

**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-000735

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

**Date:** 17-May-2010

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

**NCR #:** ZPMC-0698

### Type of problem:

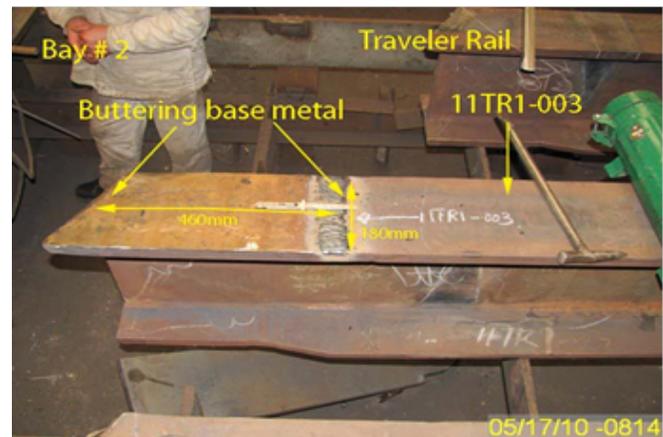
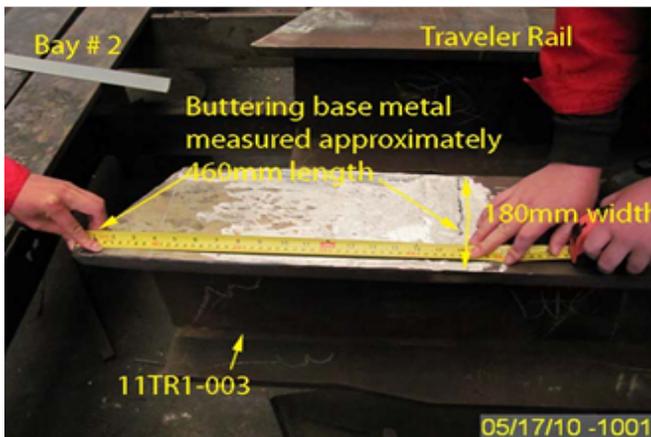
<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> OBG Traveler Rail
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b>	

**Reference Description:** Buttering of the flange surfaces of 2 Traveler Rails for thickness build-up

### Description of Non-Conformance:

During the Quality Assurance (QA) random in-process visual inspection of Orthotropic Box Girder (OBG) Traveler Rails, this QA inspector discovered the following issues:

- ZPMC welding personnel were buttering on the faces of the existing base metal surfaces to build up the thickness of the material.
- The work was performed without prior Engineer's approval as verified with ZPMC personnel.
- The affected Traveler Rails are identified as: 11TR1-003 and 10TR2-009.
- The buttered area located on the flange of the Traveler Rails.
- The total buttered area in each Traveler Rail is approximately 460mm in length by 180mm wide.
- Welding process used was Shielded Metal Arc Weld (SMAW).
- The material is A709 Grade 345 Non Seismic Performance Critical Member (Non SPCM).
- OBG Traveler Rails are located in the Bay 2.



### Applicable reference:

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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AWS D1.5 2002 Section 3.1.5 – “Welds shall be prohibited on the work except as follows:

- (1) Base-metal repair performed in conformance with AASHTO M160/M160M (ASTM A 6/A 6M), Specification for General Requirements for Rolled Steel Plates, Shapes, Sheet Piling, and Bars for Structural Use, Article 9, by the mill or fabricator
- (2) All welds detailed on approved shop drawings
- (3) Repair welds authorized by this code
- (4) Other welds approved by the Engineer”

AWS D1.5 2002 Section 3.4.3 – “The Contractor shall prepare a welding sequence for a member or structure which, in conjunction with the WPSs and overall fabrication methods, will produce members or structures meeting the quality requirements specified. The welding sequence and distortion control program shall be submitted to the Engineer, for information and comment, before the start of welding on a member or structure in which shrinkage or distortion is likely to affect the adequacy of the member or structure.”

