

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-000677**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 08-Feb-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0644**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** Tower Strut ED1-A6001-1**Procedural****Procedural****Description:****Reference Description:** Missed MT Transverse Indication by QC, Tower Strut ED1-A6001-1**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in Tower Strut ED1-A6001-1, Caltrans QA discovered one (1) linear indication transverse to the weld axis measuring approximately 10mm in length.

- The weld is identified as: ED1-A6001-1-85.
- The weld is a fillet weld joining the web to stiffener.
- The material is designated as Seismic Performance Critical Member (SPCM)
- The member is located in Bay 10

The Notice of Witness Inspection Number (NWIT) is 005198. The indication is located on fillet weld 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 one hundred percent (100%) MT inspection of this weld.



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.”

Special Provisions Section 10-1.59 Steel Structures, Inspection and Testing - NDT Table

Who discovered the problem: Shailesh Gaikwad

Name of individual from Contractor notified: Zhong Hiulong

Time and method of notification: 1530 Hrs, 02/08/10, Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 940 Hrs, 02/09/10, Verbal

QC Inspector's Name: Yu Zhilai

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

Inspected By:	Guest, Skyler	SMR
Reviewed By:	Wahbeh, Mazen	SMR



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV
 375 BURMA ROAD
 OAKLAND CA 95607

Date: 10-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-0644

Job Name: SAS Superstructure
Document No: 05.03.06-000634

Reference Description: Missed MT Indication/ Tower Strut ED1-A6001-1/ Transverse Indication

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:** N/A

Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in Tower Strut ED1-A6001-1, Caltrans QA discovered one (1) linear indication transverse to the weld axis measuring approximately 10mm in length.

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Special Provisions Section 10-1.59 Steel Structures, Inspection and Testing - NDT Table

Action Required and/or Action Taken:

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

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.

NCT

(Continued Page 2 of 2)

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0644

cc: Rick Morrow, Gary Pursell, Mark Woods, Scott Kennedy

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000634

Subject: NCR No. ZPMC-0644

Dated: 02-Mar-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000604 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the indication discovered in this report and is providing the repair documents and NDT after repair to show that the weld is acceptable.

ZPMC has repaired the indication discovered in this report and is providing the repair documents and NDT after repair to show that the weld is acceptable. To reduce incidents of missed indication the ABF QCM has conducted refresher MT training with the ZPMC inspectors on December 23, 2009 and ZPMC conducted their own internal training on January 28, 2010. 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-000604R00;

Caltrans' comments:

Status: CLO
Date: 02-Mar-2010

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0644 is closed.

Submitted by: Lee, Ken

Attachment(s):

Date: 02-Mar-2010



No. T-130

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-3-2

REGARDING: NCR-000677(ZPMC-0644)

ZPMC recently received NCR-000677(ZPMC-0644), it mentioned that CT inspector discovered one linear indication measuring approximately 10mm in length during MT review of welds for Tower Strut.

And now, the strut has been green tagged after efforts from everyone.

Here provide the Welding Report and MT report to show the welds were sound.

So, we hope CT can take a review and close this NCR.

ATTACHMENT:

NCR-000677(ZPMC-0644)

T-WR3066

T787-MT-8027

Zhao Jianeng

2010.3.2



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV
375 BURMA ROAD
OAKLAND CA 95607

Date: 10-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: 05.03.06-000634

Subject: NCR No. ZPMC-0644

Reference Description: Missed MT Indication/ Tower Strut ED1-A6001-1/ Transverse Indication

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- Quality Control (QC) not performed in conformance with contract documents.
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Remarks:

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Special Provisions Section 10-1.59 Steel Structures, Inspection and Testing - NDT Table

Action Required and/or Action Taken:

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NCT

(Continued Page 2 of 2)

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0644

cc: Rick Morrow, Gary Pursell, Mark Woods, Scott Kennedy

File: 05.03.06

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

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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-000677**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 08-Feb-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0644**Type of problem:**Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: Tower Strut ED1-A6001-1Procedural Procedural Description:**Reference Description:** Missed MT Transverse Indication by QC, Tower Strut ED1-A6001-1**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in Tower Strut ED1-A6001-1, Caltrans QA discovered one (1) linear indication transverse to the weld axis measuring approximately 10mm in length.

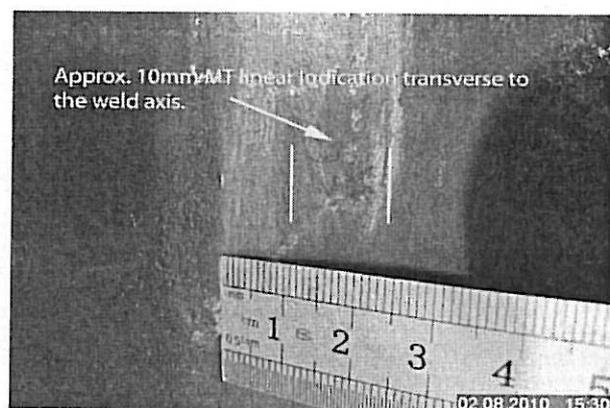
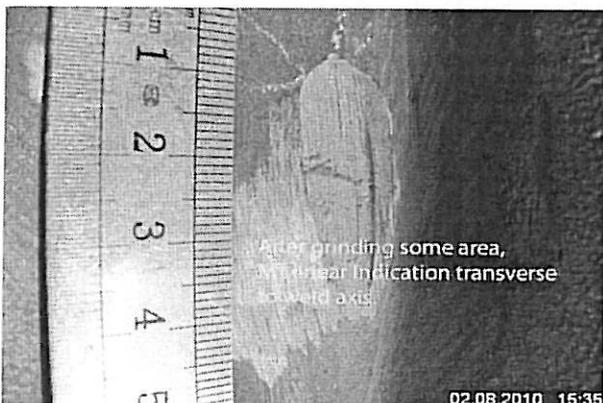
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-The material is designated as Seismic Performance Critical Member (SPCM)

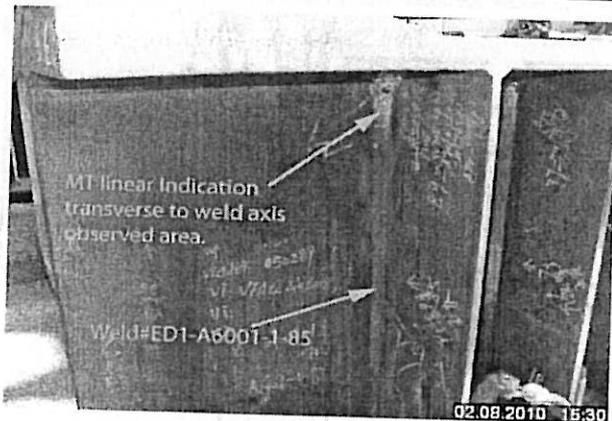
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(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.”

Special Provisions Section 10-1.59 Steel Structures, Inspection and Testing - NDT Table

Who discovered the problem: Shailesh Gaikwad
Name of individual from Contractor notified: Zhong Hiulong
Time and method of notification: 1530 Hrs, 02/08/10, Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 940 Hrs, 02/09/10, Verbal
QC Inspector's Name: Yu Zhilai
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 Skyler Guest, 15000422360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR

Go 2-11



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	ED1-A6001-1	报告编号 Report No.	T-WR3066
合同号 Contract No.:	04-0120F4	部件名称 Items Name	1 st lifting strut A	NDT报告编号 Report No.of NDT	T787-MT-8009
项目编号 Project No.:	ZP06-787				

缺陷描述:

Description of welding discontinuity:

在对ED1-A6001-1-85检测时, 发现1处气孔。 1、L=15mm

Welder ID No. (焊工编号): 068091 Position:(位置): 3F

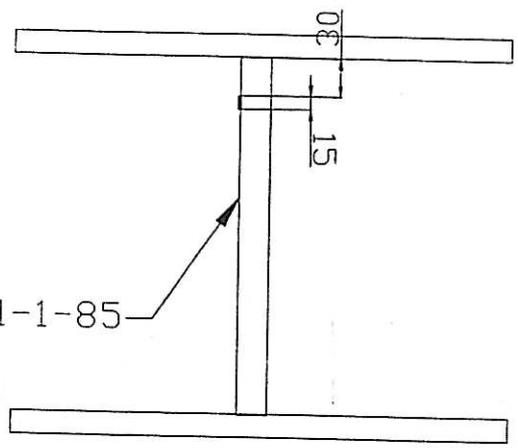
One pore was found by use of MT on ED1-A6001-1-85.

检验员 (Inspector): Cai Xinxin 日期(Date): 10.02.08

焊缝返修位置示意图

Draft of welding discontinuity:

WELD NUMBER: ED1-A6001-1-85



产生原因:

Caused:

- 1、 碳刨后,焊接接头没有有效打磨;
 - 2、 起弧和收弧没有交错布置,以将焊渣减少到最少;
 - 3、 焊道间没有有效的清理.
1. The weld joint was not ground sufficiently after arc-gouging.
 2. The arc starts and stops were not staggered to minimize slag entrapment.
 3. Interpass cleaning was not performed properly.

Luyefei
车间负责人(Foreman):

日期(Date): 2010. 2. 10

处理意见

Disposition :

1. Grind repair area smoothly, VT to verify repair area is free of all defects.
2. QC will monitor and direct welder and grinder doing repair;
3. QC shall monitor all welding passes being deposited;
4. QC shall ensure all slag has been removed prior the deposition of next pass;
5. Preheat and maintain interpass temperature control in accordance with the WPS ;
6. Perform VT, MT and UT accordance with the drawing & contract requirements

- 1、 对需要返修的地方进行打磨,用 VT 检测缺陷被完全清除;
- 2、 在返修过程中, QC 要监控和指导焊工和打磨工
- 3、 焊道的处理过程中, QC 将监控所有的焊道处理工作;
- 4、 在进入下道工序前, QC 保证所有的夹渣全部去除了;
- 5、 修补区域的预热温度和道间温度请见批准后的相应的 WPS;
- 6、 按照合同要求检测焊缝。

工艺: Liuyuebing
Technical engineer 2010. 2. 10

审核:
Approved by

日期
Date



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.	ED1-A6001-1	报告编号 Report No.	T-WR3066
合同号 Contract No.:	04-0120F4	部件名称 Items Name	1 st lifting strut A	NDT 报告编号 Report No. of NDT	T787-MT-8009
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

- 1、碳刨后的接头位置打磨圆滑过渡，保证每道焊缝的接头可以交错布置；
 - 2、认真仔细检查每道焊缝和加强焊道的清理；
 3. 焊缝中所有的焊渣全部去除后，表面的缺陷全部打磨干净。
1. The joint shall be ground to a smooth transition to ensure that arc starts and stops are in a staggered Arrangement.
 2. QC shall inspect the weld passes more carefully and enforcing interpass cleaning.
 3. All weld slag shall be removed and surface defects ground during interpass cleaning.

车间负责人(Foreman): *Luyefei*日期(Date): *2010.2.10*

参照的WPS编号 Repair WPS No.	WPS-485-SMAW-1G(1F)-R repair-1 WPS-485-SMAW-2G(2F)-R repair-1 WPS-485-SMAW-3G(3F)-R repair-1 ✓	工艺员 technologist	<i>Liu Yuebing</i> <i>2010.2.10</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>N/A</i>	返修的缺陷 Description of discontinuity	<i>裂纹</i>
焊前处理检查 Inspection before welding	<i>VT-MT ACC</i>	焊前预热温度 Preheat temperature before welding	<i>180°C</i>
最大碳刨深度 Max. depth of gouging	<i>5mm</i>	碳刨总长 Total length of gouging	<i>40mm</i>
焊工 welder <i>057238</i>	焊接类型 welding type <i>SMAW</i>	焊接位置 position <i>3G</i>	
焊接电流 Current <i>φ4.0 190A</i>	焊接电压 Voltage <i>23.6V</i>	焊接速度 Speed <i>96mm/min</i>	
返修后检查 Inspection After repairing:			
外观检查 VT result <i>su</i>	检验员 Inspector <i>luyag</i>	日期 Date <i>2010.02.13.</i>	
NDT复检 NDT result <i>MT Acc</i>	探伤员 NDT person <i>Xu Bing</i>	日期 Date <i>2010.02.27</i>	
见证: Witness/Review:			
备注: Remark:			

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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-000521**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 03-Mar-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0644**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: 08-Feb-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located in Tower Strut ED1-A6001-1, Caltrans QA discovered one (1) linear indication transverse to the weld axis measuring approximately 10mm in length.

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Contractor's proposal to correct the problem:

Repair weld and verify with NDT

Corrective action taken:

Weld ED1-A6001-1-85 was repaired (T-WR3066) and verified with 100% MT inspection (T787-MT-8027).

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:**

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QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

Structural Materials for your project.

Inspected By: Guest,Skylar

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer
