

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-000630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 12-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0603**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: East Tower Lift 4 diagonal plates
Procedural	Procedural	Description:	Missed MT Indication

Reference Description: Missed MT Longitudinal and Transverse Indications by QC located in East Tower Lift 4: C/D corner diagonal plate to skin C and diaphragm to C/D corner diagonal plate

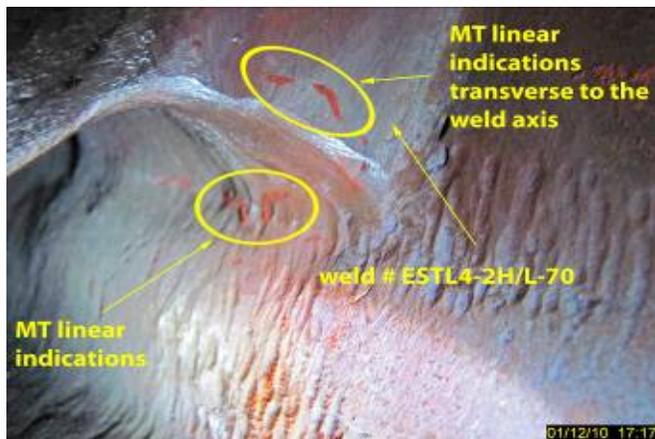
Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in East Tower lift 4 inside Bay 11, the QA Inspector discovered linear indications on the following welds:

- Weld #ESTL4-2B/L-7: One (1) longitudinal linear indication measuring approximately 20mm in length.
- Weld #ESTL4-2F/L-72: One (1) longitudinal linear indication measuring approximately 30mm in length.
- Weld #ESTL4-2F/L-73: Two (2) transverse linear indications measuring approximately 10mm and 8mm in length.
- Weld #ESTL4-2H/L-1: Three (3) longitudinal linear indications measuring approximately 12mm, 9mm and 6mm in length.
- Weld #ESTL4-2H/L-70: Two (2) longitudinal linear indications measuring approximately 13mm and 10mm in length and two (2) transverse linear indications measuring approximately 8mm and 5mm in length.
- Weld #ESTL4-2K/L-1: One (1) longitudinal linear indication measuring approximately 13mm in length.
- Weld #ESTL4-2K/L-2: Two (2) transverse linear indications measuring approximately 8mm and 6mm in length.
- All indications are clearly marked on the material near the weld.
- For details, see Magnetic particle Testing (MT) report generated by this QA for this date.
- All material is designated as non-Seismic Performance Critical Member (non-SPCM).

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: Umesh D. Gaikwad

Name of individual from Contractor notified: Luo Lai Quan

Time and method of notification: 1830 Hrs, 01/12/10, Verbal

Name of Caltrans Engineer notified: Ken Lee, Scott Kennedy

Time and method of notification: 1530 Hrs, 01/13/10, Verbal

QC Inspector's Name: Lin Xiao Zhong

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

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: Ng,Michael

QA Inspector

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: 13-Jan-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: 05.03.06-000593

Subject: NCR No. ZPMC-0603

Reference Description: Missed MT Indications/ East Shaft Lift 4 Skin C/ Longitudinal and Transverse Indications

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: Tower **Lift:** 04

Remarks:

- During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in East Tower lift 4 inside Bay 11, the QA Inspector discovered linear indications on the following welds:
- Weld #ESTL4-2B/L-7: One (1) longitudinal linear indication measuring approximately 20mm in length.
- Weld #ESTL4-2F/L-72: One (1) longitudinal linear indication measuring approximately 30mm in length.
- Weld #ESTL4-2F/L-73: Two (2) transverse linear indications measuring approximately 10mm and 8mm in length.
- Weld #ESTL4-2H/L-1: Three (3) longitudinal linear indications measuring approximately 12mm, 9mm and 6mm in length.
- Weld #ESTL4-2H/L-70: Two (2) longitudinal linear indications measuring approximately 13mm and 10mm in length and two (2) transverse linear indications measuring approximately 8mm and 5mm in length.
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- All indications are clearly marked on the material near the weld.
- For details, see Magnetic particle Testing (MT) report generated by this QA for this date.
- All material is designated as non-Seismic Performance Critical Member (non-SPCM).

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.”

Action Required and/or Action Taken:

Propose a resolution for this non-conformance that addresses the failure of Quality Control to identify the linear indications during magnetic particle testing of the welds. Provide documentation of the steps/actions taken by the Quality Control Manager to prevent future occurrences.

NCT

(Continued Page 2 of 2)

In addition to the Quality Control non-conformance, address the material/workmanship for the identified non-conformance including documentation that the deficiencies have been brought into compliance with the contract requirements. Additionally address the probable causes for the indications and the actions that will be taken to limit future occurrences.

The response for the resolution of this issue is requested within 7 days.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0603

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Mark Woods

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000593

Subject: NCR No. ZPMC-0603

Dated: 19-Jan-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000527 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has removed the missed indications by grinding and is providing NDT documentation to show that the welds are acceptable. ABF QCM has conducted refresher MT training with the ZPMC inspectors.

ZPMC has removed the missed indications by grinding and is providing NDT documentation to show that the welds are acceptable. To reduce incidents of missed indication the ABF QCM has conducted refresher MT training with the ZPMC inspectors on December 23, 2009. In addition, ZPMC will begin performing 100% verification of tested areas beginning January 18, 2010 as a means of preventing future missed indications. ABFJV has purchased powder dispensers for all the ZPMC MT technicians as a means to help control the amount of powder applied during MT testing. Based on the above actions ZPMC requests this NCR be placed closed.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000527R00;

Caltrans' comments:

Status: CLO

Date: 19-Jan-2010

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0603 is closed.

Submitted by: Lee, Ken

Attachment(s):

Date: 19-Jan-2010



No. T-120

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-1-19

REGARDING: NCR-000630(ZPMC-0603)

We ZPMC acknowledged this problem, what our method is to use the light grind remove the liner indication on the surface .Then we ZPMC issue the notification to the CT again to make sure no problem on this weld and accepted this weld. Right now green tag is on the welds.

So ZPMC want to close this NCR.

ATTACHMENT:

NCR-000630(ZPMC-0603)

Report of magnetic particle examinationl:T787-MT-7842,7843,7844,7845

NOTIFICATION:5055

L. Long

2010.1.19



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: 13-Jan-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: 05.03.06-000593

Subject: NCR No. ZPMC-0603

Reference Description: Missed MT Indications/ East Shaft Lift 4 Skin C/ Longitudinal and Transverse Indications

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: Tower **Lift:** 04

Remarks:

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Action Required and/or Action Taken:

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NCT

(Continued Page 2 of 2)

In addition to the Quality Control non-conformance, address the material/workmanship for the identified non-conformance including documentation that the deficiencies have been brought into compliance with the contract requirements. Additionally address the probable causes for the indications and the actions that will be taken to limit future occurrences.

The response for the resolution of this issue is requested within 7 days.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0603

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Mark Woods

File: 05.03.06

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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-000630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 12-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0603**Type of problem:**Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: East Tower Lift 4 diagonal platesProcedural Procedural Description: Missed MT Indication

Reference Description: Missed MT Longitudinal and Transverse Indications by QC located in East Tower
Lift 4: C/D corner diagonal plate to skin C and diaphragm to C/D corner diagonal
plate

Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in East Tower lift 4 inside Bay 11, the QA Inspector discovered linear indications on the following welds:

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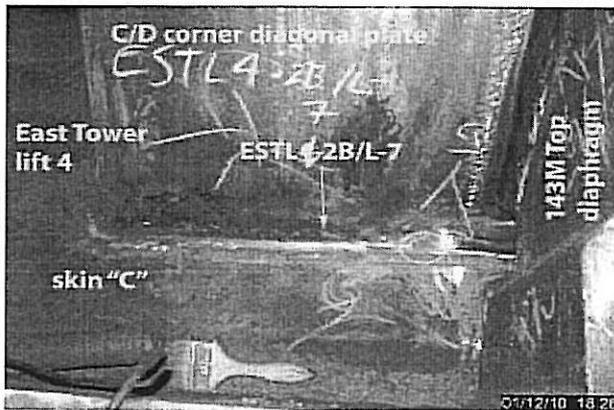
-All indications are clearly marked on the material near the weld.

-For details, see Magnetic particle Testing (MT) report generated by this QA for this date.

-All material is designated as non-Seismic Performance Critical Member (non-SPCM).

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.”

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Who discovered the problem: Umesh D. Gaikwad

Name of individual from Contractor notified: Luo Lai Quan

Time and method of notification: 1830 Hrs, 01/12/10, Verbal

Name of Caltrans Engineer notified: Ken Lee, Scott Kennedy

Time and method of notification: 1530 Hrs, 01/13/10, Verbal

QC Inspector's Name: Lin Xiao Zhong

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

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: Ng,Michael

QA Inspector

Reviewed By: Wahbeh,Mazen

SMR



NDT客户检验通知单
NDT Inspection Notification Sheet

序号 No	检验内容 Inspection	待检验构件 Inspection part	产品分类 Section	检验场地 Inspection Place	计划检验时间 Inspection Time	CT 计划起检时间 CT Estimated Inspection Time
1	final vt, mt for welds	est14-2k/1-71, 72, 1, 2 (143m diaphragm area)	lift 4 east tower diaphragm with corner cd diagonal stiffener	bay 11	2010-1-14 10:15 for green tag	
2	final vt, mt for welds	est14-2h/1-70, 71, 1, 2 (131m diaphragm area)	lift 4 east tower diaphragm with corner cd diagonal stiffener	bay 11	2010-1-14 10:15 for green tag	
3	final vt, mt for welds	est14-2f/1-72, 73, 1, 2 (123m diaphragm area)	lift 4 east tower diaphragm with corner cd diagonal stiffener	bay 11	2010-1-14 10:15 for green tag	
4	final vt, mt for welds	est14-2b/1-7, 3	lift 4 east tower corner cd diagonal stiffener with skin plate	bay 11	2010-1-14 10:15 for green tag	
5						
6						
7						
8						

1、见证通知发出后，现场等待时间通常不超过35分钟；如有变动，现场通知。
1、When ZPMC give this table to AB/F, Zpmc will do the inspection in 35 minutes. If we change the plan, we will inform AB/F in the shop.

ZPMC 联系人:
Requested By:

2、ZPMC根据自己的检验控制点 (HOLD POINT) 进行日常检验。
2、ZPMC will do any inspection according to the HOLD POINT.

3、此单为临时试用单，仅适用于完工焊缝的NDT检验见证通知。
3、This table is a temporary one, just for final NDT inspection notification.

AB/F 签收人:
AB/F Receiver:

4、QC检验完成后，QA是否需要复验，由QA自行决定，QC不再另行通知。复验等待时间通常为24小时。
4、When ZPMC QC finish NDT inspection, Caltrans QA can decide if they want to retest it. ZPMC QC will not inform Caltrans again. The waiting time is 24 hours ordinarily.

签收时间:
Time:

5、AB/F预约CT后会在同班时间内通知ZPMC具体CT现场报验时间
5、AB/F to notify ZPMC in the same shift that CT will attend and at what time.
6、加州现场检验完成后告知AB/F检验结果，AB/F会在24小时内告知ZPMC加州复检结果。
6、CT to notify AB/F that the work has been completed and the result. AB/ to notify ZPMC that the work has been completed and the result within 24 hours.

CT 签收人:
CT Receiver:
签收时间:
Time:

申请递交时间:
Submit time:
2010-01-14 09:45

文件编号: 005055
Document No.

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



教育培训纪录

培训编号: MT-22-Dec-09

培训内容:	MT Techniques
培训对象:	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
孙力杰 Sunlei	钢桥	狄坤伦 Di Kunlun	钢桥
孙广强 Sun Guangqiang	钢桥	蔡新鑫 Cai Xinxin	钢桥
徐海 Xu Hai	钢桥	傅春强 Fu Chunqiang	钢桥
卞源源 Bian Yuanyuan	钢桥	顾云武 Gu Yunwu	钢桥
许兵 Xu Bing	钢桥	金建廷 Jin Jianting	钢桥 MT
李振华 Li Zhenhua	钢桥	常方杰 Chang Fangjie	钢桥
李坤阳 Li Xunyang	QA	袁俊 Yuan Jun	钢桥
王威 Wang Wei	钢桥	刘章敏 Liu Zhangmin	
孙林 Sun Lin	钢桥 MT	徐华祥 Xu Huaxiang	钢桥
丁阿成 Ding A Cheng	钢桥 MT	周东超 Zhou Dongchao	钢桥
贺佳佳 He Jiajia	钢桥	赵成功 Zhao Cheng Gong	钢桥
黄瑞 Huang Rui	钢桥	孙广强 Sun Guangqiang	钢桥
李黎明 Li Liming	钢桥	徐辉 Xu Hui	钢桥
李昌涛 Li Changtao		刘宏斌 Liu Hongbin	

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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-000479**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0603**Type of problem:**

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

Date the Non-Conformance Report was written: 12-Jan-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in East Tower lift 4 inside Bay 11, the QA Inspector discovered linear indications on the following welds:

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-Weld #ESTL4-2F/L-72: One (1) longitudinal linear indication measuring approximately 30mm in length.

-Weld #ESTL4-2F/L-73: Two (2) transverse linear indications measuring approximately 10mm and 8mm in length.

-Weld #ESTL4-2H/L-1: Three (3) longitudinal linear indications measuring approximately 12mm, 9mm and 6mm in length.

-Weld #ESTL4-2H/L-70: Two (2) longitudinal linear indications measuring approximately 13mm and 10mm in length and two (2) transverse linear indications measuring approximately 8mm and 5mm in length.

-Weld #ESTL4-2K/L-1: One (1) longitudinal linear indication measuring approximately 13mm in length.

-Weld #ESTL4-2K/L-2: Two (2) transverse linear indications measuring approximately 8mm and 6mm in length.

-All indications are clearly marked on the material near the weld.

-For details, see Magnetic particle Testing (MT) report generated by this QA for this date.

-All material is designated as non-Seismic Performance Critical Member (non-SPCM).

Contractor's proposal to correct the problem:

Repair indications, conduct training.

Corrective action taken:

ZPMC removed indications by grinding and provided documentation to show that the welds are acceptable (T787-MT-7842,7843,7844,7845). Welds were verified by QA (green tag #12027). MT refresher training was conducted on 12/22/09. Documentation for this training was provided. ABF purchased MT powder dispensers for ZPMC MT technicians to enhance their performance.

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 Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By: Guest,Skyler

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer