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-000572
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 30-Dec-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0545

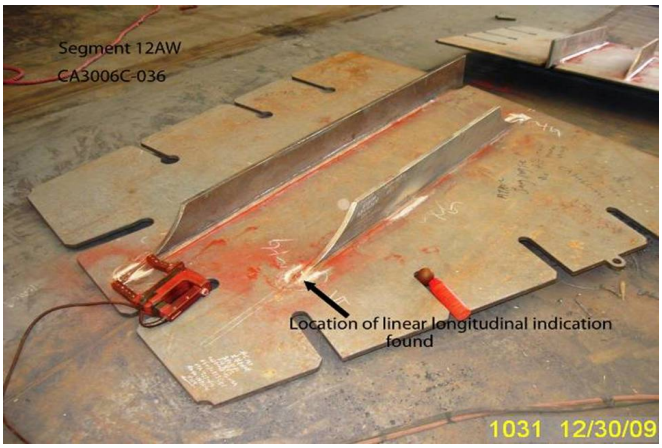
Type of problem:

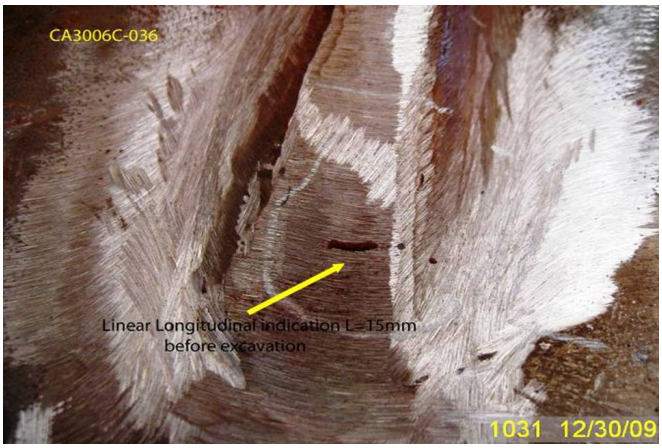
Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** 12AW Corner Assembly Diaphragm
Procedural	☐	**Procedural**	☐	**Description:** Missed MT indication by QC		

Reference Description: MT Indication discovered after ZPMC's NDT testing and acceptance on Segment 12AW Corner Assembly Diaphragm

Description of Non-Conformance:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on OBG Corner assembly, this Quality Assurance Inspector (QA) discovered the following issue:
-One (1) Longitudinal linear indication that measured approximately 15mm in length.
-The weld is identified as CA3006C-036 for Segment 12AW.
-The weld is a fillet weld joining the horizontal stiffener identified as X3185E to the corner assembly diaphragm plate identified as X3204A.
-The OBG Corner assembly is located inside OBG fabrication shop 14.
The Notice of Witness Inspection Number (NWIT) is 004960. 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, ZPMCs QC personnel are required to perform 100% Magnetic particle inspection of this weld.





Applicable reference:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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: Peter Shaw

Time and method of notification: 0830 hours, 12-31-09, Email

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1000 hours, 12-31-09, Verbal

QC Inspector's Name: Li Ming 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 concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By:	Carreon,Albert	Lead Reviewer/Task Leader
Reviewed By:	Wahbeh,Mazen	SMR

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:**	31-Dec-2009
		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:**	05.03.06-000535
Subject:	NCR No. ZPMC-0545		

Reference Description: MT Indication discovered after ZPMC's NDT testing and acceptance on Segment 12AW Corner Assembly Diaphragm

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:** 12

Remarks:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on OBG Corner assembly, this Quality Assurance Inspector (QA) discovered the following issue:

-One (1) Longitudinal linear indication that measured approximately 15mm in length.

-The weld is identified as CA3006C-036 for Segment 12AW.

-The weld is a fillet weld joining the horizontal stiffener identified as X3185E to the corner assembly diaphragm plate identified as X3204A.

-The OBG Corner assembly is located inside OBG fabrication shop 14.

The Notice of Witness Inspection Number (NWIT) is 004960. 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, ZPMCs QC personnel are required to perform 100% Magnetic particle inspection of this weld.

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval. Train and equip the ZPMC MT technician so that these types of indications are identified in the future.

Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0545

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

File: 05.03.06

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV
P.O. BOX 23223 Oakland, CA 94623
Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000535

Subject: NCR No. ZPMC-0545

Dated: **18-Jan-2010**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000500 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: As a means of preventing future occurrences, the ABF QCM has performed refresher MT training. See attached MT training agenda and attendance roster.

As it is necessary to respond to the NCR with a proposed plan of action, ABF is doing so without all of the repair documentation at this time. As a means of preventing future occurrences, the ABF QCM has performed refresher MT training. See attached MT training agenda and attendance roster. The ABF QCM has been discussing missed MT indications with the ZPMC QCM and related NDT supervisory personnel. The ZPMC level III is in the process of assessing personnel, techniques and equipment. Preliminary findings have resulted in ZPMC taking immediate action by performing 100% overchecks of the previously tested areas beginning the week of 18 January 09 as a means of preventing future NCR's for missed indications. ABF has purchased powder dispensers for all the ZPMC MT technicians as a means to help control the amount of powder applied during MT testing. ZPMC requests this NCR be placed in the Approved Action Pending status category until such time that all the repair documents have been assembled and submitted.

Submitted by: Lawton, Steve

Attachment(s): ABF-NPR-000500R00;

Caltrans' comments:

Status: AAP

Date: 25-Jan-2010

The preventative measures taken by the QCM and the proposed resolution for closing NCR submitted by the contractor are acceptable. The NCR will be closed upon completion of the repair and review of the repair documents by the Engineer when submitted by the contractor.

Submitted by: Chao, Ching

Date: 25-Jan-2010

Attachment(s):

Tool Box Training Agenda

Subject: MT Techniques

Reason for Training: Several CT NCR's of indications missed during ZPMC NDT inspection.

1. **Safety**

   a. Safety Glasses
   b. Gloves (if required)
   c. Knee Pads
   d. Electrical shock

2. **Tools**

   a. Lighting
   b. MT Powder. Red for ambient, Yellow for High Temperature.
   c. Powder Bulb
   d. Powder Blower
   e. MT Yoke Adequate working condition
   f. Pie Gage

3. **Inspection Techniques**

   a. Lighting
   b. Position of body (distance of eyes to the weld surface)
   c. Application of Powder removal of Powder
   d. Continuous method
   e. Two directions
   f. Both sides of weld
   g. Clean and dry surface

ZPMC

教育培训纪录

培训编号：MT-22-Dec-09

培训内容：	MT Techniques
培训对像：	项目质检
授课人员：	Steve Lawton
培训类型：	内部培训
培训时间：	22-Dec-09 5:00 pm
计划培训地点：	zpmc QC office

人员签到：

姓名	部门	姓名	部门
苏内 Sunei	钢桥	狄坤伦 Di Kunlun	钢桥
孙工 SunGongdang	钢桥	蔡新鑫 CaiXhxin	钢桥
徐海 XuHai	钢桥	傅志强 Fuzhiqiang	钢桥
卞源源 BianYuanyuan	钢桥	顾云南 GuYunnan	钢桥
许兵 XuBing	钢桥	金建廷 Jinjianting	钢桥MT
李振华 Lizhenhua	钢桥	常芳杰 ChangFangjie	钢结
李帅阳 LiXiuYang	QA	袁俊 YuanJun	钢桥
王威 Wangwei	钢桥	刘章敏 LiuZhangmin	
施林 SiLin	钢桥MT	徐华祥 XuHuaxiang	钢桥
丁阿成 DingAchang	钢桥MT	周东运 ZhongDongYun	钢桥
贺佳佳 HeJiajia	钢桥	赵成功 ZhaoChenggong	钢桥
黄瑾 Huangjin	钢桥	孙工丁 SunGongdang	钢桥
李黎明 LiLiming	钢桥	徐辉 XuHui	刘宏宾 LiuHongbin
李昌涛 Lichangtao			

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV
P.O. BOX 23223 Oakland, CA 94623
Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000535

Subject: NCR No. ZPMC-0545

Dated: **03-Mar-2010**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000500 Rev: 01**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the missed indications present and retested the welds for acceptability. Attached is documentation showing the welds are sounds. Based on that ZPMC requests closure of this NCR.

ZPMC has repaired the missed indications present and retested the welds for acceptability. Attached is documentation showing the welds are sounds. Based on that ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000500R01;

Caltrans' comments:

Status: CLO

Date: 18-Mar-2010

The documentation received is sufficient to close this NCR.

Submitted by: Howe, Bill

Date: 18-Mar-2010

Attachment(s):

No. B-636

LETTER OF RESPONSE

TO: American Bridge/Flour
DATE: 2010-3-3
REGARDING: NCR-000572(ZPMC-0545)

With this letter of response, ZPMC requests closure of CT NCR-000572(ZPMC-0545) what mentioned that CT inspector observed missed MT indication by ZPMC QC.

- CWR was issued reflecting to this indication. Please refer to B-CWR1032. Please be noticed the weld ID mentioned in ZPMC-0545 was confirmed to be CA3006C-035.
- Attached NDT documentation shows this indication was accepted after repair.

Base on the taken actions and responses above, ZPMC requests closure of this NCR.

ATTACHMENT:
NCR-000572(ZPMC-0545)
B787-MT-17493R1

3/3/10

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: 31-Dec-2009

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

Dear: Mr. Charles Kanapicki

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0545

Document No: 05.03.06-000535

Reference Description: MT Indication discovered after ZPMC's NDT testing and acceptance on Segment 12AW Corner Assembly Diaphragm

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: 12

Remarks:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on OBG Corner assembly, this Quality Assurance Inspector (QA) discovered the following issue:

-One (1) Longitudinal linear indication that measured approximately 15mm in length.

-The weld is identified as CA3006C-036 for Segment 12AW.

-The weld is a fillet weld joining the horizontal stiffener identified as X3185E to the corner assembly diaphragm plate identified as X3204A.

-The OBG Corner assembly is located inside OBG fabrication shop 14.

The Notice of Witness Inspection Number (NWIT) is 004960. 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, ZPMCs QC personnel are required to perform 100% Magnetic particle inspection of this weld.

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval. Train and equip the ZPMC MT technician so that these types of indications are identified in the future.

Transmitted by: Bill Howe Sr. Transportation Engineer

Attachments: ZPMC-0545

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

File: 05.03.06

02.02;15.04

Received
NCT-000535 31 Dec 09

Zeon PDF Driver Trial
www.zeon.com.tw

STATE OF CALIFORNIA--BUSINESS,TRANSPORTACTION AND HOUSING AGENCY

Arnold Schwarzenegger, Governor

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
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

Report No: NCR-000572
Date: 30-Dec-2009
NCR #: ZPMC-0545

Type of problem:

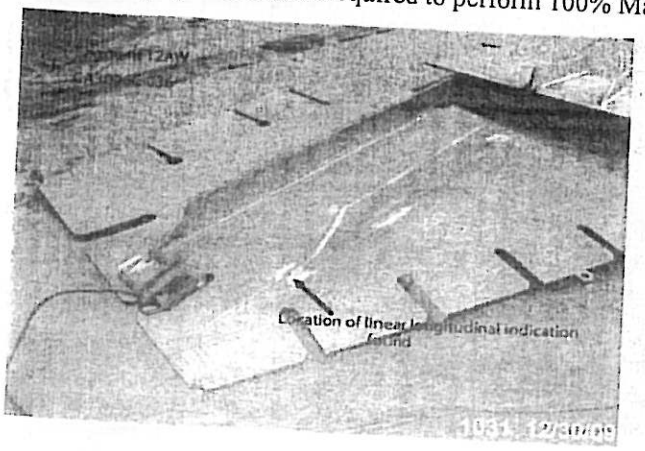
Welding	☐	**Concrete**	☐	**Other**	☑
Welding	☐	**Curing**	☐	**Procedural**	☐
Joint fit-up	☐	**Coating**	☐	**Other**	☑
Procedural	☐	**Procedural**	☐		

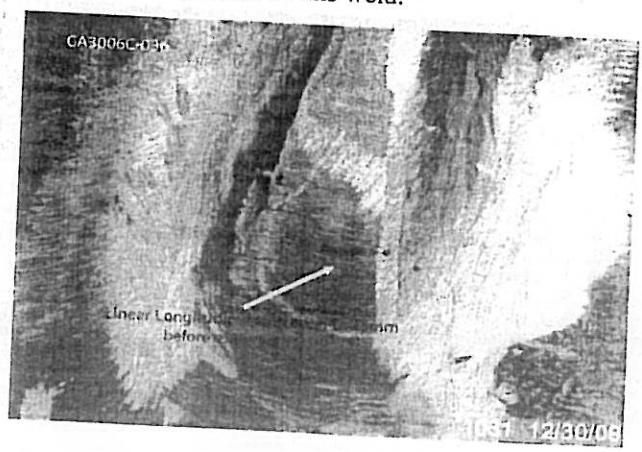
Bridge No: 34-0006
Component: 12AW Corner Assembly Diaphragm
Description: Missed MT indication by QC

Reference Description: MT Indication discovered after ZPMC's NDT testing and acceptance on Segment 12AW Corner Assembly Diaphragm

Description of Non-Conformance:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on OBG Corner assembly, this Quality Assurance Inspector (QA) discovered the following issue:
-One (1) Longitudinal linear indication that measured approximately 15mm in length.
-The weld is identified as CA3006C-036 for Segment 12AW.
-The weld is a fillet weld joining the horizontal stiffener identified as X3185E to the corner assembly diaphragm plate identified as X3204A.
-The OBG Corner assembly is located inside OBG fabrication shop 14.
The Notice of Witness Inspection Number (NWIT) is 004960. 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, ZPMCs QC personnel are required to perform 100% Magnetic particle inspection of this weld.





Applicable reference:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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: Peter Shaw

Time and method of notification: 0830 hours, 12-31-09, Email

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1000 hours, 12-31-09, Verbal

QC Inspector's Name: Li Ming 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 concerning repairs or remedial efforts please contact Mazen Wahbeh, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By:	Carreon,Albert	Lead Reviewer/Task Leader
Reviewed By:	Wahbeh,Mazen	SMR

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-17493R1	DATE日期 2010.03.01	PAGE OF页码 1/1	Revision No: 0

PROJECT NO. 工程编号:	ZP06-787	CONTRACTOR: 用 户:	CALTRANS
DRAWING NO. 图号:	CA3006C 12AW CORNER ASSEMBLY FLOOR BEAM	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4
REFERENCING CODE 参考规范编码 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002	PROCEDURE NO. 程序编号 ZPQC-MT-01	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28ST ,2010
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5395 5617 5620
MAGNETIZING METHOD 磁化方法	Continuous magnetic yoke 磁轭式连续法	CURRENT 电流	AC
PARTICLE TYPE 磁粉类型	Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距	70～150mm
MATERIAL TO BE EXAMINED 检测材料	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2-X 22/18mm
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	T-JOINT

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
CA3006C-035				ACC.		100%MT
AFTER B - CWR1032						
BLANK						

EXAMINED BY主探 Chang Fangjie Chang Fengjie LEVEL - II SIGN 签名 DATE日期 2010.03.01	REVIEWED BY 审核 Wangwei 2010.03.01 LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

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 #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island, Shanghai, P.R. China **Report No:** NCS-000550
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 18-Mar-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0545

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:**
Procedural	☐	**Procedural**	☐	**Descripton:**		

Date the Non-Conformance Report was written: 30-Dec-2009

Description of Non-Conformance:

During the Quality Assurance Magnetic particle Testing (MT) review of welds located on OBG Corner assembly, this Quality Assurance Inspector (QA) discovered the following issue:
-One (1) Longitudinal linear indication that measured approximately 15mm in length.
-The weld is identified as CA3006C-036 for Segment 12AW.
-The weld is a fillet weld joining the horizontal stiffener identified as X3185E to the corner assembly diaphragm plate identified as X3204A.
-The OBG Corner assembly is located inside OBG fabrication shop 14.
The Notice of Witness Inspection Number (NWIT) is 004960. 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, ZPMCs QC personnel are required to perform 100% Magnetic particle inspection of this weld.

Contractor's proposal to correct the problem:

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

Corrective action taken:

Indication was repaired in accordance with approved CWR, B-CWR1032, and subsequent NDT documentation was submitted verifying the weld is in conformance with Contract specifications.

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

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Inspected By:	Simonis,Jim	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer