who discovered the problem:** Dhanasingh Sukanthan

**Name of individual from Contractor notified:** Wang Wen Bin

**Time and method of notification:** 1345 hours, 05/22/10, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen

**Time and method of notification:** 0800 hours, 05/23/10, Email

**QC Inspector's Name:** Lu Jian Hua

**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 Office of Structural Materials for your project.

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<b>Inspected By:</b>	Devey,Jim	SMR
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<b>Reviewed By:</b>	Wahbeh,Mazen	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:** 25-May-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:** 05.03.06-000701

**Subject:** NCR No. ZPMC-0706

**Reference Description:** Unknown Material being tacked onto a Lift 13 Floorbeam. Performed work is not conforming to the requirements in AWS D1.5 Sec

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:** 13

### Remarks:

- During the Quality Assurance (QA) random visual inspection of Orthotropic Box Girder (OBG) Floor beam Lift 13E, this QA Inspector discovered the following issues:
- ZPMC has temporarily tack welded steel plate to a Seismic Performance Critical Member (SPCM).
  - The approved shop drawings do not specify any welds in these areas.
  - The size and length of the tack welds do not meet the requirements of AWS D1.5 2002, table 12.2.
  - The member is a Floor beam identified as: FB3108-001.
  - The location of the temporary tack welds are Floor beam web splice plate X3370B.
  - The Floor beam web splice plate is designated on the approved shop drawings as SPCM.
  - The material composition of the added steel plate being welded to the Floor beam is not known.
  - OBG Floor beam FB3108-001 is located in the Bay 3.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. A response for the resolution of this issue is expected within 7 days.

**Transmitted by:** Sean Eagen Transportation Engineer

**Attachments:** ZPMC-0706

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

**File:** 05.03.06

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000701

**Subject:** NCR No. ZPMC-0706

**Dated:** 11-Jun-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000703 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** When the temporary attachments are removed, ZPMC will perform NDT of the base metal to ensure there was no damage.

When the temporary attachments are removed, ZPMC will perform NDT of the base metal to ensure there was no damage. In addition, ZPMC will issue an internal NCR to notify work crews that temporary attachments should adhere to the same standards as other welds. Based on this proposal ZPMC requests that this NCR be approved, with actions pending.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000703R00

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### Caltrans' comments:

**Status:** REJ

**Date:** 15-Jun-2010

The areas where unidentified material was tacked welded shall be ground out such that any impurities introduced are removed. MT should then be performed and the base metal repaired per approved methods. Additionally, a description of the measures being taken to ensure that similar non-conformances do not occur in the future.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 15-Jun-2010

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000701

**Subject:** NCR No. ZPMC-0706

**Dated:** 12-Aug-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000703 Rev: 01

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has removed the temporary welds and MT the relative locations. ZPMC requests closure of this NCR.

ZPMC has removed the tack welds by grinding and has instructed the work crew that, before the temporary attachments are applied, they must be part of a drawing as stated in the AWS code. ZPMC is generating a procedure for specific parts that will require temporary attachments. ZPMC has removed the temporary welds and MT the relative locations. ZPMC requests closure of this NCR.

**Submitted by:** Lawton, Steve

**Attachment(s):** ABF-NPR-000703R01;

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### Caltrans' comments:

**Status:** CLO

**Date:** 17-Aug-2010

The proposed resolution is acceptable. This NCR is considered closed.

**Submitted by:** Woo, Laraine

**Attachment(s):**

**Date:** 17-Aug-2010



No. B-835

## LETTER OF RESPONSE

**TO: American Bridge/Flour**

**DATE: 2010-08-11**

**REGARDING: NCR-000743(ZPMC-0706)**

The areas where unidentified material was tacked welded has been ground out. ZPMC is providing the NDT records to show that acceptance of base metal after grinding and repair. To prevent the same issue from happening ZPMC technical department has written a temporary attachment procedure to instruct the production of the using of temporary attachment. Based on this, ZPMC is request closure of this NCR.

**ATTACHMENT:**

NCR-000743(ZPMC-0706)

B787-MT-24522

B787-MT-24808

*Jay W*  
8/11/10



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge  
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## NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 25-May-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: 05.03.06-000701

Subject: NCR No. ZPMC-0706

Reference Description: Unknown Material being tacked onto a Lift 13 Floorbeam. Performed work is not conforming to the requirements in AWS D1.5 Sec  
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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: OBG

Lift: 13

### Remarks:

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- OBG Floor beam FB3108-001 is located in the Bay 3.

### Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0706

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao, Bill Casey  
File: 05.03.06

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 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-000743

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 22-May-2010

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

**NCR #:** ZPMC-0706

**Type of problem:**

Welding  Concrete  Other

Welding  Curing  Procedural

Joint fit-up  Coating  Other

Procedural  Procedural  Description:

**Bridge No:** 34-0006

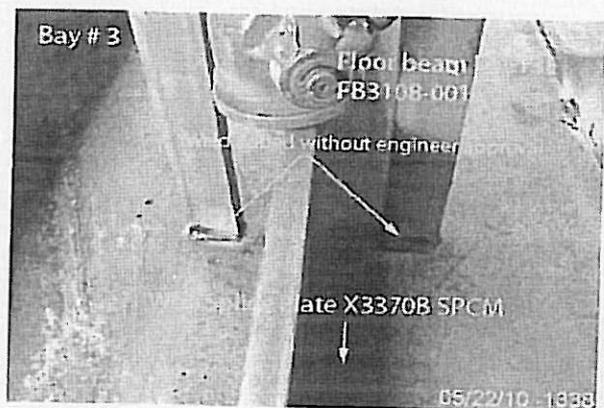
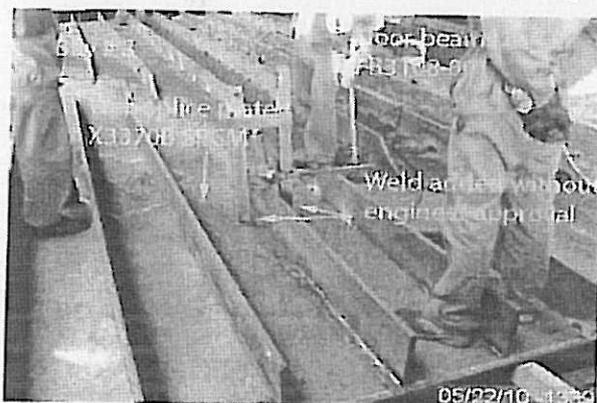
**Component:** Lift 13E Floorbeam

**Reference Description:** Unknown Material being tacked onto a Lift 13 Floorbeam. Performed work is not conforming to the requirements in AWS D1.5 Section 12.

**Description of Non-Conformance:**

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**Applicable reference:**

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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( Continued Page 2 of 2 )

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AWS D1.5-2002 Section 6.5.1: "The Inspector shall make certain that the size, length, and location of all welds conform to the requirements of this code and to the detail drawings and that no unspecified welds have been added without approval".

AWS D1.5-2002 Section 3.3.8 Temporary welds: "Temporary welds shall be subject to the same WPS requirements as final welds." "Temporary welds at other locations shall be shown on the shop drawings."

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**Who discovered the problem:** Dhanasingh Sukanthan

**Name of individual from Contractor notified:** Wang Wen Bin

**Time and method of notification:** 1345 hours, 05/22/10, Verbal

**Name of Caltrans Engineer notified:** Sean Eagen

**Time and method of notification:** 0800 hours, 05/23/10, Email

**QC Inspector's Name:** Lu Jian Hua

**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 Office of Structural Materials for your project.

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**Inspected By:** Devey, Jim

SMR

**Reviewed By:** Wahbeh, Mazen

SMR

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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, P.R. China**Report No:** NCS-000722**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 17-Aug-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0706**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:** 22-May-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) random visual inspection of Orthotropic Box Girder (OBG) Floor beam Lift 13E, this QA Inspector discovered the following issues:

- ZPMC has temporarily tack welded steel plate to a Seismic Performance Critical Member (SPCM).
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- The Floor beam web splice plate is designated on the approved shop drawings as SPCM.
- The material composition of the added steel plate being welded to the Floor beam is not known.
- OBG Floor beam FB3108-001 is located in the Bay 3.

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

Remove welds, grind base metal under tacks, perform base metal repairs and NDT required to verify weld quality.

**Corrective action taken:**

Contractor submitted post repair NDT documentation verifying base metal has been repaired and repair welds meet Contract weld quality requirements. ZPMC has also issued a temporary attachment procedure to Production to eliminate recurrence of this problem.

**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:**

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# QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

( Continued Page 2 of 2 )

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**Inspected By:** Simonis,Jim

Quality Assurance Inspector

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**Reviewed By:** Wahbeh,Mazen

QA Reviewer