

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



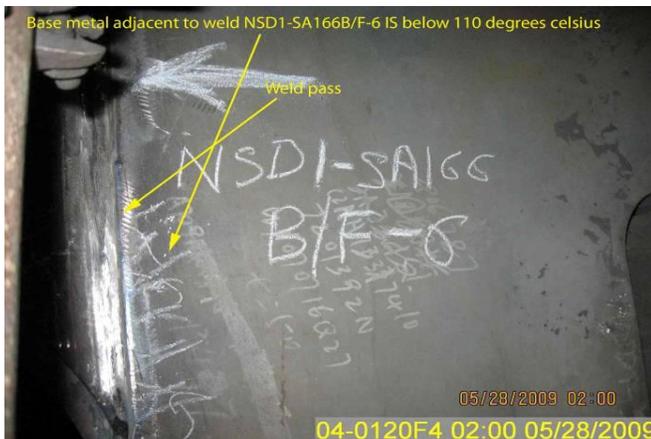
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Changxing Island, Shanghai, PRC**Report No:** NCR-000285**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 28-May-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0259**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: North Tower, Lift 2
Procedural	Procedural	Description:	Inadequate pre-heat on North Tower, Lift 2, Skin A

Reference Description: Inadequate pre-heat on North Tower, Lift 2, Skin A Doubler Plate**Description of Non-Conformance:**

QA observed ZPMC personnel welding North Tower, Lift 2, Skin A doubler plate weld NSD1-SA166B/F-6 without preheating the weld and adjacent base material.

**Applicable reference:**

Welding procedure WPS-B-T-4332-TC-P6-F requires a minimum base material preheat temperature of 180 degrees Celsius.

Who discovered the problem: Shrikant Utekar**Name of individual from Contractor notified:** Wen Zhang Wan**Time and method of notification:** 9:00, 5/28/2009; Verbal**Name of Caltrans Engineer notified:** Scott Kennedy**Time and method of notification:** 13:00, 5/28/2009; Verbal**QC Inspector's Name:****Was QC Inspector aware of the problem:**

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000250

Subject: NCR No. ZPMC-0259

Dated: 22-Jun-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000252 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ABF QCM has informed ZPMC QA and QC to first educate the person (s) performing the pre-heat of the WPS requirements to pre-heat based on material thickness.

ABF QCM has informed ZPMC QA and QC to first educate the person (s) performing the pre-heat of the WPS requirements to pre-heat based on material thickness and that tack welding has the same requirements as the balance of the welding. ABF QCM has explained the consequences of hydrogen embrittlement and that these thicker materials should be heated from the opposite side to ensure through thickness heat distribution as materials at these thicknesses lend themselves to cooling faster than thinner materials. ZPMC will provide the inspection documentation for this weld at a later date for close out.

Submitted by:

Attachment(s): ABF-NPR-000252R00

Caltrans' comments:

Status: AAP

Date: 30-Jun-2009

The response is acceptable, but the Non-Conformance is not closed.

Please provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0259 at that time.

The Non-Destructive Testing (NDT) for these welds should be at least 72 hours after welding to ensure that there are no delayed cracks from any possible hydrogen contamination.

Submitted by: Wright, Doug

Date: 30-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000250

Subject: NCR No. ZPMC-0259

Dated: 13-Jul-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000252 **Rev:** 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to the NCR and has attached the necessary documents for closure. ZPMC requests closure of this NCR.

ZPMC has responded to the NCR and has attached the necessary documents for closure. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000252R01;

Caltrans' comments:

Status: REJ

Date: 06-Aug-2009

This attached documentation regarding no backing bar does not address the issue in the referenced Non-Conformance ZPMC-0259, which was issued for lack of sufficient preheat.

For NCR ZPMC-0259 which was issued for lack of sufficient preheat, please provide documentation of the weld repairs that were performed and that the repairs were acceptable. The Non-Destructive Testing (NDT) for this weld should be at least 72 hours after welding to ensure that there are no delayed cracks from any possible hydrogen contamination.

Submitted by: Wright, Doug

Date: 06-Aug-2009

Attachment(s):



No. T-031

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2009-6-28

REGARDING: NCR-000278 ZPMC-0252

ZPMC received NCR-000278(ZPMC-0252), the original contents is: "During random after blast visual verification of east tower ,lift 1 QA observed that there was no backing bar at 18m diaphragm weld joint ESD1-A167G/H-141".

About this NCR we have already back gouging the welds then rewelded and did the MT/VT/UT work on this weld. We also information CT people to do final VT/MT/UT on this weld again (notification 3518) and make sure no problem about this weld.

So ZPMC request CT close this NCR.

ATTACHMENT:

WR:T-WR1664

APPLICATION FORM FOT MT

APPLICATION FORM FOR UT

L: Xia Yang

09.6.28



焊缝返修报告

版本 Rev. No.

0

Welding Repair Report

项目名称 Project Name	美国海湾大桥 SFOBB	部件图号 Drawing No	ESD1-A167A/H ESD1-A165A/J	报告编号 Report No.	T-WR1664
合同号 Contract No.:	04-0120F4	部件名称 Items Name	东塔第一吊装段AE角 Tower(E) first lifting Corner AE	NDT报告编号 Report No.of NDT	NA
项目编号 Project No.:	ZP06-787	缺陷描述			

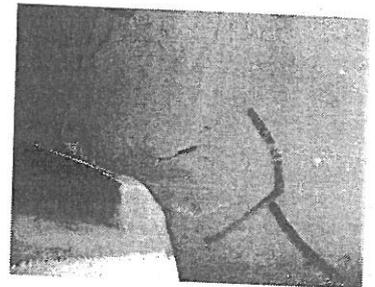
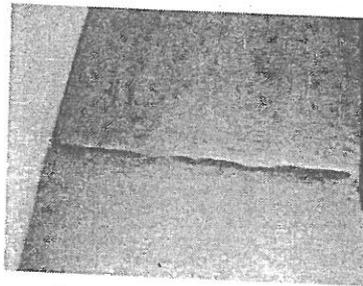
Description of welding discontinuity:

东塔第一吊装段AE角嵌补块与隔板对接缝背面衬垫由于长度不够、返修等原因造成了焊缝出现了多处不连续，需进行返修(注:18M,23M,33M,28M,43M,47.6M均有不同程度的损伤)，现已涂油漆.如图:
Several discontinuity was found at east tower first lifting corner AE flg plate and diaphragm butt weld, and needed to repair(remark: the base metal was gouged at 18m, 23m, 33m, 28m, 43m, 47.6m), and has finished paint, see the draft.

检验员 (Inspector): An Qingxiang 日期(Date): 09.06.13

焊缝返修位置示意图:

Draft of welding discontinuity:



后附探伤申请

产生原因:

Caused:

衬垫长度不够, 没有将整个焊缝盖满, 导致焊缝烧焊后出现不连续的缺陷。

The backing was shorter than weld length, so it can't weld total weld caused discontinuity defects.

车间负责人(Foreman):

Lishiqian

日期(Date):

8.6.13

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、Perform 100%MT and 100%UT to the repair area.

- 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、对修补区域做 100%MT+100%UT.

工艺: Zhang Jindong
Technical engineer

6.13/19

审核:
Approved by

日期
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.	ESD1-A167A/H ESD1-A165AJ	报告编号 Report No.	T-WR1664
合同号 Contract No.:	04-0120F4	部件名称 Items Name	东塔第一吊装段AE角 Tower(E) first lifting g Corner AE	NDT报告编号 Report No. of NDT	NA
项目编号 Project No.:	ZP06-787				

纠正措施:

Correction action to prevent re occurrence:

加强焊接过程中的监控, 焊接时衬垫必须盖满整条焊缝。

Enhance supervision in process of welding, and backing shall cover total weld during welding.

车间负责人(Foreman): *Lishi Guan* 日期(Date): *09-06-13*

参照的WPS编号 Repair WPS No.	WPS-485-FCAW-1 G(1F)-Repair WPS-485-FCAW-2 G(2F)-Repair WPS-485-SMAW-1 G(1F)-Repair WPS-485-SMAW-2 G(2F)-Repair	工艺员 technologist	<i>Zhang Jindong 6.13.13</i>
返修(碳刨)前预热温度 Preheat temperature before gouging	<i>NA</i>	返修的缺陷 Description of discontinuity	<i>修补</i>
焊前处理检查 Inspection before welding	<i>Am</i>	焊前预热温度 Preheat temperature before welding	<i>190</i>
最大碳刨深度 Max. depth of gouging	<i>NA</i>	碳刨总长 Total length of gouging	<i>NA</i>
焊工 welder	<i>Yang Zhao Yin</i>	焊接类型 welding type	<i>SMAW</i>
焊接电流 Current	<i>168</i>	焊接电压 Voltage	<i>23.6</i>
		焊接位置 position	<i>2G/2F</i>
		焊接速度 Speed	<i>103</i>

返修后检查

Inspection After repairing:

外观检查 VT result	<i>Am</i>	检验员 Inspector	<i>Ame</i> <i>07120651</i>	日期 Date	<i>09.06.15</i>
NDT复检 NDT result	<i>UT Ace</i> <i>MT Am</i>	损伤员 NDT person	<i>Zuo Gaochou</i> <i>Cui Xinxin</i>	日期 Date	<i>09.06.16</i> <i>09.06.16</i>
见证: Witness/Review:					

备注:

Remark:

#R787-QCP-900



探伤申请表

APPLICATION FORM FOR NDT

产品名称
NAME OF PRODUCT

美国海湾大桥

零部件图号 Drawing No	ESD1-A167G/H	探伤类别 Test type	MT100%	编号 No	ZP06-787		
零部件名称 Items	第一吊装段东塔 AE 角嵌补块	材料 Material	A709M-HPS-485TZ-2	数量 Quantit			
序号 No.	探伤编号 NDT No.	焊缝类型 Weld type	板厚/直径 thickness/diameter	焊工姓名 Welder name	焊工编号 Welder No.	结论 Result	备注 remark
	ESD1-A167G/H-141	对接	75*75*295	YANGZHAOYIN	047470	✓	

ESD1-A167G/H-141

141 下层

注：返修后

备注：

焊后

校火后

WR/CWR 碳刨后
WR/CWR NO: _____

WR/CWR 返修后
WR/CWR NO: F-WR1664

SPCM

其它

焊接方法 SMAW

车间位置 H2

申请人 Applicant	陈温萍	日期 Date	09.06.15	主探者 Inspected by	蔡新	日期 Date	09.06.16
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NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000250

Subject: NCR No. ZPMC-0259

Dated: 14-Aug-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000252 **Rev:** 02

Contractor's Proposed Resolution:

Reference Resolution: Attached is remedial action taken by ZPMC to prevent the recurrence of this NCR as well as supporting inspection documentation. ZPMC requests closure of this NCR.

Attached is remedial action taken by ZPMC to prevent the recurrence of this NCR as well as supporting inspection documentation. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000252R02;

Caltrans' comments:

Status: CLO

Date: 19-Aug-2009

The proposed resolution is acceptable. The weld in question has been accepted by VT and MT as shown in the attached documents, and the MT testing was done at least 72 hours after welding. The Department concurs that Non-Conformance ZPMC-0259 is closed.

Submitted by: Wright, Doug

Date: 19-Aug-2009

Attachment(s):



No. T-037

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2009-7-9

REGARDING: NCR-000285 (ZPMC-0259), NCR-000275 (ZPMC-0249)

ZPMC received NCR-000285(ZPMC-0259),NCR-000275(ZPMC-0249), it mentioned that ZPMC personnel welded North Tower Lift 3 Skin E double plate welds and North Tower Lift 2 Skin A double plate weld without the required base metal preheating according to WPS B-T-4332-TC-P6-F. The related welds no are: NSD1-FESA3-1D/D-9, NSD1-FESA3-1D/D-18, NSD1-FESA3-1C/D-9 and NSD1-SA166B/F-6.

ZPMC acknowledged this problem, and put forward ZPMC's NCR-T-040. ZPMC had already inculcated the work team to enhance the management and control of preheating, and it must be checked by QC before welding in compliance with proper WPS. Here attached the related parts' VT and NDT reports, the result shows the preheating issue didn't influence the weld quality.

So ZPMC hope CT could take a review and close these NCR.

ATTACHMENT:

NCR-000285 (ZPMC-0259)

T-VT-6598

T787-MT-4507

NCR-000275 (ZPMC-0249)

T-VT-6238

T787-MT-4246

陈建华 8/11/09



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: ZPMC-0244, ZPMC-0258 NCR 编号: NCR-T-040	
Item: inadequate preheating 名称描述: 焊缝预热温度不够	Item Number: 件号: North tower lift 3 skin E double plate North tower lift 2 skin A double plate	Drawing: 图号: NSD1-FESA3-1D/D-9, NSD1-FESA3-1D/D-18 NSD1-FESA3-1C/D-9 NSD1-SA166B/F-6	
Location: bay 10 位置: 10#车间		Date: 日期: 2009-06-03	
Description of Nonconformance: 不符合项状态描述: <p>CT inspector observed ZPMC personnel welding North Tower Lift 3 Skin E double plate welds NSD1-FESA3-1D/D-9, NSD1-FESA3-1D/D-18, NSD1-FESA3-1C/D-9 and North tower lift 2 skin A double plate weld NSD1-SA166B/F-6 without the required base metal preheating. According to the WPS B-T-4332-TC-P6-F requires a minimum base material preheat temperature of 180 degree Celsius, yet the 180 degree Celsius indicating crayon adjacent to welds was unmelted.</p> <p>加州检验员发现 ZPMC 在对北塔第三吊装段 E 面板双层板焊缝 NSD1-FESA3-1D/D-9, NSD1-FESA3-1D/D-18, NSD1-FESA3-1C/D-9 以及北塔第二吊装段 A 面板双层板焊缝 NSD1-SA166B/F-6 进行焊接时预热温度不够没有达到 WPS B-T-4332-TC-P6-F 最低 180℃的要求。</p>			
Work By: 施工方: <i>B. M. J.</i>	Prepared by: <i>Zhang Jindao</i> 准备: 2009.6.4	Reviewed by QCE: <i>Lujianhua</i> 质量工程师批准: 6/4/09	
<input type="checkbox"/> Drawing Error 图纸错误 <i>69.6.4</i>	<input type="checkbox"/> Material Defect 材料缺陷	<input checked="" type="checkbox"/> Fabrication Error 制作错误	<input type="checkbox"/> Other 其他原因
Disposition: 处理措施:	<input type="checkbox"/> Use as is 回用	<input type="checkbox"/> Repair 返修	<input type="checkbox"/> Reject 拒收
Recommendation: 建议: <p>1) 加强对预热温度的控制, 焊接前必须经QC确认。 2) 严格执行按照 WPS 要求进行制作。</p> <p>1) Enhance controlling preheat and it start check by qc before welding 2) perform according to WPS requirement.</p>			
Prepared by: <i>Du Wenli</i> 准备	Approved by QCA: <i>Lujianhua</i> 质量经理批准		

Reason for Nonconformance:

不符合原因:

焊缝区域加热方法不正确, 导致焊缝层间温度不够, 且加热过程中测量工具控制不到位.

Heat method was incorrect caused interpass temperature was inadequately in process of heating and measure tool was inadequately.

Prevention of Re-occurrence:

预防措施:

加强焊缝层间温度控制, 提高焊工责任心, 焊接过程中监督控制及加热过程中监督控制, 加大抽检力度.

Enhance controlling interpass temperature to improve welder responsibility.

Enhance supervision of heating.

Approved by/批准:



66

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: _____

#R787-QCP-1300

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

Failure

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 26-May-2009

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: 05.03.06-000240

Subject: NCR No. ZPMC-0249

Reference Description: Preheat / North Shaft Lift 3 Skin E / Doubler Plate to Skin Plate Weld

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: 03

Remarks:

QA observed ZPMC personnel welding North Tower, Skin E, Lift 3 doubler plate welds NSD1-FESA3-1D/D-9, NSD1-FESA3-1DD-18 and NSD1-FESA3-1C/D-9 without the required base metal preheat.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance including documentation that the welds placed are in compliance with the contract requirements. In addition to the material/workmanship non-conformance, propose a resolution that addresses the failure of Quality Control to identify the lack of preheat of the base material. Provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

Recent failures by Quality Control to identify Production's failure to perform the required preheating of the material have resulted in the issuance of NCR ZPMC-0202, ZPMC-0233 and an additional Incident Report concerning lack of preheating on 03/28/09 (Tower).

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0249

cc: Rick Morrow, Gary Pursell, Mark Woods, Jason Tom

File: 05.03.06

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 #: 04-0120F4City: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000275

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 25-May-2009

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

NCR #: ZPMC-0249

Type of problem:Welding Concrete Other Welding Curing Procedural Joint fit-up Coating Other Procedural Procedural

Bridge No: 34-0006

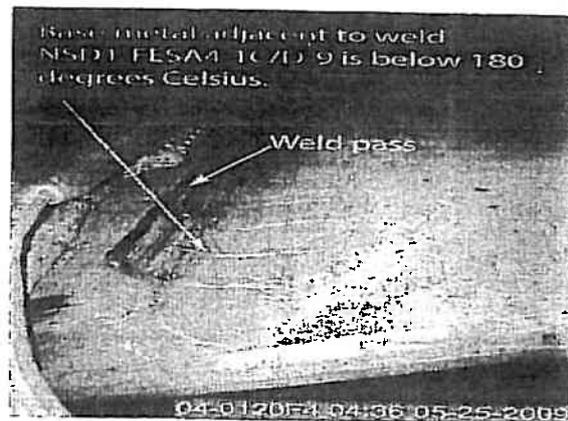
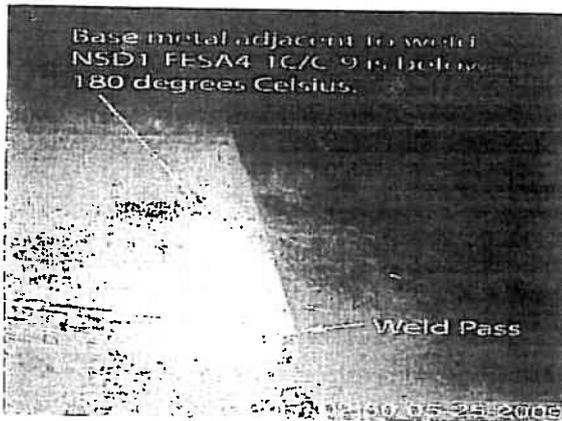
Component: North Tower, Lift 3, Skin E

Description: North Tower, Lift 3, Skin E

Reference Description: Inadequate preheat on North Tower, Lift 3, Skin E doubler plate welds

Description of Non-Conformance:

QA observed ZPMC personnel welding North Tower, Skin E, Lift 3 doubler plate welds NSD1-FESA3-1D/D-9, NSD1-FESA3-1DD-18 and NSD1-FESA3-1C/D-9 without the required base metal preheat. The photographs below indicate an unmelted 180 degree Celsius temperature indicating crayon adjacent to welds NSD1-FESA3-1C/D-9 and NSD1-FESA3-1D/D-9.

**Applicable reference:**

Welding procedure WPS B-T-4332-TC-P6-F requires a minimum base material preheat temperature of 180 degrees Celsius.

Who discovered the problem: Paul Dawson

Name of individual from Contractor notified: Zhang Qin Jian

Time and method of notification: 5-25-09, 04:40; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 5-25-09, 13:00; Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name:

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod,Serge

ASMR

Reviewed By: Wahbeh,Mazen

SMR

1-VI-62)8



周数
日期

71#

2009.05.26

Visual Weld Inspection Report
焊缝目视检查报告

Girder/梁: 3rd lifting
Tower/塔: Tower (N) Skin E
Quality Control Representative: Xu Jun
质检代表: Xu Jun
CWI: huiyanggao
检验员: huiyanggao
Quality Assurance Manager ~Approval: Lu Jianhua
质量控制经理: Lu Jianhua

Caltrans Contract No. 州合同编号: 04-0120F4
Project No.: 项目名称: San Francisco Oakland Bay Bridge 美国海湾大桥
Project No.: 项目编号: ZP06-787

