

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-000895**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 23-Nov-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0857**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: Lift 13 and 14 East Components Bay 14
Procedural	Procedural	Description:	

Reference Description: Weld Procedure Requirements for New Welds Not Followed**Description of Non-Conformance:**

During the Quality Assurance (QA) random in-process observations of the fabrication of OBG Lift 13 and 14 East in Bay # 14, this Caltrans QA Inspector observed the following: ZPMC welding personnel did not appear to be following the New weld procedure. The following requirements were not followed:

2. Assembly (2F)
5. Post weld Thermal Treatment (5A)

Issue No. 1

- ZPMC personnel performed welding for the fillet weld between "I" stiffener and bottom panel without adequate preheating of the adjacent base material.
- During the welding This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material.
- Weld number identified as SEG3019AJ-156
- Rib stiffener identified as RS8002B
- Bottom plate identified as BP3084A and BP3083A
- BP3083A and BP3084A are designated on the approved shop drawings as Seismic Performance Critical Members (SPCM).
- The welding performed with Flux Cored Arc Welding (FCAW) process.
- Area was being preheated using electric strip heaters.
- OBG Lift 14 East in bay # 14

Issue No.2

- ZPMC did not perform PWHT after complete weld repair before the temperature falls below the preheat temperature on the weld joint between "I" rib stiffeners (RS3214C) to the plate (PL3279A).
- This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

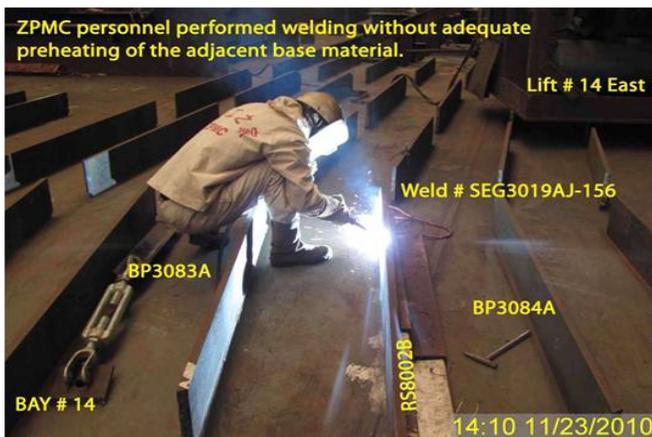
(Continued Page 2 of 3)

- Weld number identified as VP3007A-001-016, 004, 055
- PL3279A designated on the approved shop drawings as Seismic Performance Critical Members SPCM)
- The welding performed with Shielded Metal Arc Welding (SMAW) process
- This welds are detailed as a complete joint penetration (CJP), Fracture critical weld (FCW)

Issue No.3

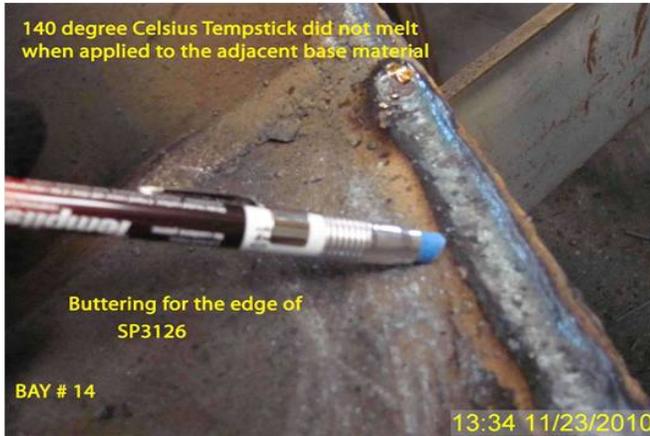
- ZPMC personnel performed buttering on the edge of the plate SP3126 without adequate preheating of the adjacent base material.
- This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material
- The welding performed with Shielded Metal Arc Welding (SMAW) process
- Did not appear any electric strip heaters or torch

See attached photographs for additional detail.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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Applicable reference:

NEW WELD PROCEDURE (Rager / McQuaid)

2.Assembly:F. Preheat shall be applied in such manner to provide a minimum temperature in the area of the weld 165 degree Celsius

5. Post weld thermal treatment: A. After welding is completed but before the temperature falls below that of the preheat temperature, post heat shall be applied to maintain the temperature in the area of the weld at 165 C - 225°C

Who discovered the problem: Shrikant Utekar

Name of individual from Contractor notified: Peter Shaw

Time and method of notification: 15:20 Hrs, 11/23/10, Verbal.

Name of Caltrans Engineer notified: Laraine Woo

Time and method of notification: 08:00 Hrs, 11/24/10, EMail.

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

NA

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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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:** 24-Nov-2010
 375 BURMA ROAD
 OAKLAND CA 95607 **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:** 05.03.06-000852
Subject: NCR No. ZPMC-0857
Reference Description: Weld Procedure Requirements for New Welds Not Followed

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:** 13

Remarks:

During the Quality Assurance (QA) random in-process observations of the fabrication of OBG Lift 13 and 14 East in Bay # 14, this Caltrans QA Inspector observed the following:
 ZPMC welding personnel did not appear to be following the New weld procedure. The following requirements were not followed:
 2. Assembly (2F)
 5. Post weld Thermal Treatment (5A)
 Issue No. 1
 - ZPMC personnel performed welding for the fillet weld between "I" stiffener and bottom panel without adequate preheating of the adjacent base material.
 -During the welding This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material.
 -Weld number identified as SEG3019AJ-156
 -Rib stiffener identified as RS8002B
 -Bottom plate identified as BP3084A and BP3083A
 -BP3083A and BP3084A are designated on the approved shop drawings as Seismic Performance Critical Members (SPCM).
 -The welding performed with Flux Cored Arc Welding (FCAW) process.
 -Area was being preheated using electric strip heaters.
 -OBG Lift 14 East in bay # 14
 Issue No.2
 -ZPMC did not perform PWHT after complete weld repair before the temperature falls below the preheat temperature on the weld joint between "I" rib stiffeners (RS3214C) to the plate (PL3279A).
 - This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material.
 -Weld number identified as VP3007A-001-016, 004, 055
 -PL3279A designated on the approved shop drawings as Seismic Performance Critical Members SPCM)
 -The welding performed with Shielded Metal Arc Welding (SMAW) process
 -This welds are detailed as a complete joint penetration (CJP), Fracture critical weld (FCW)

NCT

(Continued Page 2 of 2)

Issue No.3

- ZPMC personnel performed buttering on the edge of the plate SP3126 without adequate preheating of the adjacent base material.
- This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material
- The welding performed with Shielded Metal Arc Welding (SMAW) process
- Did not appear any electric strip heaters or torch

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

Attachments: ZPMC-0857

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

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000852

Subject: NCR No. ZPMC-0857

Dated: 29-Nov-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000850 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: The "NEW WELD PROCEDURE (Rager/McQuaid)" quoted as the basis for this NCR is not a contact document only a recommendation from the QA/QC Committee. If

The "NEW WELD PROCEDURE (Rager/McQuaid)" quoted as the basis for this NCR is not a contact document only a recommendation from the QA/QC Committee. If the Department wants to incorporate the QA/QC committee's recommendations as a contract requirement a contract change order should be issued. As this NCR was written without basis it should be withdrawn.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000850R00

Caltrans' comments:

Status: REJ

Date: 03-Dec-2010

CT acknowledges contractor's response. However, successful NDT will close this NCR.

Submitted by: Chao, Ching

Attachment(s):

Date: 03-Dec-2010

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000852

Subject: NCR No. ZPMC-0857

Dated: 08-Dec-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000850 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: We understand your response and we will not submit the normal NCR closure package with NDT reports for this and expect that CT will close these as the green tags for these components are issued.

We understand your response and we will not submit the normal NCR closure package with NDT reports for this and expect that CT will close these as the green tags for these components are issued.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000850R01

Caltrans' comments:

Status: REJ

Date: 09-Dec-2010

Normal NCR closure package with NDT reports shall be submitted with the NPR to close out the NCR.

Submitted by: Woo, Laraine

Date: 09-Dec-2010

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Siegenthaler, Peter
Resident Engineer

Ref: 05.03.06-000852

Subject: NCR No. ZPMC-0857

Dated: 01-Mar-2011

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000850 Rev: 02

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing acceptable NDT of the weld referenced in the NCR and requests closure of this NCR. Weld ID SEG3019AJ-156 does not exist.

ZPMC is providing acceptable NDT of the weld referenced in the NCR and requests closure of this NCR. Weld ID SEG3019AJ-156 does not exist.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000850R02;

Caltrans' comments:

Status: CLO

Date: 02-Mar-2011

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0857 is closed.

Submitted by: Eagen, Sean

Date: 02-Mar-2011

Attachment(s):



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-18878R1 DATE 2010.11.30 PAGE 1 OF 3 Revision No: 0

