

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-000613**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 07-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0586**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: West Tower Lift 4 Base Metal
Procedural	Procedural	Description:	

Reference Description: Base Metal Repair without Engineer approval located at West Tower Lift 4**Description of Non-Conformance:**

During the Quality Assurance (QA) random in-process visual inspection at inside of West Tower, Lift 4, 135m double diaphragm, top side, CT QA discovered the following issue:

-Base metal repairs being performed in way of temporary attachment removal areas on the top of the double diaphragm skin without the prior approval of the Engineer.

**Applicable reference:**

Caltrans Special Provision Section 8-3.01: "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, The contractor shall include an engineering evaluation of the proposed repair."

Who discovered the problem: Subhasis Bera**Name of individual from Contractor notified:** Yuanmao You**Time and method of notification:** 01/07/2010, 1530 hours, verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 01/07/2010, 0815 hours, verbal
QC Inspector's Name: Xujin Long
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 Mazen Wahbeh, (818) 292-0659, 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: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 08-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: 05.03.06-000576

Subject: NCR No. ZPMC-0586

Reference Description: Base Metal Repair without Engineer approval located at West Tower Lift 4

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) random in-process visual inspection inside of West Tower, Lift 4, 135m double diaphragm, top side, CT QA discovered base metal repairs performed during removal of the temporary attachment without prior Engineer approval.

Caltrans Special Provision Section 8-3.01: "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, The contractor shall include an engineering evaluation of the proposed repair."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the repaired base metal / welding repair is in compliance with the contract requirements. Documentation provided for the Engineer's review of the acceptability of the weld repair shall at a minimum include the procedure utilized/WRR and the NDT results.

In addition to the material/workmanship non-conformance, address the failure by both Production and Quality Control in proceeding with base metal repair without prior approval from the Engineer. Provide documentation of the steps/actions taken by Production and Quality Control to prevent future occurrences.

Recent failures by Production and Quality Control to obtain prior approval from the Engineer for repairs not addressed in the WQCP have resulted in the issuance of NCR ZPMC-0559, 0548 and 0490 related to Tower and approximately 20 NCRs related to OBG.

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

Transmitted by: Ken Lee Transportation Engineer

Attachments: ZPMC-0586

NCT

(Continued Page 2 of 2)

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: 05.03.06-000576

Subject: NCR No. ZPMC-0586

Dated: 11-Feb-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000593 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: Since this NCR was written the process for requesting base metal repair approval has been clarified and this issue has decreased in frequency. ZPMC requests closure of this NCR.

ZPMC has written an internal NCR regarding the unapproved base metal repair or temporary attachment areas to inform the production department of this issue. Since this NCR was written the process for requesting base metal repair approval has been clarified and this issue has decreased in frequency. ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000593R00

Caltrans' comments:

Status: REJ

Date: 11-Feb-2010

The Department will not consider closure of this NCR until all items listed on NCT are addressed.

Submitted by: Lee, Ken

Date: 11-Feb-2010

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000576

Subject: NCR No. ZPMC-0586

Dated: 09-Jul-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000593 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: Per the attached letter to ZPMC from ABFJV with the concurrence of the Department, ZPMC is permitted to perform base metal repairs without Engineer approval.

Per the attached letter to ZPMC from ABFJV with the concurrence of the Department, ZPMC is permitted to perform base metal repairs without Engineer approval. Although the letter was issued after the non conformance occurred this particular practice was agreed upon verbally prior to the non conformance. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000593R01;

Caltrans' comments:

Status: REJ

Date: 11-Jul-2010

This proposal is rejected. According the attached letter from ABFJV to ZPMC, non SPCM material requires a WRR and the CT onsite inspector must be notified prior to performing any weld repair. Provide the applicable WRR and propose a resolution that addresses the apparent failure of Quality Control to follow the appropriate procedure. In addition, provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Submitted by: Rizzardo, Gina

Attachment(s):

