

**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, P.R. China**Report No:** NCR-000683**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 21-Feb-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0650**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> 6AE and 6BE Edge Panel Stiffeners
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b> Missed MT indication by QC	

**Reference Description:** Missed MT Indications by QC on OBG Segment 6AE and 6BE Edge Panel Stiffeners

**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on OBG Segment 6AE and 6BE, this QA Inspector discovered the following issue:

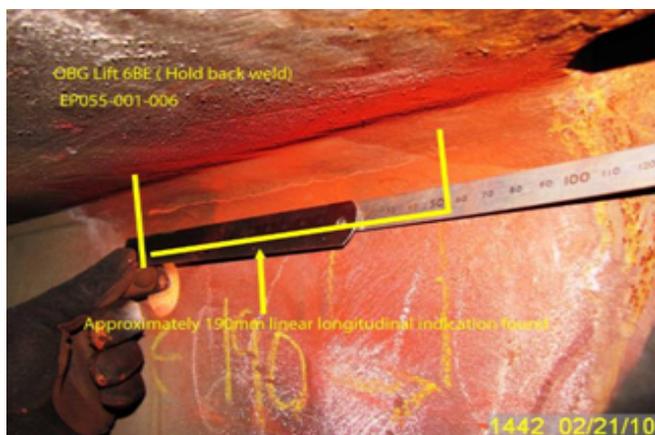
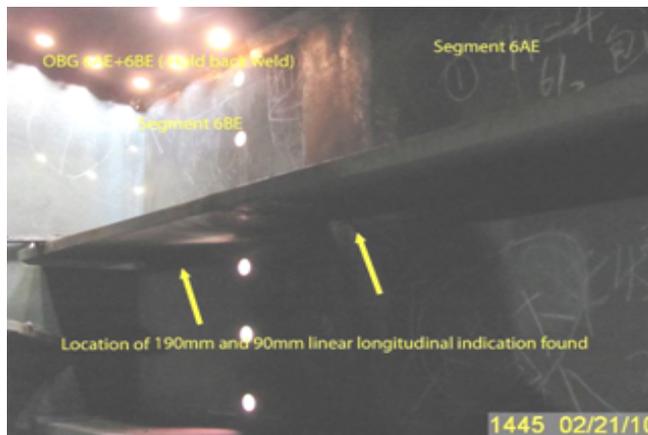
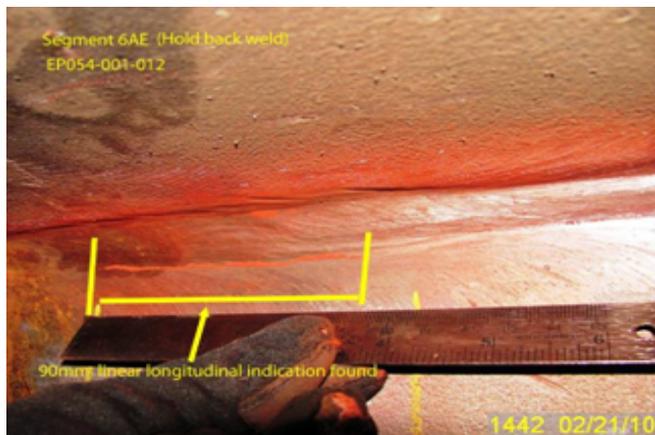
- Two (2) longitudinal linear indications that measured approximately 90mm and 190mm in length.
- The welds are identified as:
  - EP054-001-012 in segment 6AE @ in between panel point PP40.5 to PP41 (90mm).
  - EP055-001-006 in segment 6BE @ in between panel point PP40.5 to PP41 (190mm).
- These weld joints are designated as Seismic Performance Critical Members (SPCM).
- The welds are fillet welds joining:
  - The stiffener identified as RS88HA to the edge plate (EP054) identified as PL1157B (SPCM) in segment 6AE.

The stiffener identified as RS88EA to the edge plate (EP055) identified as PL1162A (SPCM) in segment 6BE.

- The indications are clearly marked on the material on/near the weld.
  - The OBG segment is located in the trial assembly.
- The Notice of Witness Inspection Number (NWIT) is 005218. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC QC personnel are required to perform 100% Magnetic particle inspection of these welds.

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 3 )



## Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5 (02) Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

**Who discovered the problem:** Chandra Sudalaimuthu

**Name of individual from Contractor notified:** Yang Dong

**Time and method of notification:** 16:00 hours\_02/21/10\_Verbal

**Name of Caltrans Engineer notified:** Bill Howe

**Time and method of notification:** 10:00 hours\_02/22/10\_Verbal

**QC Inspector's Name:** Li yang

**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

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 3 of 3 )

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concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, 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**  
 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:** 23-Feb-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:** 05.03.06-000640

**Subject:** NCR No. ZPMC-0650

**Reference Description:** Missed MT Indications by QC on OBG Segment 6AE and 6BE Edge Panel Stiffeners

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:** 06

**Remarks:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on OBG Segment 6AE and 6BE, this QA Inspector discovered the following issue:

- Two (2) longitudinal linear indications that measured approximately 90mm and 190mm in length.
- The welds are identified as:
  - EP054-001-012 in segment 6AE @ in between panel point PP40.5 to PP41 (90mm).
  - EP055-001-006 in segment 6BE @ in between panel point PP40.5 to PP41 (190mm).
- These weld joints are designated as Seismic Performance Critical Members (SPCM).
- The welds are fillet welds joining:
  - The stiffener identified as RS88HA to the edge plate (EP054) identified as PL1157B (SPCM) in segment 6AE.
  - The stiffener identified as RS88EA to the edge plate (EP055) identified as PL1162A (SPCM) in segment 6BE.
- The indications are clearly marked on the material on/near the weld.
- The OBG segment is located in the trial assembly.

The Notice of Witness Inspection Number (NWIT) is 005218. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC QC personnel are required to perform 100% Magnetic particle inspection of these welds.

**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:** Bill Howe Sr. Transportation Engineer  
**Attachments:** ZPMC-0650

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# NCT

( Continued Page 2 of 2 )

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**cc:** Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, 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:** 05.03.06-000640

**Subject:** NCR No. ZPMC-0650

**Dated:** 15-Mar-2010

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000617 Rev: 00

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### Contractor's Proposed Resolution:

**Reference Resolution:** ZPMC has repaired the missed indications and is attaching NDT documentation to show that the welds are acceptable. Based on this ZPMC requests closure of this NCR.

ZPMC has repaired the missed indications and is attaching NDT documentation to show that the welds are acceptable. In addition, ZPMC has conducted training with its inspectors to reduce the number of missed indications. Also ZPMC has written and internal NCR to address this problem. Based on this ZPMC requests closure of this NCR.

**Submitted by:** Ishibashi, Joshua

**Attachment(s):** ABF-NPR-000617R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 24-Mar-2010

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0650 is closed.

**Submitted by:** Eagen, Sean

**Attachment(s):**

**Date:** 24-Mar-2010



No. B-677

## LETTER OF RESPONSE

**TO:** American Bridge/Flour

**DATE:** 2010-3-15

**REGARDING:** NCR-000683(ZPMC-0650)

ZPMC acknowledged this problem and has issued internal NCR. B-CWR1238 & B-CWR1239 were issued reflecting to these MT linear indications. Repairs have been completed and are now accepted by CT and this NCR has been removed from punchlist. ZPMC is providing the NDT records show the welds are acceptable. Based on this, ZPMC requests closure of this NCR.

**ATTACHMENT:**

NCR-000683(ZPMC-0650)

B787-MT-19561 R1

B787-MT-19556 R1

A handwritten signature in black ink, appearing to be "J. W.", is located below the attachment list.

3/15/10



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: 23-Feb-2010

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

Dear: Mr. Charles Kanapicki  
 Attention: Mr. Thomas Nilsson Project/Fabrication Manager  
 Subject: NCR No. ZPMC-0650

Job Name: SAS Superstructure  
 Document No: 05.03.06-000640

Reference Description: Missed MT Indications by QC on OBG Segment 6AE and 6BE Edge Panel Stiffeners

The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

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- Quality Control (QC) not performed in conformance with contract documents.
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- Non-Conformance Resolved.

Material Location: OBG

Lift: 06

**Remarks:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on OBG Segment 6AE and 6BE, this QA Inspector discovered the following issue:

- Two (2) longitudinal linear indications that measured approximately 90mm and 190mm in length.
- The welds are identified as:

EP054-001-012 in segment 6AE @ in between panel point PP40.5 to PP41 (90mm).

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- These weld joints are designated as Seismic Performance Critical Members (SPCM).
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The stiffener identified as RS88EA to the edge plate (EP055) identified as PL1162A (SPCM) in segment 6BE.

- The indications are clearly marked on the material on/near the weld.
- The OBG segment is located in the trial assembly.

The Notice of Witness Inspection Number (NWIT) is 005218. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC QC personnel are required to perform

100% Magnetic particle inspection of these welds.

**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: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0650

05.03.06-000640,NCT

**NCT**

*( Continued Page 2 of 2 )*

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

DEPARTMENT OF TRANSPORTATION  
DIVISION OF ENGINEERING SERVICES  
Office of Structural Materials  
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Contract #: 04-0120F4  
City: SF/ALA Rte: 80 PM: 13.2/13.9  
File #: 69.25B

### QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

**Location:** Changxing Island, Shanghai, P.R. China

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

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

**Report No:** NCR-000683

**Date:** 21-Feb-2010

**NCR #:** ZPMC-0650

**Type of problem:**

- Welding  Concrete  Other
- Welding  Curing  Procedural
- Joint fit-up  Coating  Other
- Procedural  Procedural  Description: Missed MT indication by QC

**Bridge No:** 34-0006

**Component:** 6AE and 6BE Edge Panel Stiffeners

**Reference Description:** Missed MT Indications by QC on OBG Segment 6AE and 6BE Edge Panel Stiffeners

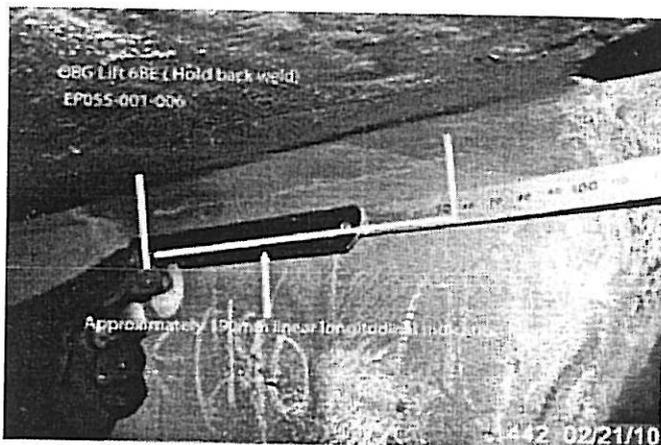
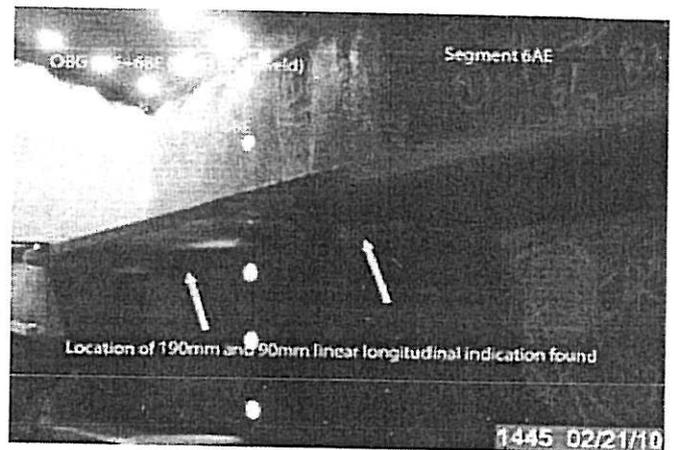
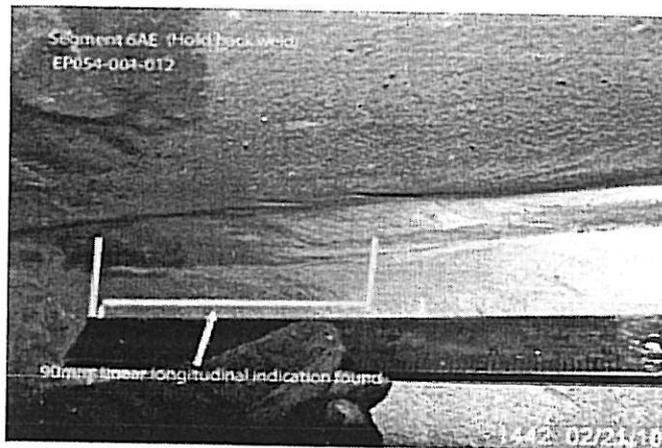
**Description of Non-Conformance:**

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- Two (2) longitudinal linear indications that measured approximately 90mm and 190mm in length.
  - The welds are identified as:  
EP054-001-012 in segment 6AE @ in between panel point PP40.5 to PP41 (90mm).  
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  - The indications are clearly marked on the material on/near the weld.
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# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



## Applicable reference:

Special Provisions Section 8.3 – “Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents.”

AWS D1.5 (02) Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

**Who discovered the problem:** Chandra Sudalaimuthu

**Name of individual from Contractor notified:** Yang Dong

**Time and method of notification:** 16:00 hours\_02/21/10\_Verbal

**Name of Caltrans Engineer notified:** Bill Howe

**Time and method of notification:** 10:00 hours\_02/22/10\_Verbal

**QC Inspector's Name:** Li yang

**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

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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( Continued Page 3 of 3 )

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concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

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**Inspected By:** Tsang, Eric

SMR

**Reviewed By:** Wahbeh, Mazen

SMR

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CWR 1239



# Nonconformance Report

## 不符合项报告

Project Name: S.F.O.B.B 项目名称: 美国加州海湾大桥		NCR Number: NCR 编号: NCR-B-451(ZPMC-0650)
Item: Miss MT indication 名称描述: MT 漏检	Item Number: 件号:	Drawing: 图号: 6AE 6BE
Location: Outside Yard 位置: 外场	Date: 日期: 2010-02-23	

**Description of Nonconformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Segment 6AE & 6BE, this QA Inspector discovered the following linear indications:

- Two longitudinal linear indications that measured approximately 90mm and 190mm in length.
- The welds' ID are: EP054-001-012 in 6AE between PP40.5 to PP41; EP055-001-006 in 6BE between PP40.5 to PP41. These are all SPCM welds.

加州在箱梁 6AE 和 6BE 的磁粉检查中发现如下问题:

- 二处 MT 漏检的现状缺陷, 长度分别约为 90mm 以及 190mm
- 焊缝编号为 EP054-001-012 (6AE PP40.5~PP41); EP055-001-006(6BE PP40.5~PP41)。这些焊缝都是 SPCM 焊缝, 按要求进行 100%磁粉检测。

Work By: L. Liming Prepared by: [Signature] Reviewed by QCE: [Signature]  
 施工方: 2010.02.12 准备: 2/23/10 质量工程师批准: [Signature]

Drawing Error     Material Defect     Fabrication Error     Other  
 图纸错误    材料缺陷    制作错误    其他原因

Disposition:  Use as is     Repair     Reject  
 处理措施:    回用    返修    拒收

**Recommendation:**

建议: 确认裂纹位置及长度并修复。  
 Confirm crack position and length and repair.

Prepared by: L. Liming Approved by QCA: \_\_\_\_\_  
 准备: 2010.02.12 质量经理批准

**Reason for Nonconformance:**

不符合原因: 线性缺陷漏检。  
 Discover linear defect.

**Prevention of Re-occurrence:**

预防措施: 加强现场监控, 加强复检。  
 Enhance supervision on-site and re-inspection.

Approved by/批准: [Signature]  
2010.02.12

Technical Justification for Use-As-Is/Repair:  
回用或返修的技术依据:

Attachment  
附件

Non-attachment  
无附件

Reviewed /批准: \_\_\_\_\_

Verification:

确认:

Acceptable  
可接受

Unacceptable  
不可接受

Verified by QCI/质检确认: \_\_\_\_\_

Reviewed by QCA/质检主任审核: \_\_\_\_\_

#R787-QCP-1300





**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


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**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION**


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**Location:** Changxing Island, Shanghai, P.R. China**Report No:** NCS-000561**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 18-Mar-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0650**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:** 21-Feb-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic particle Testing (MT) review of welds located on OBG Segment 6AE and 6BE, this QA Inspector discovered the following issue:

- Two (2) longitudinal linear indications that measured approximately 90mm and 190mm in length.
- The welds are identified as:
  - EP054-001-012 in segment 6AE @ in between panel point PP40.5 to PP41 (90mm).
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- The welds are fillet welds joining:
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  - The stiffener identified as RS88EA to the edge plate (EP055) identified as PL1162A (SPCM) in segment 6BE.

- The indications are clearly marked on the material on/near the weld.

- The OBG segment is located in the trial assembly.

The Notice of Witness Inspection Number (NWIT) is 005218. The indication is located inside the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per the contract documents, ZPMC QC personnel are required to perform 100% Magnetic particle inspection of these welds.

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

Repair said indications and perform NDT required to verify weld quality.

**Corrective action taken:**

Contractor submitted NDT reports verifying the welds were repaired in conformance with approved CWRs and are now in conformance with Contract specifications. An internal NCR was also issued by the Contractor in regards to this issue.

**Did corrective action require Engineer's approval?**

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## QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

( Continued Page 2 of 2 )

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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 Jim Simonis 152. 1675.3703, who represents the Office of Structural Materials for your project.

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**Inspected By:**    Simonis,Jim

Quality Assurance Inspector

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**Reviewed By:**    Wahbeh,Mazen

QA Reviewer