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

ITEMS NAME: 13AE VERTICALITY PLATE 部件名称	DRAWING NO.: VP3007 图号	CALTRANS CONTRACT NO.: 04-0120F4 加州工程编号
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REFERENCING CODE 参考规范 AWS D1.5-2002	ACCEPTANCE STANDARD 接受标准 AWS D1.5-2002(Table 6.3)	PROCEDURE NO. 程序编号 ZPQC-UT-01
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WELDING PROCESS 焊接方法 FCAW	JOINT TYPE 焊缝类型 T JOINT	CALIBRATION DUE DATE 仪器校正有效期 Dec. 28 ST , 2010
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EQUIPMENT 设备 UT SCOPE	MANUFACTURER 制造商 GE	MODEL NO. 样式编号 USM35	SERIAL NO. 序列编号 10526a
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CALIBRATION BLOCK 试块 AWS IIW BLOCK TYPE II	COUPLANT 耦合剂 C.M.C	MATERIAL/THICKNESS 材料厚度 A709M-345T2/F2 25mm
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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
AMERICA	70°	2.25MHz	0.75in×0.625in				
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
VP3007-001-004	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
VP3007-001-007	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
	3R1	70				42									ACC.	100%
VP3007-001-010	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
	3R1	70				42									ACC.	100%
	4R1	70				42									ACC.	100%

EXAMINED BY 主探 <i>Qiu Quanfu</i>	REVIEWED BY 审核 <i>Xue Hongyan</i>
LEVEL - II SIGN 1 DATE 20/11.30	LEVEL - II SIGN 1 DATE 20/11.30

质量经理 / QCM <i>Lijian hua</i>	
签字 SIGN / 日期 DATE 20/11.30	签字 SIGN / 日期 DATE



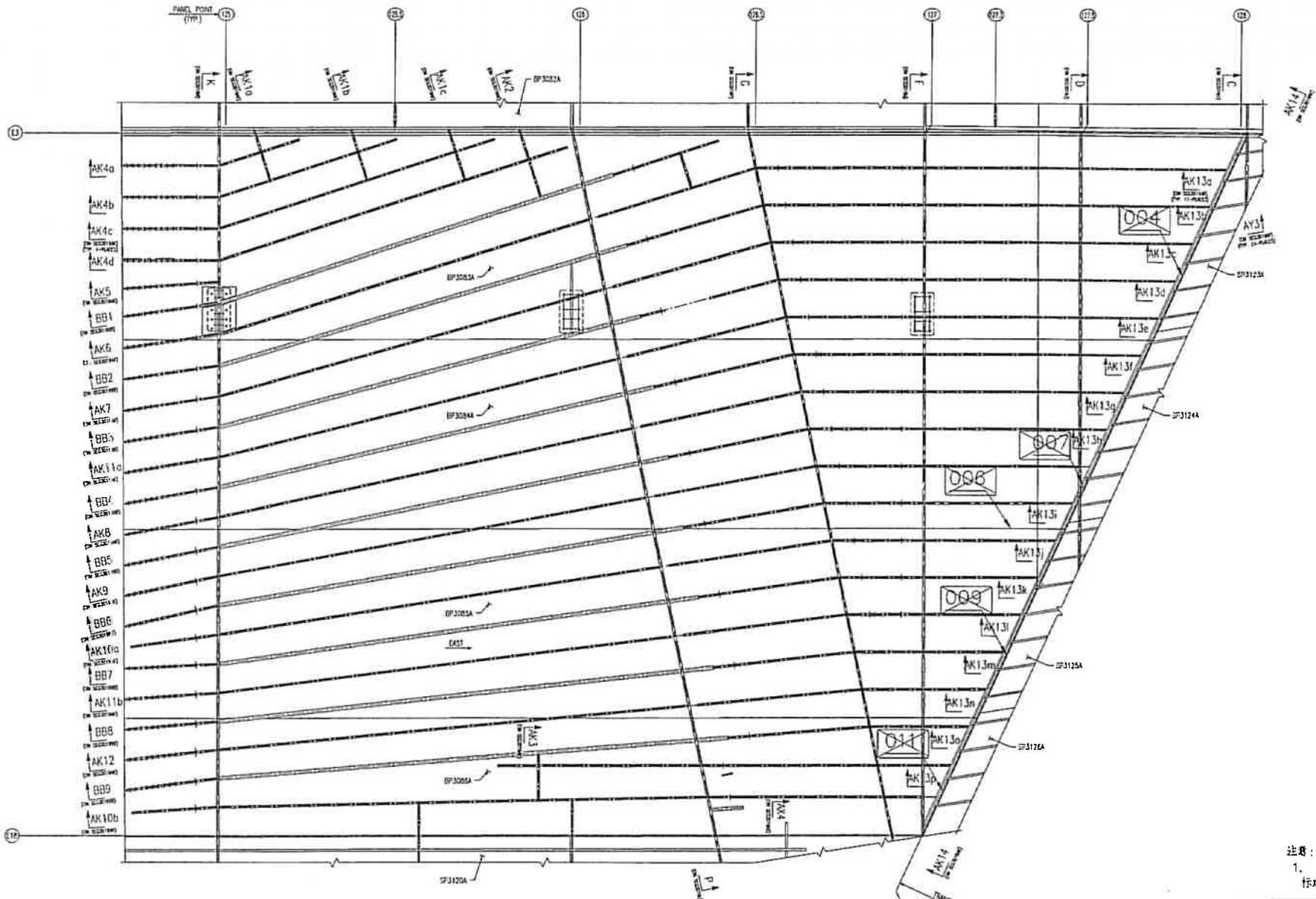
REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-18878R1 DATE 2010.11.30 PAGE 2 OF 3 Revision No: 0

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	Depth from Surface 距表面深度	From X 距X	From Y 距Y			
VP3007-001-016	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
	3R1	70				42									ACC.	100%
VP3007-001-019	1R1	70				42									ACC.	100%
VP3007-001-022	1R1	70				42									ACC.	100%
VP3007-001-029	1R1	70				42									ACC.	100%
VP3007-001-032	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
	3R1	70				42									ACC.	100%
VP3007-001-042	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
VP3007-001-045	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
	3R1	70				42									ACC.	100%
VP3007-001-048	1R1	70				42									ACC.	100%
VP3007-001-052	1R1	70				42									ACC.	100%
VP3007-001-055	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%
	3R1	70				42									ACC.	100%
VP3007-001-058	1R1	70				42									ACC.	100%
VP3007-001-068	1R1	70				42									ACC.	100%
	2R1	70				42									ACC.	100%

EXAMINED BY 主探 <i>Riv Qian fu</i> LEVEL - II SIGN 1 DATE 2010.11.30	REVIEWED BY 审核 <i>Xuehai Song</i> LEVEL - II SIGN 1 DATE 2010.11.30
质量经理 / QCM <i>Lu Jianhua</i> 签字 SIGN / 日期 DATE 2010.11.30	用户 CUSTOMER 签字 SIGN / 日期 DATE



DETAIL "AJ"
(DEVELOPED, ROTATED @ SOUTH SIDE)
(ON SEG3019A)

焊缝编号说明: SEG3019AJ XXX

焊缝序号
部件车间图纸号

注意:
1. 如有遗漏或重复标注的焊缝, 请QC人员通知工艺进行补标或删减。

ZPMC		
SHANGHAI ZHENHUA PORT MACHINERY CO. LTD.		SANGHAI ZHENHUA PORT MACHINERY CO. LTD.
WELDING MAP		
DRAWN	SHEET NO	PAGINATION
CHECKED	SEG 3019AJ	1/2

7/12 1.21

DEPARTMENT OF TRANSPORTATION

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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-000905**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 02-Mar-2011**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0857**Type of problem:**

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

Date the Non-Conformance Report was written: 23-Nov-2010**Description of Non-Conformance:**

During the Quality Assurance (QA) random in-process observations of the fabrication of OBG Lift 13 and 14 East in Bay # 14, this Caltrans QA Inspector observed the following: ZPMC welding personnel did not appear to be following the New weld procedure. The following requirements were not followed:

2. Assembly (2F)
5. Post weld Thermal Treatment (5A)

Issue No. 1

- ZPMC personnel performed welding for the fillet weld between "I" stiffener and bottom panel without adequate preheating of the adjacent base material.
- During the welding This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material.
- Weld number identified as SEG3019AJ-156
- Rib stiffener identified as RS8002B
- Bottom plate identified as BP3084A and BP3083A
- BP3083A and BP3084A are designated on the approved shop drawings as Seismic Performance Critical Members (SPCM).
- The welding performed with Flux Cored Arc Welding (FCAW) process.
- Area was being preheated using electric strip heaters.
- OBG Lift 14 East in bay # 14

Issue No.2

- ZPMC did not perform PWHT after complete weld repair before the temperature falls below the preheat temperature on the weld joint between "I" rib stiffeners (RS3214C) to the plate (PL3279A).
- This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

- Weld number identified as VP3007A-001-016, 004, 055
- PL3279A designated on the approved shop drawings as Seismic Performance Critical Members SPCM)
- The welding performed with Shielded Metal Arc Welding (SMAW) process
- This welds are detailed as a complete joint penetration (CJP), Fracture critical weld (FCW)

Issue No.3

- ZPMC personnel performed buttering on the edge of the plate SP3126 without adequate preheating of the adjacent base material.
- This QA Inspector observed a 140 degree Celsius Tempstick did not melt when applied to the adjacent base material
- The welding performed with Shielded Metal Arc Welding (SMAW) process
- Did not appear any electric strip heaters or torch

See attached photographs for additional detail.

Contractor's proposal to correct the problem:

Contractor will provide the NDT reports to prove the welds are acceptable.

Corrective action taken:

Contractor provided the NDT report. The NDT report shows the welds are acceptable.

The repaired area on plate SP3126 has been inspected and green tagged. Green tag no.:14479.

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:	Wahbeh,Mazen	QA Reviewer