**Who discovered the problem:** Dhanasingh Sukanthan

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

**Time and method of notification:** 1000 hours, 05/17/10, Verbal

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

**Time and method of notification:** 1440 hours, 05/17/10, Verbal

**QC Inspector's Name:** Zhang Wei

**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>	Tsang, Eric	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:** 18-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:** 05.03.06-000693

**Subject:** NCR No. ZPMC-0698

**Reference Description:** Buttering of the flange surfaces of 2 Traveler Rails for thickness build-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:** OBG **Lift:**

**Remarks:**

- During the Quality Assurance (QA) random in-process visual inspection of Orthotropic Box Girder (OBG) Traveler Rails, this QA inspector discovered the following issues:
- ZPMC welding personnel were buttering on the faces of the existing base metal surfaces to build up the thickness of the material.
  - The work was performed without prior Engineer’s approval as verified with ZPMC personnel.
  - The affected Traveler Rails are identified as: 11TR1-003 and 10TR2-009.
  - The buttered area located on the flange of the Traveler Rails.
  - The total buttered area in each Traveler Rail is approximately 460mm in length by 180mm wide.
  - Welding process used was Shielded Metal Arc Weld (SMAW).
  - The material is A709 Grade 345 Non Seismic Performance Critical Member (Non SPCM).
  - OBG Traveler Rails are located in the Bay 2.

**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-0698

**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:** 05.03.06-000693

**Subject:** NCR No. ZPMC-0698

**Dated:** 11-Jun-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000696 Rev: 00

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ZPMC will repair the missed indication and provide NDT to show that the repair was successful. Based on this proposal ZPMC requests that this NCR be approved, with actions pending.

ZPMC will repair the missed indication and provide NDT to show that the repair was successful. Based on this proposal ZPMC requests that this NCR be approved, with actions pending.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000696R00

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**Caltrans' comments:**

**Status:** REJ

**Date:** 14-Jun-2010

The subject NCR is regarding a non-conformance related to buttering and not a missed indication as noted in this NPR. Please provide a response applicable to the NCR.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 14-Jun-2010

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000693

**Subject:** NCR No. ZPMC-0698

**Dated:** 21-Jun-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000696 Rev: 01

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### Contractor's Proposed Resolution:

**Reference Resolution:** To clarify the NPR, the WRR that ZPMC is proposing to provide is not for repair of a missed indication but for the weld build up that the Department's representative observed.

To clarify the NPR, the WRR that ZPMC is proposing to provide is not for repair of a missed indication but for the weld build up that the Department's representative observed. ZPMC requests that this action be approved with action pending.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000696R01

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### Caltrans' comments:

**Status:** REJ

**Date:** 23-Jun-2010

A WRR for the buttering performed will not be acceptable as adding weld material in this manner is not an acceptable repair practice and there is no way to perform NDT to verify the weld metal is acceptable.

**Submitted by:** Eagen, Sean

**Date:** 23-Jun-2010

**Attachment(s):**

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000693

**Subject:** NCR No. ZPMC-0698

**Dated:** 27-Aug-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000696 Rev: 02

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**Contractor's Proposed Resolution:**

**Reference Resolution:** ABFJV and ZPMC have discussed this and prior to this happening in the future, ZPMC will request Engineer approval of their repair plan to ensure the repair is acceptable.

ABFJV and ZPMC have discussed this and prior to this happening in the future, ZPMC will request Engineer approval of their repair plan to ensure the repair is acceptable. Based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000696R02

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**Caltrans' comments:**

**Status:** CLO

**Date:** 31-Aug-2010

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

**Submitted by:** Woo, Laraine

**Date:** 31-Aug-2010

**Attachment(s):**

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

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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, P.R. China**Report No:** NCS-000746**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 01-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0698**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:** 17-May-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) random in-process visual inspection of Orthotropic Box Girder (OBG) Traveler Rails, this QA inspector discovered the following issues:

- ZPMC welding personnel were buttering on the faces of the existing base metal surfaces to build up the thickness of the material.
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- Welding process used was Shielded Metal Arc Weld (SMAW).
- The material is A709 Grade 345 Non Seismic Performance Critical Member (Non SPCM).
- OBG Traveler Rails are located in the Bay 2.

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

N/A

**Corrective action taken:**

METS has elected to close this issue as there was no other repair option rather than scrapping portions of the Traveler Rails. Contractor has supplied NDT documentation verifying weld metal conforms with Contract weld quality requirements.

**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

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**Inspected By:** Simonis,Jim

Quality Assurance Inspector

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**Reviewed By:** Wahbeh,Mazen

QA Reviewer