Weld No. 焊缝编号	Welder I.D.# 焊工识别号	Location 位置	Welding consumables 焊接材料	Undercut 咬边	Porosity 气孔	Over lap 焊瘤	Crater 弧坑	Arc strike 电弧擦伤	Spatters 飞溅	Crack 裂纹	Accept or Reject 接受或拒收	Repair 返修	Accept or Reject after repair 返修后接受或拒收
NSD1-FESA3-1C/D-9	068858	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1C/D-1	066482	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1C/D-2	068858	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1D/D-9	066482	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1D/D-1	068858	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1D/D-2	066482	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1D/D-18	068858	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1D/D-10	066482	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
NSD1-FESA3-1D/D-11	068858	2G	K-71TSR	✓	✓	✓	✓	✓	✓	✓	ACC	NA	NA
<input checked="" type="checkbox"/> After root weld <input type="checkbox"/> After CWR or WRR No.:													

After cover pass
 After HSR No.: HSR1(T) - Others

#R787-QCP-603

"✓" is no defects. "X" is defects. "NA" is not applicable.



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-4246 DATE日期 2009.05.26 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: NSD1-FESA3-1C/D(D/D) THE 3RD LIFTING TOWER(N) SKIN E 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. 28 ST , 2009
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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
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MAGNETIZING METHOD 磁化方法 Continuous magnetic yoke 磁轭式连续法	CURRENT 电流 AC
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PARTICLE TYPE 磁粉类型 Dry magnet powder 干磁粉	YOKE SPACING 磁轭间距 70~150mm
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MATERIAL TO BE EXAMINED 检测材料 <input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度 A709M-345T2 A709M-HPS-485WT2 55/75/100 mm
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WELDING PROCESS 焊接方法 FCAW	TYPE OF JOINT 焊缝类型 T JOINT
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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			
NSD1-FESA3-1C/D-9				ACC.		100%MT
NSD1-FESA3-1C/D-1				ACC.		100%MT
NSD1-FESA3-1C/D-2				ACC.		100%MT
NSD1-FESA3-1D/D-9				ACC.		100%MT
NSD1-FESA3-1D/D-1				ACC.		100%MT
NSD1-FESA3-1D/D-2				ACC.		100%MT
NSD1-FESA3-1D/D-18				ACC.		100%MT
NSD1-FESA3-1D/D-10				ACC.		100%MT
NSD1-FESA3-1D/D-11				ACC.		100%MT

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EXAMINED BY主探 Gu Yunwu <i>[Signature]</i>	REVIEWED BY审核 <i>[Signature]</i>
LEVEL-II SIGN 签名 / DATE日期 Lv Jianhua 2009.06.02	LEVEL-II SIGN / DATE日期 2009.05.26
质量经理 / QCM <i>[Signature]</i>	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE



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: 01-Jun-2009

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: 05.03.06-000250

Subject: NCR No. ZPMC-0259

Reference Description: Preheat / North Shaft Lift 2 Skin A / Doubler Plate

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:** 02

Remarks:

QA observed ZPMC personnel welding North Tower, Lift 2, Skin A doubler plate weld NSD1-SA166B/F-6 without preheating the weld and adjacent base material.

Welding procedure WPS-B-T-4332-TC-P6-F requires a minimum base material preheat temperature of 180 degrees Celsius.

Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance including documentation that the welds placed are in compliance with the contract requirements. In addition to Production's failure to perform the required preheat of the base material, address the failure of Quality Control to identify the lack of preheat. Provide documentation of the steps/actions taken with Production and Quality Control to prevent future occurrences.

Recent failures by Quality Control to identify and Production to perform the required preheating of the material have resulted in the issuance of NCR ZPMC-0202, ZPMC-0233, ZPMC-0249 and an additional Incident Report concerning lack of preheating on 03/28/09 (Tower).

Transmitted by: Scott Kennedy Sr. Bridge Engineer
Attachments: ZPMC-0259

cc: Rick Morrow, Gary Pursell, Mark Woods, Jason Tom
File: 05.03.06

02:02:15 04
 05.03.06-000250,NCT

Received
 NCT-000250 01 Jun 09 Page 1 of 1

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 #: 04-0120F4
 Cty: SF/ALA Rte: 80 PM: 13.2/13.9
 File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC

Report No: NCR-000285

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 28-May-2009

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

NCR #: ZPMC-0259

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural

Bridge No: 34-0006

Component: North Tower, Lift 2

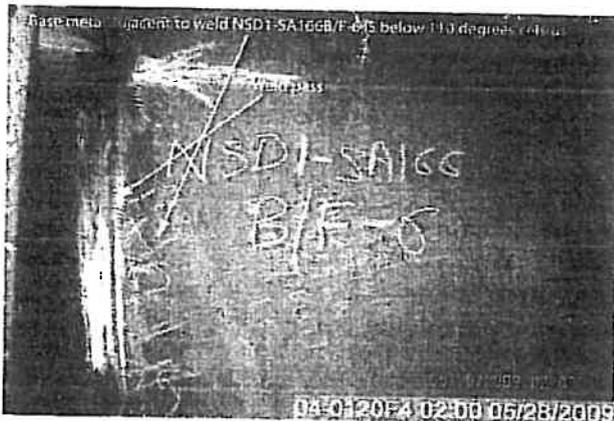
Description: Inadequate pre-heat on North Tower, Lift 2, Skin A

Reference Description:

Inadequate pre-heat on North Tower, Lift 2, Skin A Doubler Plate

Description of Non-Conformance:

QA observed ZPMC personnel welding North Tower, Lift 2, Skin A doubler plate weld NSD1-SA166B/F-6 without preheating the weld and adjacent base material.



Applicable reference:

Welding procedure WPS-B-T-4332-TC-P6-F requires a minimum base material preheat temperature of 180 degrees Celsius.

Who discovered the problem: Shrikant Utekar

Name of individual from Contractor notified: Wen Zhang Wan

Time and method of notification: 9:00, 5/28/2009; Verbal

Name of Caltrans Engineer notified: Scott Kennedy

Time and method of notification: 13:00, 5/28/2009; Verbal

QC Inspector's Name:

Was QC Inspector aware of the problem:

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod,Serge

ASMR

Reviewed By: Wahbeh,Mazen

SMR



REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 T787-MT-4507		DATE日期 2009.06.13	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: NSD1-SA166B/F Tower(N) 2nd lifting skin A and stiffener		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. 28 ST , 2009	
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	<input checked="" type="checkbox"/> WELDING 焊接件 <input type="checkbox"/> CASTING 铸件 <input type="checkbox"/> FORGING 锻造	Material & thickness 母材, 厚度	A709M-345T2-Z 50/90mm	
WELDING PROCESS 焊接方法	FCAW	TYPE OF JOINT 焊缝类型	T-JOINT	

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			
NSD1-SA166B/F-6				ACC.		100%MT
NSD1-SA166B/F-8				ACC.		100%MT
BLANK						

EXAMINED BY 主探 Gu Yunwu <i>Gu Yunwu</i> LEVEL-II SIGN 签名 / DATE日期 <i>09.06.13</i>	REVIEWED BY 审核 <i>Xu Hai</i> LEVEL-II SIGN / DATE日期 <i>09.06.13</i>
质量经理 / QCM <i>Liu...</i> 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, PRC**Report No:** NCS-000286**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0259**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: 28-May-2009**Description of Non-Conformance:**

QA observed ZPMC personnel welding North Tower, Lift 2, Skin A doubler plate weld NSD1-SA166B/F-6 without preheating the weld and adjacent base material.

Contractor's proposal to correct the problem:

Submit NDT results indicating sound weld.

Corrective action taken:

NDT results indicating a sound weld have been submitted. ABF QCM has informed ZPMC QC to educate the persons performing the pre-heat of the WPS requirements to pre-heat based on material thickness and that tack welding has the same requirements as the balance of the welding. ABF QCM has explained the consequences of hydrogen embrittlement and that these thicker materials should be heated from the opposite side to ensure through thickness heat distribution.

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By: Sinevod, Serge

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer