

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, China**Report No:** NCR-000780**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 29-Jun-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0742**Type of problem:**

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

Reference Description: Missed UT Indication Discovered by QA**Description of Non-Conformance:**

During the Quality Assurance Ultrasonic Testing (UT) review of welds located on Segment 11AE, this Quality Assurance Inspector (QA) discovered the following issue:

- One (1) Class "A" rejectable indication measuring approximately 20mm in length.
- The weld is a Complete Joint Penetration (CJP) 'T' joint joining Floor beam flange FL2-2 (FB4A) to Floor beam flange FL-1 (FB10B).
- The db rating is +8.
- The Thickness of the flange plates are 20mm.
- Depth of the indication is 10mm.
- The "Y" location is approximately 20mm measured from the east end of the flange.
- The weld is identified as SSD19A-PP96-128.
- The indication is clearly marked near the weld.
- Segment 11AE is located in the Segment Repair Yard North of the Fabrication Bay 14.
- This weld joint is not designated as a Seismic Performance Critical Weld Member (Non-SPCM).

The Notice of Witness Inspection Number (NWIT) is 006079. The indication is located within 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 25% UT inspection of this weld.

Applicable reference:

AWS D1.5-2002, Section 6, Table 6.3. Specifies a class A indication as having a db rating of +10 and lower for weld 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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

to the requirements of the contract documents.”

Who discovered the problem: Chandra Sudalaimuthu

Name of individual from Contractor notified: Mr. Wang wei nan

Time and method of notification: 1530 hours_06/29/10_Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 6/29/10, 15:00, Email

QC Inspector's Name: Mr. Wu shi gao

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

Inspected By:	Devey,Jim	SMR
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Reviewed By:	Wahbeh,Mazen	SMR
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NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0742

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000738

Subject: NCR No. ZPMC-0742

Dated: 30-Aug-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000754 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is submitting the repair report and the NDT after to show that it is acceptable.

ZPMC has issued an internal NCR and discussed this issue with the NDT Department head to reduce future occurrences. The indications have been tested, repaired and found to be acceptable. ZPMC is submitting the repair report and the NDT after to show that it is acceptable. Based on this ZPCM requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000754R00;

Caltrans' comments:

Status: CLO

Date: 08-Sep-2010

The proposed resolution is acceptable. This NCR is considered closed.

Submitted by: Woo, Laraine

Attachment(s):

Date: 08-Sep-2010



No. B-858

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-8-28

REGARDING: NCR-000780(ZPMC-0742)

For this case, ZPMC has issue an internal NCR to address this issue and ZPMC QA personnel have talked with the head of the NDT department. The missed indications have been repaired and were tested to be acceptable. ZPMC is providing the WRR and NDT record for review. Based on this, please consider closure of this NCR.

ATTACHMENT:

NCR-000780(ZPMC-0742)

B-WR13892

B787-UT-13669R1

Zhao Jia Heng
2010/8/28



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: 02-Jul-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: 05.03.06-000738
Subject: NCR No. ZPMC-0742
Reference Description: Missed UT Indication Discovered by QA

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:** 11

Remarks:

During the Quality Assurance Ultrasonic Testing (UT) review of welds located on Segment 11AE, this Quality Assurance Inspector (QA) discovered the following issue:

- One (1) Class "A" rejectable indication measuring approximately 20mm in length.
- The weld is a Complete Joint Penetration (CJP) 'T' joint joining Floor beam flange FL2-2 (FB4A) to Floor beam flange FL-1 (FB10B).
- The db rating is +8.
- The Thickness of the flange plates are 20mm.
- Depth of the indication is 10mm.
- The "Y" location is approximately 20mm measured from the east end of the flange.
- The weld is identified as SSD19A-PP96-128.
- The indication is clearly marked near the weld.
- Segment 11AE is located in the Segment Repair Yard North of the Fabrication Bay 14.
- This weld joint is not designated as a Seismic Performance Critical Weld Member (Non-SPCM).

The Notice of Witness Inspection Number (NWIT) is 006079. The indication is located within 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 25% UT inspection of this weld.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Laraine Woo Transportation Engineer

NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0742

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

File: 05.03.06

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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, China**Report No:** NCR-000781**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 30-Jun-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0743**Type of problem:**Welding Concrete Other Welding Curing Procedural **Bridge No:** 34-0006Joint fit-up Coating Other **Component:** SEG11AE, PP97 LD2A flange to FB10AProcedural Procedural Description:**Reference Description:** Missed UT Indication**Description of Non-Conformance:**

During the Quality Assurance Ultrasonic Testing (UT) verification of welds located on Segment 11AE, QA discovered the following issue:

- One (1) Class "A" rejectable indication measuring approximately 30 mm in length.
- The weld is a Complete Joint Penetration (CJP) 'T' joint single bevel groove weld joining the Longitudinal Diaphragm (LD2A) Flange, to the Floor beam FB10A Web, on the West side of Panel Point 97.
- The indication db rating was (+3).
- The thickness of the LD flange plate is 25 mm.
- Depth of the indication is 21 mm.
- The "Y" location is approximately 10mm measured from end of the flange.
- The weld is identified as SEG066C-002.
- The indication is clearly marked near the weld.
- Segment 11AE is located in the segment repair yard south of the fabrication bay 14.
- This weld joint is designated as Non Seismic Performance Critical Weld Member (Non-SPCM).

The Notice of Witness Inspection Number (NWIT) is 006079. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



Applicable reference:

AWS D1.5-2002, Section 6, Table 6.3. Specifies a class A indication as having a decibel rating of (+8) and lower for weld thicknesses 21mm through 38mm.

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."

Who discovered the problem: Art Peterson

Name of individual from Contractor notified: Mr. Wang Wei An

Time and method of notification: 1630 hours_06/29/10_Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 6/30/10, 18:30, Email

QC Inspector's Name: Mr. Wu Shi Gao

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

Inspected By: Devey,Jim

SMR

Reviewed By: Wahbeh,Mazen

SMR



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	SSD19A	报告编号 Report No.	B-WR13892
合同号 Contract No.	04-0120F4	部件名称 Items Name	11AE PLATE PANEL SPLICE	NDT报告编号 Report No.of NDT	B787-UT-13669
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of welding discontinuity:

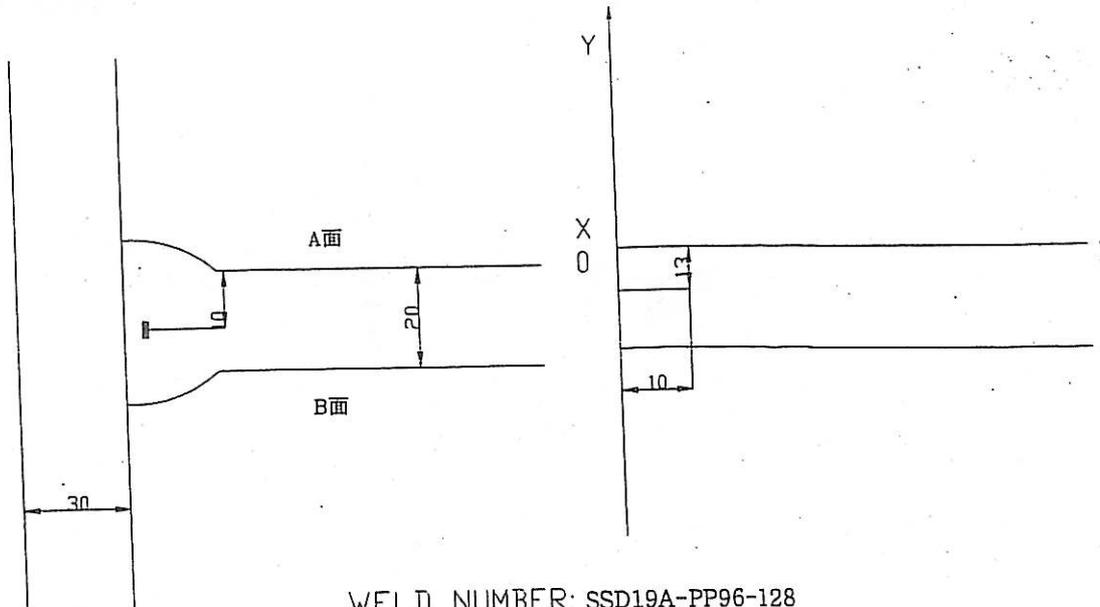
Rejected indication found by ultrasonic inspection is less than the maximum allowance aggregate length.

(UT探伤发现的缺陷总长度小于最大允许长度。) SSD19A-PP96-128

检验员 (Inspector) Huang jing 日期(Date): 2010.06.30

焊缝返修位置示意图:

Draft of welding discontinuity:



WELD NUMBER: SSD19A-PP96-128

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): Gao Jun

日期(Date): 7.1

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. 对焊缝进行UT检测, 检测范围为返修区域以及其两端各延长50mm.

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. Perform UT inspection to the weld along with 50mm on each end of the repair area;

工艺: *M. Dong*
Technical engineer

审核:
Approved by

日期 10.7.1
Date



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	SSD19A	报告编号 Report No.	B-WR13892
合同号 Contract No.:	04-0120F4	部件名称 Items Name	11AE PLATE PANEL SPLICE	NDT报告编号 Report No. of NDT	B787-UT-13669
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): Gao Jun 日期(Date): 7.1

参照的WPS编号 Repair WPS No.	WPS-345-SMAW-1 G(1F)-Repair WPS-345-FCAW-1 G(1F)-Repair-1 WPS-345-SMAW-4 G(4F)-Repair	工艺员 technologist	Xu Donglan 7.1
返修(碳刨)前预热温度 Preheat temperature before gouging	115°C	返修的缺陷 Description of discontinuity	IF
焊前处理检查 Inspection before welding	ACC	焊前预热温度 Preheat temperature before welding	170°C
最大碳刨深度 Max. depth of gouging	10mm	碳刨总长 Total length of gouging	100mm
焊工 welder	200113	焊接类型 welding type	SMAW
焊接电流 Current	181	焊接电压 Voltage	24.5
		焊接位置 position	16
		焊接速度 Speed	185
返修后检查 Inspection After repairing:			
外观检查 VT result	ACC	检验员 Inspector	Litambua 0720701
		日期 Date	2010.7.24
NDT复检 NDT result	ACC	探伤员 NDT person	Han Feng
		日期 Date	10.07.24
见证: Witness/Review:			
备注: Remark:			



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-13669R1 DATE 2010.07.24 PAGE 1 OF 1 Revision No: 0

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

ITEMS NAME: 11AE PLATE PANEL SPLICE DRAWING NO.: SSD19A/SEG066 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 T-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-X 20/30mm

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
SSD19A-PP96-128	1R1	70						34							ACC.	100%
SEG066-002	1R1	70						34							ACC.	100%

AFTER B-WR13892, 13893

BLANK

EXAMINED BY 主探 <i>Han Feng</i> 10.07.24 LEVEL - II SIGN DATE	REVIEWED BY 审核 <i>Huang Jing</i> 10.07.24 LEVEL - II SIGN DATE
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质量经理 / QCM _____ 签字 SIGN / 日期 DATE	用户 CUSTOMER _____ 签字 SIGN / 日期 DATE
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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, China**Report No:** NCS-000755**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 07-Sep-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0742**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: 29-Jun-2010**Description of Non-Conformance:**

During the Quality Assurance Ultrasonic Testing (UT) review of welds located on Segment 11AE, this Quality Assurance Inspector (QA) discovered the following issue:

- One (1) Class "A" rejectable indication measuring approximately 20mm in length.
- The weld is a Complete Joint Penetration (CJP) 'T' joint joining Floor beam flange FL2-2 (FB4A) to Floor beam flange FL-1 (FB10B).
- The db rating is +8.
- The Thickness of the flange plates are 20mm.
- Depth of the indication is 10mm.
- The "Y" location is approximately 20mm measured from the east end of the flange.
- The weld is identified as SSD19A-PP96-128.
- The indication is clearly marked near the weld.
- Segment 11AE is located in the Segment Repair Yard North of the Fabrication Bay 14.
- This weld joint is not designated as a Seismic Performance Critical Weld Member (Non-SPCM).

The Notice of Witness Inspection Number (NWIT) is 006079. The indication is located within 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 25% UT inspection of this weld.

Contractor's proposal to correct the problem:

Repair said indication and perform NDT required to verify weld quality.

Corrective action taken:

Contractor supplied post repair NDT documentation verifying weld is in conformance with Contract weld quality requirements. Contractor has also taken action directly with NDT Technicians to avoid similar issues in the future.