Date: 11-Jul-2010



375 Burma Road
Oakland, CA 94607 USA
Phone 510-808-4600
Fax 510-808-5601

February 22, 2010

AFC-ZPM-LTR-000621

Attention: **Mr. Lujianhua**
Mr. XuJun

ZPMC
Steel Structure Department
Room 203, Building 2
Shanghai, China 200125

PROJECT: San Francisco Oakland Bay SAS Bridge Superstructure
Caltrans Contract No. 04-0120F4
ABF Job No. 660110

SUBJECT: Clarification letter regarding use of CWR or WRR for base metal repairs of temporary attachment removal areas and plate edge weld build up areas

Mr. Lujianhua, Mr. XuJun

The following clarifications shall apply for completing WRR or CWR for base metal repair of Tower and OBG temporary attachment removal areas and plate edge weld build up areas.

1. Base metal repair – After removal of temporary attachments
 - a. SPCM
 - i. CWR required for SPCM temporary attachment removal areas requiring repair by welding.
 - b. Non SPCM
 - i. WRR is required for Non SPCM materials. CT onsite inspector must be notified prior to performing any weld repair then the CT inspector name noted on the WRR , the WRR and WPS must be present at the jobsite.
2. Base metal repair - Plate edge weld build up areas.
 - a. SPCM
 - i. WRR is required for weld build up of plate edges or to correct weld joint geometry if the deposition of weld metal up to 10mm or ¼ the base –metal thickness, whichever is less. CWR is required if these limitations are exceeded.
 - b. Non SPCM
 - i. WRR is required for Non SPCM materials as long as the weld build up does not exceed ½ the base metal thickness or 20mm whichever is less. CT onsite inspector must be notified prior to performing any weld repair then the CT inspector name noted on the WRR, the WRR and WPS must be present at the jobsite. CWR is required if these limitations are exceeded.

If comments or clarifications are needed, please contact me.

Kindest Regards

American Bridge Company / Fluor Enterprises Inc., A Joint Venture
Steve Lawton
Foreign Quality Assurance Manager

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000576

Subject: NCR No. ZPMC-0586

Dated: 12-Jul-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000593 Rev: 02

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing NDT documentations and the WRR used at the time to show that weld is acceptable. ZPMC QA has discussed this issue and gone over the specifics of this letter and the requirements

ZPMC is providing NDT documentations and the WRR used at the time to show that weld is acceptable. ZPMC QA has discussed this issue and gone over the specifics of this letter and the requirements for it to apply. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000593R02;

Caltrans' comments:

Status: CLO

Date: 14-Jul-2010

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0586 is closed.

Submitted by: Rizzardo, Gina

Attachment(s):

Date: 14-Jul-2010



No. T-154

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-07-12

REGARDING: NCR-000613(ZPMC-0586)

ZPMC received NCR-000613(ZPMC-0586), it mentioned that CT inspector observed ZPMC performed base metal repairs without prior approval from engineer.

With the comments required in ABF-NPR-000593 R1, here ZPMC attached relevant WRR and NDT report to show the base metal was sound.

Basing on above information, ZPMC hope CT could take a review and close this NCR.

ATTACHMENT:

NCR-000613(ZPMC-0586)

T-CWR3017

T787-MT-10041

Zhang

2010.7.12

DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
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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-000613

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 07-Jan-2010

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

NCR #: ZPMC-0586

Type of problem:

Welding Concrete Other

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

Joint fit-up Coating Other **Component:** West Tower Lift 4 Base Metal

Procedural Procedural **Description:**

Reference Description: Base Metal Repair without Engineer approval located at West Tower Lift 4

Description of Non-Conformance:

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Who discovered the problem: Subhasis Bera

Name of individual from Contractor notified: Yuanmao You

Time and method of notification: 01/07/2010, 1530 hours, verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 01/07/2010, 0815 hours, verbal
QC Inspector's Name: Xujin Long
Was QC Inspector aware of the problem: Yes No
Contractor's proposal to correct the problem:

Comments:

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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: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 08-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: 05.03.06-000576

Subject: NCR No. ZPMC-0586

Reference Description: Base Metal Repair without Engineer approval located at West Tower Lift 4

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- Recurring QC issue that constitutes a systematic problem in quality control.
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Material Location: Tower **Lift:** 04

Remarks:

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Action Required and/or Action Taken:

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Transmitted by: Ken Lee Transportation Engineer
Attachments: ZPMC-0586

NCT

(Continued Page 2 of 2)

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

File: 05.03.06



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	DPSA4-6	报告编号 Report No.	T-WR3017
合同号 Contract No.:	04-0120F4	部件名称 Items Name	双层隔板 Double diaphragm	NDT报告编号 Report No.of NDT	N/A
项目编号 Project No.:	ZP06-787				

缺陷描述

Description of welding discontinuity:

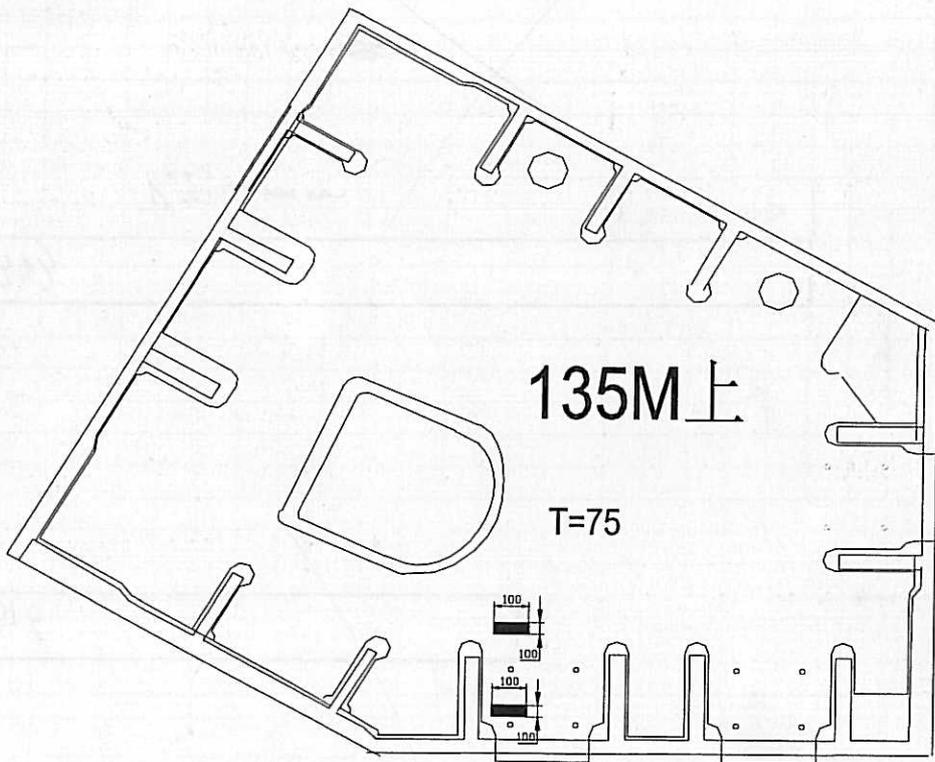
西塔四吊135M上层隔板定位块在焊接结束后，割除卡玛割损母材，深度3MM，长100MM。具体如图：

After welding west tower fourth lifting 135m top diaphragm fit plate, the base metal was gouged after removing temporary attachment, 3mm in depth, 100mm in length, the detail sees the following draft.

检验员 (Inspector): zhaomaomao 日期 (Date): 2010.01.14

焊缝返修位置示意图：

Draft of welding discontinuity:



注：阴影处为需要补焊区域。Remark: repair area in shadow.

产生原因:

Caused:

1. 工人操作失误, 导致母材损伤。

1. Worker operated error caused base metal gouged.

车间负责人(Foreman): *Lishiquan* 日期(Date): 10.1.14

处理意见

Disposition :

- 1、Grind the building-up area;
- 2、Preheat and weld passes temperature according to the approved WPS, it should be 2-3mm than the theory size;
- 3、Grind the weld area smoothly after repairing;
- 4、Check the welding according to the approved shop drawing.

- 1、对需堆焊部分进行打磨;
- 2、按批准后焊接工艺规程 WPS 要求进行预热和控制道间温度, 进行堆焊, 略高于理论值 2~3mm;
- 3、施焊完毕后将施焊位置打磨平整;
- 4、按图纸要求检测焊缝.

工艺:
Technical engineer *Zhang Zhenyuan*

审核:
Approved by

日期
Date 10.1.14



焊缝返修报告

版本 Rev. No.

Welding Repair Report

0

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No.	DPSA4-6	报告编号 Report No.	T-WR3017
合同号 Contract No.:	04-0120F4	部件名称 Items Name	双层隔板 Double diaphragm	NDT报告编号 Report No.of NDT	N/A
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1.对施工人员进行技术指导,提高其技术水平。

1. Guide worker to improve skill.

车间负责人(Foreman): *Lishi qian* 日期(Date): 10.1.14

参照的WPS编号 Repair WPS No.	WPS-485-SMAW -2G (2F)-Repair WPS-485-SMAW -3G (3F)-Repair WPS-485-SMAW -4G (4F)-Repair	工艺员 technologist	<i>Shang Zhenfeng</i> 10.1.14
返修(碳刨)前预热温度 Preheat temperature before gouging		返修的缺陷 Description of discontinuity	
焊前处理检查 Inspection before welding		焊前预热温度 Preheat temperature before welding	
最大碳刨深度 Max. depth of gouging		碳刨总长 Total length of gouging	
焊工 welder	焊接类型 welding type	焊接位置 position	
焊接电流 Current	焊接电压 Voltage	焊接速度 Speed	
返修后检查 Inspection After repairing:			
外观检查 VT result	检验员 Inspector	日期 Date	
NDT复检 NDT result	探伤员 NDT person	日期 Date	
见证: Witness/Review:			
备注: Remark:			

#R787-QCP-900



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-10041 DATE日期 2010.01.16 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: DPSA4-6 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. 28th, 2010

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: WELDING 焊接件 CASTING 铸件 FORGING 锻造 Material & thickness 母材,厚度: A709M-HPS-485WT2-Z 75/100 mm

WELDING PROCESS 焊接方法: NA TYPE OF JOINT 焊缝类型: NA

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			
DPSA4-6				ACC.		BASE METAL

AFTER T-WR3017

BLANK

EXAMINED BY 主探: *[Signature]* LEVEL - II SIGN 签名 / DATE日期: 1001.16

REVIEWED BY 审核: *[Signature]* LEVEL-II SIGN / DATE日期: 1001.16

质量经理 / QCM: *[Signature]* 签字 SIGN / 日期 DATE: 2010.1.16

用户 CUSTOMER: _____ 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, P.R. China**Report No:** NCS-000888**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 14-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0586**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: 07-Jan-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) random in-process visual inspection at inside of West Tower, Lift 4, 135m double diaphragm, top side, CT QA discovered the following issue:

-Base metal repairs being performed in way of temporary attachment removal areas on the top of the double diaphragm skin without the prior approval of the Engineer.

Contractor's proposal to correct the problem:

Contractor will provide the Welding Repair Report and NDT report to prove the welds are acceptable.

Contractor will discuss the requirements with Quality Control to prevent future occurrence.

Corrective action taken:

Contractor provided the Welding Repair Report, and NDT reports showing the welds are acceptable.

Contractor discussed the requirements with their Quality Control.

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

Inspected By: Ng, Michael

Quality Assurance Inspector

Reviewed By: Devey, Jim

QA Reviewer