

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, PRC

Report No: NCR-000321

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 16-Jun-2009

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

NCR #: ZPMC-0295

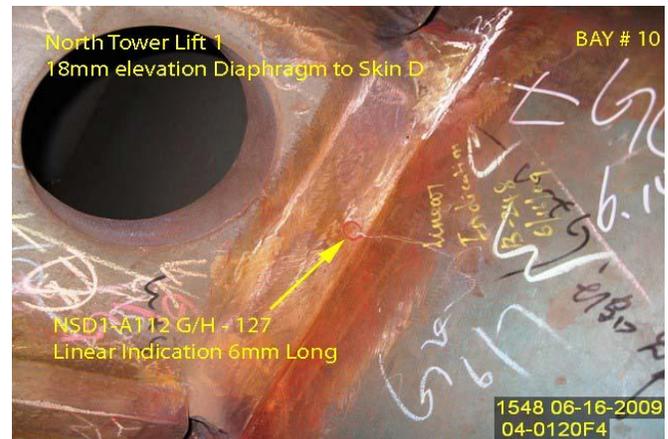
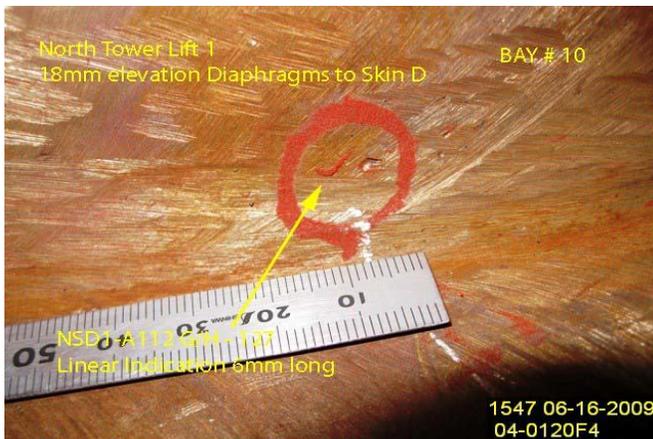
Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: North Tower, Lift 1
Procedural	Procedural	Description: Missed MT indication in North Tower, Lift 1	

Reference Description: Missed MT indication in North Tower, Lift 1

Description of Non-Conformance:

During random verification Magnetic Particle Testing (MT) of North Tower, Lift 1, QA discovered a 6mm long linear indication on 18m Diaphragm to Skin D weld NSD1-A112G/H-127. This weld was previously tested and accepted by ZPMC QC MT Technicians.



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 D1.5-2002, Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.”

Who discovered the problem: Dhanasingh Sukanthan

Name of individual from Contractor notified: Liu Cheng

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 6/16/2009; 16:00; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 6/17/2009, 14:00; Verbal

QC Inspector's Name: Lu Yang

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
----------------------	---------------	------

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: 17-Jun-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: 05.03.06-000284

Subject: NCR No. ZPMC-0295

Reference Description: Linear Indication (MT) / North Shaft Lift 1 / Diaphragm to Skin D Weld

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:** 01

Remarks:

During random verification Magnetic Particle Testing (MT) of North Tower, Lift 1, QA discovered a 6mm long linear indication on 18m Diaphragm to Skin D weld NSD1-A112G/H-127. This weld was previously tested and accepted by ZPMC QC MT Technicians.

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 D1.5-2002, 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 systematic non-conformance that addresses the failure of Quality Control to identify the linear indication (MT). Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

In addition to the Quality Control failure, propose a resolution for the identified material/workmanship non-conformance, documenting that the repaired weld is in compliance with the contract requirements.

Recent failures by Quality Control to identify linear indications have resulted in the issuance of NCR ZPMC-0212, ZPMC-0216, ZPMC-0231, ZPMC-0223, ZPMC-0234, ZPMC-0235, ZPMC-0291, ZPMC-0293 and ZPMC-0294 related to Tower and ZPMC-0244, ZPMC-0245, ZPMC-0258, ZPMC-0278, ZPMC-0279, ZPMC-0281, ZPMC-0285, ZPMC-0289 and ZPMC-0290 related to OBG.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0295

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe

NCT

(Continued Page 2 of 2)

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000284

Subject: NCR No. ZPMC-0295

Dated: 21-Jul-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000265 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to the NCR and has attached the necessary documents for closure. ZPMC requests closure of this NCR.

ZPMC has responded to the NCR and has attached the necessary documents for closure. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000265R00;

Caltrans' comments:

Status: CLO

Date: 05-Aug-2009

The proposed resolution is acceptable. The welding inspectors have received additional training, and tests have been administered to ZPMC MT technicians to demonstrate their ability to detect MT indications. Also, the weld in question has been accepted by MT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0295 is closed.

Submitted by: Wright, Doug

Date: 05-Aug-2009

Attachment(s):



No. T-039

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2009-7-15

REGARDING: NCR-000321 ZPMC-0295

ZPMC received NCR-000321(ZPMC-0295), it mentioned that CT inspector discovered an approximately 6mm length linear indication on 18m diaphragm to Skin D weld NSD1-A112G/H-127 which was previously tested and accepted by ZPMC.

ZPMC acknowledged this problem, and already put forward ZPMC's NCR-T-056. As a result, ZPMC had removed the indication and repaired it and finally performed re-inspection by MT. In order to avoid such problem occurs again ZPMC will perform NDT work according to related procedures strictly, and enhance QC responsibility. Here attached the MT report T787-MT-4604, prove the welds are perfect after repairing.

So ZPMC hope Caltrans could have a review and consider close this NCR.

ATTACHMENT:

ZPMC's NCR-T-056

NCR-000321(ZPMC-0295)

T787-MT-4604

zhang jian da

2009.7.15



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-T-056 (ZPMC-0295)

Item: missed MT linear
 indication
 名称描述: MT 漏检

Item Number:
 件号:
 North shaft lift 1
 Skin D with 18m
 diaphragm

Drawing: 图号:
 NSD1-A112G/H-127

Location: bay 10
 位置: 10#车间

Date:
 日期: 2009-06-19

Description of Nonconformance: 不符合项状态描述:

CT inspector discovered an approximately 6mm long linear indication on 18m diaphragm to Skin D weld NSD1-A112G/H-127. This weld was previously tested and accepted by ZPMC QC MT technicians.

Special Provisions Section 8.3: Quality Control 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 D1.5-2002, Section 6.26.2: Welds that are subject to MT in addition to visual inspection shall have no cracks.

CT 检验员在对北一 D 面板与 18m 隔板焊缝 NSD1-A112G/H-127 进行 MT 复探时发现了 6mm 长的线性缺陷。

根据标书规定: 承包方有必须对焊缝做好检验工作以保证焊缝符合标书和工艺文件的要求; 根据 AWS 规定: 除目检之外进行 MT 检测的焊缝严禁有裂纹。

Work By: Li Liming Prepared by: Zhang Jicun Reviewed by QCE:
 施工方: 06.26 准备: 2009.6.19 质量工程师批准:

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: 重新确认该缺陷并返修
Re-inspection to conform defect and repair

Prepared by: Li Liming 06.26 Approved by QCA: _____
 准备 质量经理批准

Reason for Nonconformance:

不符合原因:

线性缺陷未检出.

Discovered linear indication.

Prevention of Re-occurrence:

预防措施:

- ① 严格按照规程操作 1) perform according to procedure.
- ② 加强检验员责任心培养 2) Enhance QC responsibility.

Approved by/批准: LiLiming of .06.26

Technical Justification for Use-As-Is/Repair:

Attachment

Non-attachment

回用或返修的技术依据:

附件

无附件

Reviewed /批准: _____

Verification:

Acceptable

Unacceptable

确认:

可接受

不可接受

Verified by QCI/质检确认: _____

Reviewed by QCA/质检主任审核: _____



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: 17-Jun-2009
375 BURMA ROAD
Contract No: 04-0120F4
OAKLAND CA 95607
04-SF-80-13.2 / 13.9
Dear: Mr. Charles Kanapicki
Job Name: SAS Superstructure
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Document No: 05.03.06-000284
Subject: NCR No. ZPMC-0295

Reference Description: Linear Indication (MT) / North Shaft Lift 1 / Diaphragm to Skin D Weld

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: 01

Remarks:

During random verification Magnetic Particle Testing (MT) of North Tower, Lift 1, QA discovered a 6mm long linear indication on 18m Diaphragm to Skin D weld NSD1-A112G/H-127. This weld was previously tested and accepted by ZPMC QC MT Technicians.

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 D1.5-2002, 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 systematic non-conformance that addresses the failure of Quality Control to identify the linear indication (MT). Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

In addition to the Quality Control failure, propose a resolution for the identified material/workmanship non-conformance, documenting that the repaired weld is in compliance with the contract requirements.

Recent failures by Quality Control to identify linear indications have resulted in the issuance of NCR ZPMC-0212, ZPMC-0216, ZPMC-0231, ZPMC-0223, ZPMC-0234, ZPMC-0235, ZPMC-0291, ZPMC-0293 and ZPMC-0294 related to Tower and ZPMC-0244, ZPMC-0245, ZPMC-0258, ZPMC-0278, ZPMC-0279, ZPMC-0281, ZPMC-0285, ZPMC-0289 and ZPMC-0290 related to OBG.

Transmitted by: Scott Kennedy Sr. Bridge Engineer
Attachments: ZPMC-0295

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe

02.02:15.04
05.03.06-000284,NCT

Received
NCT-000284 17 JUN 09 Page 1 of 2

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
 (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, PRC

Report No: NCR-000321

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 16-Jun-2009

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

NCR #: ZPMC-0295

Type of problem:

Welding Concrete Other

Welding Curing Procedural **Bridge No:** 34-0006

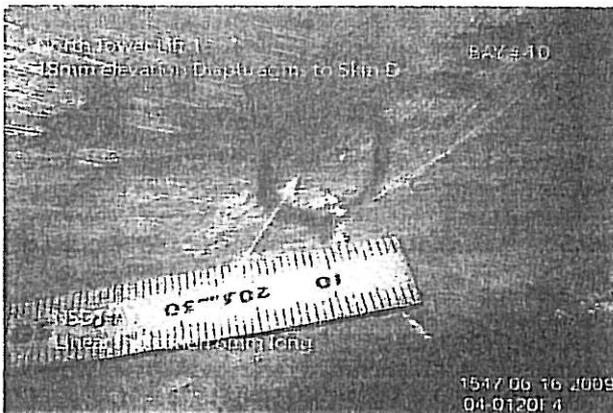
Joint fit-up Coating Other **Component:** North Tower, Lift 1

Procedural Procedural **Description:** Missed MT indication in North Tower, Lift 1

Reference Description: Missed MT indication in North Tower, Lift 1

Description of Non-Conformance:

During random verification Magnetic Particle Testing (MT) of North Tower, Lift 1, QA discovered a 6mm long linear indication on 18m Diaphragm to Skin D weld NSD1-A112G/H-127. This weld was previously tested and accepted by ZPMC QC MT Technicians.



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 D1.5-2002, Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.”

Who discovered the problem: Dhanasingh Sukanthan

Name of individual from Contractor notified: Liu Cheng

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 6/16/2009; 16:00; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 6/17/2009, 14:00; Verbal

QC Inspector's Name: Lu Yang

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod,Serge

ASMR

Reviewed By: Wahbeh,Mazen

SMR



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-4604		DATE日期 2009.06.18	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: NSD1-A112G/H Tower(N) 1st lifting		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. 28 ST , 2009	
EQUIPMENT 设备 MT YOKE	MANUFACTURER 制造商 PARKER	MODEL NO. 样式编号 B310S	SERIAL NO. 连续编号 5620 5395 5617	
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	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-345T2-Z/A709M-HPS-485WT2-Z 65/45/75 mm	
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT	

WELD I.D. 焊缝编号	DISCONTINUITY不连续性			ACCEPT 接受	REJECT 拒收	REMARKS 备注
	INDICATION 指示	TYPE 类型	LENGTH IN mm 长度			
NSD1-A112G/H-264/265				ACC.		100%MT
NSD1-A112G/H-259				ACC.		100%MT
NSD1-A112G/H-253/254				ACC.		100%MT
NSD1-A112G/H-248				ACC.		100%MT
NSD1-A112G/H-132/133				ACC.		100%MT
NSD1-A112G/H-127				ACC.		100%MT
NSD1-A112G/H-120/121				ACC.		100%MT
NSD1-A112G/H-115				ACC.		100%MT
BLANK						

EXAMINED BY 主探 Gu Yunwu <i>Gu Yunwu</i>	REVIEWED BY 审核 <i>Wangwei</i>
LEVEL - II SIGN 签名 / DATE日期 <i>09.06.18</i>	LEVEL-II SIGN / DATE日期 <i>09.06.18</i>
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

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, PRC**Report No:** NCS-000225**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-Jul-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0295**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: 16-Jun-2009**Description of Non-Conformance:**

During random verification Magnetic Particle Testing (MT) of North Tower, Lift 1, QA discovered a 6mm long linear indication on 18m Diaphragm to Skin D weld NSD1-A112G/H-127. This weld was previously tested and accepted by ZPMC QC MT Technicians.

Contractor's proposal to correct the problem:

Repair affected weld.

Corrective action taken:

The affected weld has been repaired and a NDT report indicating sound welds has been submitted. The weld was verified by QA following the repair.

To resolve the recurring failure for QC to detect MT indications, ABF has held verbal interviews with ZPMC QC and MT technicians on several occasions. ABF has requested ZPMC to provide an analysis of missed indications to determine if they can be traced to a personnel trend, such as an inspector, welder, or weld location. ABF has also informed ZPMC to ensure adequate lighting is provided during inspections. Tests have also been administered to ZPMC MT technicians to demonstrate their ability to detect MT indications.

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod, Serge

Quality Assurance Inspector

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Reviewed By: Wahbeh,Mazen

QA Reviewer