

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-000836**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 09-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0798**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Segment 11EE Side Panel
Procedural	Procedural	Description: Missed UT indication by QC	

Reference Description: QA found a missed UT indication after ZPMC had tested and accepted a side panel weld in Segment 11EE

Description of Non-Conformance:

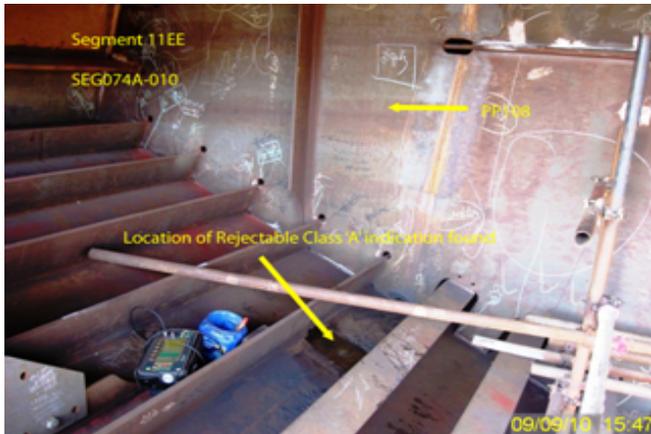
During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 11EE, this QA Inspector discovered the following issue:

- One (1) Class "A" indication measuring approximately 20 mm in length.
- The dB rating is +9.
- The weld is identified as SEG074A-010.
- The weld is a Complete Joint Penetration (CJP) butt weld joining Side plate SP330A (PL985A) to Side plate SP718A (PL1432 SPCM).
- The Thickness of the Side plate is 18mm.
- The "Y" location is approximately 800mm away from Panel Point 108 towards East side.
- The indication is clearly marked by QA on/near the weld.
- OBG Segment 11EE is located in Repair yard (West side of Bay 14).
- This weld joint is designated as Seismic performance critical weld member (SPCM).

The Notice of Witness Inspection Number (NWIT) is 006616. 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's QC personnel are required to perform 100% UT inspection of this weld.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5-2002, Section 6, Table 6.3. Specifies a class A indication as having a db's rating of +10 and lower for weld thicknesses 8mm through 20mm.

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."

Who discovered the problem: Chandra Sudalaimuthu

Name of individual from Contractor notified: Yang Chao

Time and method of notification: 1600 hours_09/09/10_Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 0900 hours_09/10/10_Email

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.

Inspected By:	Tsang, Eric	SMR
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Reviewed By:	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 **Date:** 10-Sep-2010
 375 BURMA ROAD
 OAKLAND CA 95607 **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:** 05.03.06-000792
Subject: NCR No. ZPMC-0798

Reference Description: QA found a missed UT indication after ZPMC had tested and accepted a side panel weld in Segment 11EE

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:** 11

Remarks:

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 11EE, Caltrans QA Inspector discovered the following issue:

- One (1) Class "A" indication measuring approximately 20 mm in length.
- The dB rating is +9.
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- The weld is a Complete Joint Penetration (CJP) butt weld joining Side plate SP330A (PL985A) to Side plate SP718A (PL1432 SPCM).
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- The indication is clearly marked by QA on/near the weld.
- OBG Segment 11EE is located in Repair yard (West side of Bay 14).
- This weld joint is designated as Seismic performance critical weld member (SPCM).

The Notice of Witness Inspection Number (NWIT) is 006616. 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's QC personnel are required to perform 100% UT inspection of this weld.

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: Laraine Woo Transportation Engineer

Attachments: ZPMC-0798

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

NCT

(Continued Page 2 of 2)

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000792

Subject: NCR No. ZPMC-0798

Dated: 23-Sep-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000791 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the missed indications and is providing the WWR used at the time to repair the weld and the UT report performed after to show that the weld is acceptable.

ZPMC has repaired the missed indications and is providing the WWR used at the time to repair the weld and the UT report performed after to show that the weld is acceptable. To prevent future occurrences ZPCM has written an internal NCR and the inspector who missed the indications has been identified and his performance will be monitored to ensure that he does not continue a pattern of missed indications. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000791R00;

Caltrans' comments:

Status: CLO

Date: 07-Oct-2010

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

Submitted by: Woo, Laraine

Date: 07-Oct-2010

Attachment(s):



No. B-890

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-9-23

REGARDING: NCR-000836(ZPMC-0798)

For this case, ZPMC has issue an internal NCR to address this issue. The missed indications now have been repaired and were tested to be acceptable. ZPMC is providing the WRR and NDT record for review. Based on this, please consider closure of this NCR.

ATTACHMENT:

NCR-000836(ZPMC-0798)

B-WR14984

B787-UT-15086R1

Zhao Jia peng
2010-9-23

2PML-0798



焊缝返修报告

Welding Repair Report

版本 Rev. No.

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG074A	报告编号 Report No.	B-WR14984
合同号 Contract No.	04-0120F4	部件名称 Items Name	11EE CORNER ASSEM	NDT报告编号 Report No. of NDT	B787-UT-15086
项目编号 Project No.	ZP06-787		BLY BOTTOM PLATE S PLICE		

焊缝缺陷描述：(普通UT探伤发现的缺陷长度小于最大允许长度)

(Description of welding discontinuity): Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

焊缝编号为： SEG074A-010

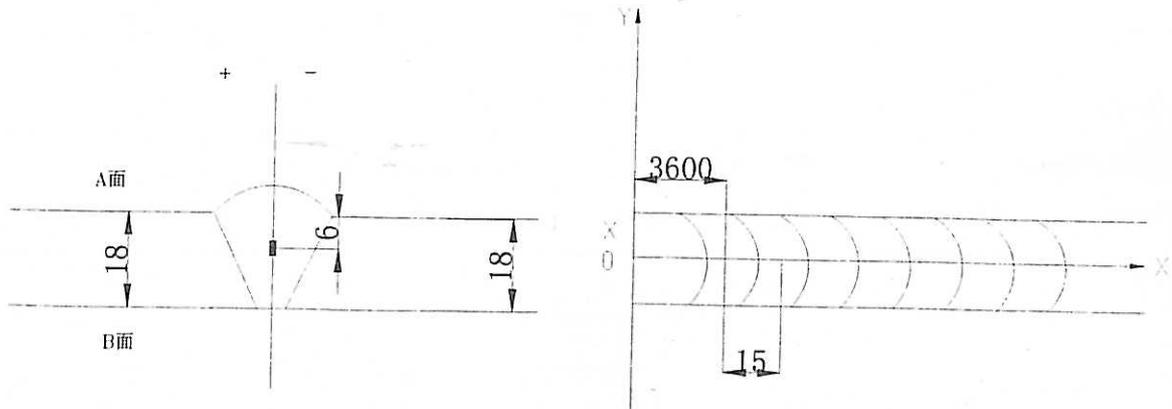
检验员 (Inspector) :

Zhou Haijun
Zhou Haijun

日期(Date) : *2010.09.09*
2010.09.09

焊缝返修位置示意图：

Draft of welding discontinuity:



WELD NUMBER: SEG074A-010

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman): *Li Zhi Gang* 日期(Date): *7-20-09*

处理意见

Disposition :

1. 从缺陷距离端面较近一侧 ($D \leq 0.65T$, D 为缺陷深度, T 为板厚) 采用碳刨或打磨的方法去除焊缝缺陷;
2. 参照返修焊接工艺规程 (WPS) 准备正确的接头型式, 预热和焊接;
3. 将修补区域打磨到与母材或邻近焊缝平齐;
4. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge ($D \leq 0.65T$, "D" is depth of defects, "T" is thickness of metal) to remove all defects;
2. Follow repair WPS for joint preparation, preheat, and weld deposit;
3. Grind the repaired area flush with base metal or the adjacent weld;
4. Check the welds according to the working drawings.

工艺: *X. Zhang*
Technical engineer

审核:
Approved by

日期
Date

20/0.09.09



焊缝返修报告

Welding Repair Report

版本 Rev. No.

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	SEG074A	报告编号 Report No.	B-WR14984
合同号 Contract No.:	04-0120F4	部件名称 Items Name	11EE CORNER ASS	NDT报告编号 Report No.of NDT	B787-UT-15086
项目编号 Project No.:	ZP06-787		EMBL Y BOTTOM PL ATE SPLICE		

纠正措施:

Correction action to prevent re occurrence:

1. 加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): *Lithigang* 日期(Date): *10/0.09.09*

参照的WPS编号 Repair WPS No.	<input type="checkbox"/> WPS-345-SMAW-1G(1F)- Repair <input type="checkbox"/> WPS-345-FCAW-1G(1F)- Repair-1 <input type="checkbox"/> WPS-345-SMAW-2G(2F)-Repair <input type="checkbox"/> WPS-345-FCAW-2G(2F)-Repair-1 <input type="checkbox"/> WPS-345-SMAW-3G(3F)- Repair <input checked="" type="checkbox"/> WPS-345-SMAW-4G(4F)- Repair <input type="checkbox"/> WPS-345-SMAW-1G(1F)-FCM-Repair <input type="checkbox"/> WPS-345-SMAW-2G(2F)-FCM-Repair <input type="checkbox"/> WPS-345-SMAW-3G(3F)-FCM-Repair <input type="checkbox"/> WPS-345-SMAW-4G(4F)-FCM-Repair <input type="checkbox"/> 其他	工艺员 technologist	<i>Xu Donghai</i>
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返修(碳刨)前预热温度 Preheat temperature before gouging	75°C	返修的缺陷 Description of discontinuity	ZP.
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焊前处理检查 Inspection before welding	All	焊前预热温度 Preheat temperature before welding	163°C
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最大碳刨深度 Max. depth of gouging	8mm	碳刨总长 Total length of gouging	8mm
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焊工 welder	焊接类型 welding type	焊接位置 position
043661	SMAW	46

焊接电流 Current	焊接电压 Voltage	焊接速度 Speed
172	24.1	125

返修后检查

外观检查 VT result	检验员 Inspector	日期 Date
All	<i>Lifanhan</i>	10.9.22

NDT复检 NDT result	探伤员 NDT person	日期 Date
All	<i>Hellary</i>	20/0.09.22

见证: Witness/Review:

备注: Remark:



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-15086R1 DATE 2010.09.22 PAGE 1 OF 1 Revision No: 0

PROJECT NO.: 工程编号 ZP06-787 CONTRACTOR: CALTRANS

ITEMS NAME: 11EE CORNER ASSEMBLY BOTTOM PLATE SPLICE 部件名称	DRAWING NO.: SEG074A 图号	CALTRANS CONTRACT NO.: 04-0120F4 加州工程编号
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REFERENCING CODE 参考规范 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002(Table 6.3)	PROCEDURE NO. 程序编号 ZPQC-UT-01
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WELDING PROCESS 焊接方法 SMAW	JOINT TYPE 焊缝类型 BUTT	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2010
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EQUIPMENT 设备 UT SCOPE	MANUFACTURER 制造商 PANAMETRICS	MODEL NO. 样式编号 EPOCH-4B	SERIAL NO. 序列编号 071565311, 061488510
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CALIBRATION BLOCK 试块 AWS IIV BLOCK TYPE II	COUPLANT 耦合剂 C.M.C	MATERIAL/THICKNESS 材料厚度 A709M-345T2/F2-X 18mm
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TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
GAMMA	70°	2.25MHz	0.75×0.625in				
Changchao	0°	2.5MHz	20mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5 0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注	
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)							
									a	b	c	d	Length 长度			Sound Path 声程
SEG074A-010	1R1	70				42									ACC.	100%

AFTER B-WR14984

BLANK

EXAMINED BY 主探 <i>Xuehanrong</i> LEVEL - II SIGN / DATE 20/0.09.22	REVIEWED BY 审核 <i>L.L. Liming</i> LEVEL - II SIGN / DATE 20/0.09.22
质量经理 / QCM <i>Lu Jianhua</i> 签字 SIGN / 日期 DATE 20/0.09.22	用户 CUSTOMER 签字 SIGN / 日期 DATE



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: 10-Sep-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: 05.03.06-000792

Subject: NCR No. ZPMC-0798

Reference Description: QA found a missed UT indication after ZPMC had tested and accepted a side panel weld in Segment 11EE

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: 11

Remarks:

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 11EE, Caltrans QA Inspector discovered the following issue:

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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: Laraine Woo Transportation Engineer

Attachments: ZPMC-0798

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

NCT

(Continued Page 2 of 2)

File: 05.03.06

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
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(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-000836**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 09-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0798**Type of problem:**Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: Segment 11EE Side PanelProcedural Procedural Description: Missed UT indication by QC**Reference Description:** QA found a missed UT indication after ZPMC had tested and accepted a side panel weld in Segment 11EE**Description of Non-Conformance:**

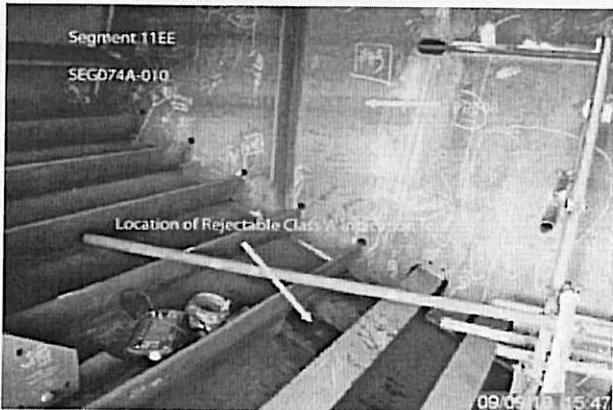
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5-2002, Section 6, Table 6.3. Specifies a class A indication as having a dbS rating of +10 and lower for weld thicknesses 8mm through 20mm.

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."

Who discovered the problem: Chandra Sudalaimuthu

Name of individual from Contractor notified: Yang Chao

Time and method of notification: 1600 hours_09/09/10_Verbal

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 0900 hours_09/10/10_Email

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.

Inspected By:	Tsang, Eric	SMR
Reviewed By:	Wahbeh, Mazen	SMR

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, P.R. China**Report No:** NCS-000817**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 07-Oct-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0798**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component:
Procedural	Procedural	Descriptor:	

Date the Non-Conformance Report was written: 09-Sep-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Ultrasonic Testing (UT) review of weld located on Segment 11EE, this QA Inspector discovered the following issue:

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Contractor's proposal to correct the problem:

Contractor proposes to repair the missed indications, and provide the Welding Repair Report. UT will be performed to show the weld is acceptable. Contractor will identify the inspector, and issue an NCR to him. Performance will be monitored to ensure he will not miss the indications continuously.

Corrective action taken:

Contractor repaired the indications with WWR document support. UT was performed after repair. UT report showed the weld is acceptable. Contractor also identified the inspector, and issued an internal NCR to him. The inspector's performance is monitored by Contractor.

Did corrective action require Engineer's approval?

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

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 Wahbeh, Mazen 818-292-0659, who represents the Office of Structural Materials for your project.

Inspected By: Ng,Michael

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer