

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-000687**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 26-Feb-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0654**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Segment 5BW Side to Edge Panel
Procedural	Procedural	Description: Missed UT Indication by QC	

Reference Description: Missed UT indications by QC on Segment 5BW on Side to Edge Panel Welds**Description of Non-Conformance:**

During the Quality Assurance (QA) Ultrasonic Testing review of welds located on OBG Segment 5BW, this QA Inspector discovered the following issue:

- Three, Class A linear indications in the side plate to edge plate holdback weld at W1 on segment 5BW.
- The weld is identified as: CA019-001.
- The indication dBs ratings are +7, +9 and +10 and lengths were measured to be 20mm each.
- Material thickness is 18 mm.
- The depth of the indications is range from 10 ~14.5 mm.
- The "Y" locations are approximately 200, 250 & 290mm respectively, measured from the 5AW-5BW transverse segment splice weld No.OBW5A-001.
- The indication is clearly marked on the weld.
- The Weld is a Complete Joint Penetration (CJP) Corner Joint weld joining the Edge Plate to Side Plate.
- The Segment is located in Trial Assembly.
- The Notice of Witness Inspection Number (NWIT) is 005232. The indication is located inside of the 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 100% ultrasonic testing NDT method inspection of this weld.

Applicable reference:

AWS D1.5-02 Section 6; Table 6.3 specifies a class A indication as having a rating of 10dBs and under for material thicknesses 8mm through 20mm.

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."

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Who discovered the problem: Timothy J. Murphy
Name of individual from Contractor notified: CK Chan
Time and method of notification: 02/26/10_0830_Verbal
Name of Caltrans Engineer notified: Bill Howe
Time and method of notification: 02/26/10_1330_E-mail
QC Inspector's Name: Wang Lu
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:	Tsang, Eric	SMR
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: 25-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-0654

Job Name: SAS Superstructure
Document No: 05.03.06-000644

Reference Description: Missed UT indications by QC on Segment 5BW on Side to Edge Panel Welds

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:** 05

Remarks:

During the Quality Assurance (QA) Ultrasonic Testing review of welds located on OBG Segment 5BW, this QA Inspector discovered the following issue:

- Three, Class A linear indications in the side plate to edge plate holdback weld at W1 on segment 5BW.
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- The indication dBs ratings are +7, +9 and +10 and lengths were measured to be 20mm each.
- Material thickness is 18 mm.
- The depth of the indications is range from 10 ~14.5 mm.
- The "Y" locations are approximately 200, 250 & 290mm respectively, measured from the 5AW-5BW transverse segment splice weld No.OBW5A-001.
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Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. Provide training or equipment (and documentation) as required to the ZPMC technician such that these types of indications are found in the future. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Bill Howe Sr. Transportation Engineer

NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0654

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000644

Subject: NCR No. ZPMC-0654

Dated: 15-Mar-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000618 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired these indications and tested the weld to ensure that it is sound. Attached are the repair documents and NDT to show it is acceptable.

ZPMC has repaired these indications and tested the weld to ensure that it is sound. Attached are the repair documents and NDT to show it is acceptable. ZPMC has conducted training to improve their inspector's technique. Based on this ZPMC request closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000618R00;

Caltrans' comments:

Status: CLO
Date: 18-Mar-2010

The information received is sufficient to close this NCR.

Submitted by: Howe, Bill

Attachment(s):

Date: 18-Mar-2010



No. B-674

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-3-15

REGARDING: NCR-000687(ZPMC-0654)

ZPMC acknowledged this problem and has issued internal NCR to warn the same cases. Repair has been completed. ZPMC is providing WRRs and NDT records show the welds are acceptable after repair. Based on this, ZPMC requests closure of this NCR.

ATTACHMENT:

NCR-000687(ZPMC-0654)

B-WR10740

B787-UT-11425 R1

A handwritten signature in black ink, appearing to be 'Jey' followed by a flourish.

3/15/10

WK 10740



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-B-458(ZPMC-0654)
Item: Miss UT indication 名称描述: UT 漏检	Item Number: 件号:	Drawing: 图号: 5BW
Location: Outside Yard 位置: 外场	Date: 日期: 2010-03-02	

Description of Nonconformance:

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在对 5BW 进行 UT 检验的过程中，加州检验员发现以下问题：
 三条 A 级线性缺陷在 5BW W1 位置斜底板至腹板的预留焊缝。焊缝编号是：CA019-001。缺陷 dB 值是 +7, +9 和 +10 长度测得是 20mm。材料厚度是 18mm。缺陷深度从 10~14.5mm。Y 值分别将近 200, 250 和 290mm，从环缝 OBW5A-001 开始测。该焊缝是 CJP 焊缝连接腹板和斜底板。箱体在总拼长地。预约单编号是 005232.缺陷所在位置之前已经被 ZPMC 检验人员所检验并接受。

Work By: <u>Li Liming</u> 施工方: <u>2010.03.12</u>	Prepared by: <u>Zhang Jie</u> 准备: <u>03/02/10</u>	Reviewed by QCE: <u>[Signature]</u> 质量工程师批准: <u>2/2/10</u>
<input type="checkbox"/> Drawing Error 图纸错误	<input checked="" type="checkbox"/> Material Defect 材料缺陷	<input type="checkbox"/> Fabrication Error 制作错误
		<input type="checkbox"/> Other 其他原因

Disposition: Use as is (回用) Repair (返修) Reject (拒收)

Recommendation: 返修. Repair.

Prepared by: Li Liming (准备) 2010.03.12 Approved by QCA: _____ (质量经理批准)

Reason for Nonconformance:

不符合原因: *dB 误差* DB error.

Prevention of Re-occurrence:

预防措施: *加强仪器调节控制, 提高测量控制.*

Enhance equipment regulating and controlling to improve quality

Approved by/批准: *[Signature]*

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
375 BURMA ROAD
OAKLAND CA 95607

Date: 25-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-0654

Job Name: SAS Superstructure

Document No: 05.03.06-000644

Reference Description: Missed UT indications by QC on Segment 5BW on Side to Edge Panel Welds

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Transmitted by: Bill Howe Sr. Transportation Engineer

NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0654

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

File: 05.03.06

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
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Vallejo, CA 94592-1133
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(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-000687

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 26-Feb-2010

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

NCR #: ZPMC-0654

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural

Bridge No: 34-0006

Component: Segment 5BW Side to Edge Panel

Description: Missed UT Indication by QC

Reference Description: Missed UT indications by QC on Segment 5BW on Side to Edge Panel Welds

Description of Non-Conformance:

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Who discovered the problem: Timothy J. Murphy
Name of individual from Contractor notified: CK Chan
Time and method of notification: 02/26/10_0830_Verbal
Name of Caltrans Engineer notified: Bill Howe
Time and method of notification: 02/26/10_1330_E-mail
QC Inspector's Name: Wang Lu
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:	Tsang, Eric	SMR
Reviewed By:	Wahbeh, Mazen	SMR



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	OBW5	报告编号 Report No.	B-WR10740
合同号 Contract No.	04-0120F4	部件名称 Items Name	5BW CORNER ASSEM BLY	NDT报告编号 Report No. of NDT	B787-UT-11425
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

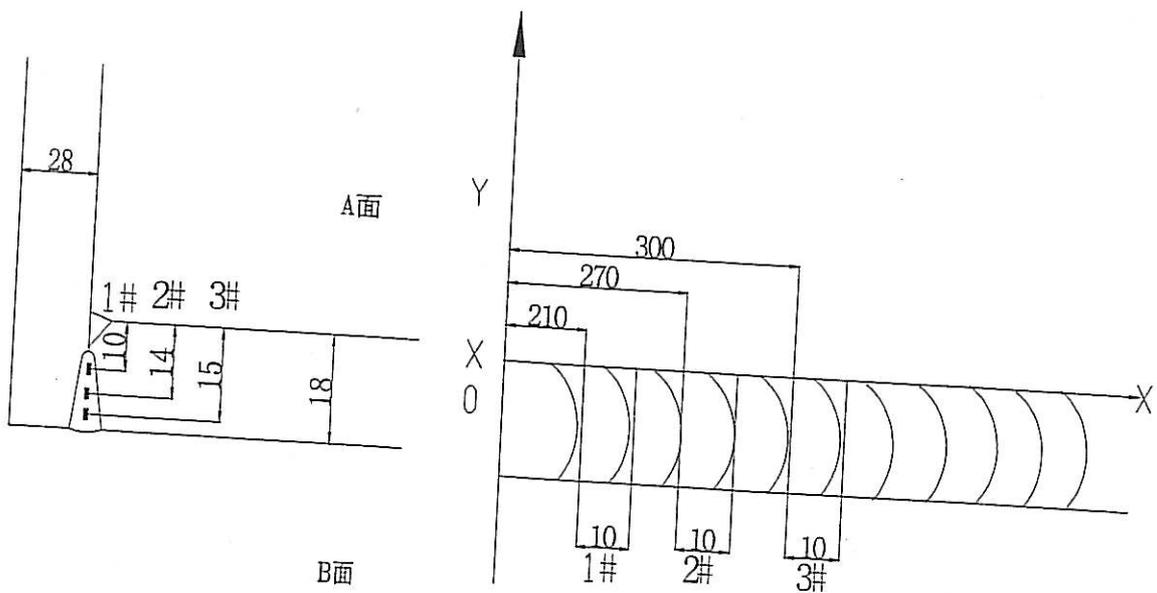
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.
(UT探伤发现的缺陷总长度小于最大允许长度。) CA019-001

Tang Xingshan

检验员 (Inspector): Tang Xingshan 日期 (Date): 2010.02.25

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: CA019-001

产生原因:

Caused:

1、焊道未及时处理干净。

1. Did not clear the weld pass completely in time.

车间负责人(Foreman): *Li Zhi Gong* 日期(Date): *20/0.2-27*

处理意见

Disposition :

1. 从缺陷距离端面较近一侧 ($D \leq 0.65T$, D 为缺陷深度, T 为板厚) 采用碳刨或打磨的方法去除焊缝缺陷;

2. 参照返修焊接工艺规程 (WPS) 准备正确的接头型式, 预热和焊接;

3. 焊前对修补区域进行VT检测保证缺陷完全被清除;

4. 将修补区域打磨到与母材或邻近焊缝平齐;

5. 根据批准的车间图纸检查焊缝.

1. Gouge or grind from nearer side from metal edge ($D \leq 0.65T$, "D" is depth of defects, "T" is thickness of metal) to remove all defects;

2. Follow repair WPS for joint preparation, preheat, and weld deposit;

3. Verify with VT no defects remain in the weld joint prior to welding;

4. Grind the repaired area flush with base metal or the adjacent weld;

5. Check the welds according to the working drawings.

工艺: *Lin Dongfeng*
Technical engineer

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	OBW5	报告编号 Report No.	B-WR10740
合同号 Contract No.:	04-0120F4	部件名称 Items Name	5BW CORNER ASSE MBLY	NDT报告编号 Report No.of NDT	B787-UT-11425
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

1. 加强焊接监控和道间清理。

1. Improve monitoring of welding and interpass cleaning.

车间负责人(Foreman): *Li Zhi Gang* 日期(Date): 2010.2.27

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-FCM-Repair WPS-345-FCAW-1 G(1F)-FCM-Repair WPS-345-SMAW-2 G(2F)-FCM-Repair WPS-345-FCAW-2 G(2F)-FCM-Repair WPS-345-SMAW-4 G(4F)-FCM-Repair	工艺员 technologist	<i>Xu Song Ke</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	86	返修的缺陷 Description of discontinuity	ZF
焊前处理检查 Inspection before welding	All	焊前预热温度 Preheat temperature before welding	125
最大碳刨深度 Max. depth of gouging	7	碳刨总长 Total length of gouging	300
焊工 welder	<i>064772</i>	焊接类型 welding type	<i>SMAW</i>
焊接电流 Current	<i>701</i>	焊接电压 Voltage	<i>24.3</i>
		焊接位置 position	<i>CG</i>
		焊接速度 Speed	<i>164</i>

返修后检查
Inspection After repairing:

外观检查 VT result	<i>All</i>	检验员 Inspector	<i>Li Yang</i>	日期 Date	<i>2010.3.1</i>
NDT复检 NDT result	<i>All</i>	探伤员 NDT person	<i>Tang Xing Shan</i>	日期 Date	<i>2010.03.12</i>

见证:

Witness/Review:

备注:

Remark:



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-11425R1 DATE 2010.03.12 PAGE 1 OF 1 Revision No: 0

PROJECT NO.: 工程编号 ZP06-787 CONTRACTOR: CALTRANS

ITEMS NAME: 5BW CORNER ASSEMBLY DRAWING NO.: OBW5 CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

REFERENCING CODE 参考规范 ACCEPTANCE STANDARD 接受标准 PROCEDURE NO. 程序编号
 AWS D1.5-2002 AWS D1.5-2002(Table 6.3) ZPQC-UT-01

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 SMAW CORNER-JOINT Dec. 28ST, 2010

EQUIPMENT 设备 MANUFACTURER 制造商 MODEL NO. 样式编号 SERIAL NO. 序列编号
 UT SCOPE PANAMETRICS EPOCH-4B 071565311, 061488510, 061495811, 070152011,

CALIBRATION BLOCK 试块 COUPLANT 耦合剂 MATERIAL/THICKNESS 材料厚度
 AWS IIV BLOCK TYPE II C.M.C A709M-345T2/F2-X 18/28 mm

TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5MHz	18×18mm				
Changchao	0°	2.5MHz	20mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5 0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS 分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注	
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)							
									a	b	c	d	Length 长度			Sound Path 声程
CA019-001	1R1	70				32									ACC.	100%
	2R1	70				32									ACC.	100%
	31	70				32									ACC.	100%

AFTER B-WR10740

BLANK

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EXAMINED BY 主探
Tang King Shan 2010.03.12
 LEVEL - II SIGN / DATE

REVIEWED BY 审核
Xu Rong gong 2010.03.12
 LEVEL - II SIGN / DATE

质量经理 / QCM

 签字 SIGN / 日期 DATE

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-000563**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 18-Mar-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0654**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: 26-Feb-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) Ultrasonic Testing review of welds located on OBG Segment 5BW, this QA Inspector discovered the following issue:

- Three, Class A linear indications in the side plate to edge plate holdback weld at W1 on segment 5BW.
- The weld is identified as: CA019-001.
- The indication dBs ratings are +7, +9 and +10 and lengths were measured to be 20mm each.
- Material thickness is 18 mm.
- The depth of the indications is range from 10 ~14.5 mm.
- The "Y" locations are approximately 200, 250 & 290mm respectively, measured from the 5AW-5BW transverse segment splice weld No.OBW5A-001.
- The indication is clearly marked on the weld.
- The Weld is a Complete Joint Penetration (CJP) Corner Joint weld joining the Edge Plate to Side Plate.
- The Segment is located in Trial Assembly.
- The Notice of Witness Inspection Number (NWIT) is 005232. The indication is located inside of the 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 100% ultrasonic testing NDT method inspection of this weld.

Contractor's proposal to correct the problem:

Repair said indications and perform NDT required to verify weld quality

Corrective action taken:

Contractor submitted WRR used to perform repairs along with subsequent NDT reports verifying the welds are in conformance with Contract specifications. An internal NCR was also issued by the Contractor in regards to this issue.

Did corrective action require Engineer's approval?

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

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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.

Inspected By: Simonis,Jim

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer