

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-000419

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 22-Sep-2009

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

NCR #: ZPMC-0393

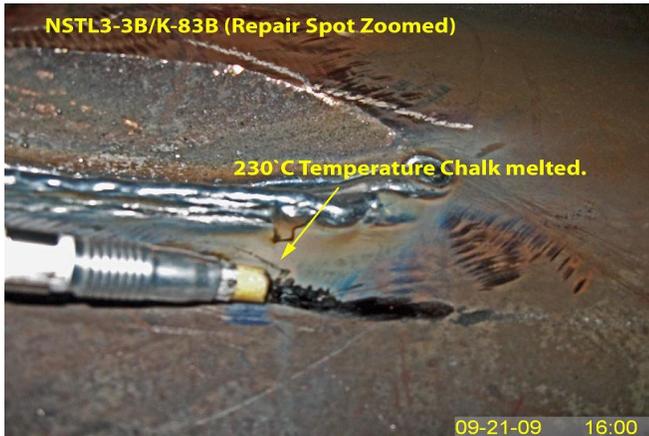
Type of problem:

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: North Tower
Procedural	Procedural	Description: North Tower, Lift 3	

Reference Description: Excessive interpass temperature during repair of North Tower, Lift 3, AB corner seam weld

Description of Non-Conformance:

During In-Process Visual Testing (VT) of weld repairs on North Tower, Lift 3, AB corner seam weld NSTL3-3B/K-83, QA observed that the temperature of adjacent base metal was above the maximum allowable interpass temperature (230 C). A 230 degrees Celsius temperature crayon melted when applied to the adjacent base material. The repair was being performed in presence of ZPMC Quality Control Personnel.



Applicable reference:

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.”

Welding Procedure Specification WPS-345-FCAW-2G(2F)-Repair specifies a maximum interpass temperature of 230 degrees Celsius.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Who discovered the problem: Amit Juvekar
Name of individual from Contractor notified: Steve Lawton
Time and method of notification: 9/21/2009, 16:00; Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 9/22/2009, 10:00; Verbal
QC Inspector's Name: Du Zhiqun
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

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000380

Subject: NCR No. ZPMC-0393

Dated: 23-Oct-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000412 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC will provide NDT documentation which shows that the repair weld was not adversely affected by the increased interpass temperature. Documentation will be submitted when available.

ZPMC will provide NDT documentation which shows that the repair weld was not adversely affected by the increased interpass temperature. Documentation will be submitted when available. ZPMC requests that this proposed action be approved, with action pending.

Submitted by:

Attachment(s): ABF-NPR-000412R00

Caltrans' comments:

Status: REJ

Date: 18-Nov-2009

In addition to the referenced forthcoming documentations, please address the failure of QC and Production to identify the non-conformance and steps taken to prevent the future occurrences. Please address all items in the Department's transmittal letter to close this Non-conformance ZPMC-0393.

Submitted by: Lee, Ken

Date: 18-Nov-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000380

Subject: NCR No. ZPMC-0393

Dated: 30-Nov-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000412 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC is providing NDT documentation of the corner seam weld which was performed more than 72 hours after the non conformance was observed. The documentation shows that the weld is acceptable.

ZPMC is providing NDT documentation of the corner seam weld which was performed more than 72 hours after the non conformance was observed. The documentation shows that the weld is acceptable. ZPMC acknowledges that in this case the interpass temperature exceeded the maximum allowable temperature. The ZPMC QA Department has discussed this non conformance with the production team responsible for this non conformance and stressed the importance of controlling the interpass temperature, and following the WPS. The QC inspector was reminded to ensure compliance with the approved WPS when observing welding. Based on this ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000412R01;

Caltrans' comments:

Status: CLO

Date: 10-Dec-2009

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0393 is closed.

Submitted by: Lee, Ken

Date: 10-Dec-2009

Attachment(s):



No. T-095

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2009-11-26

REGARDING: NCR-000419(ZPMC-0393)

ZPMC received NCR-000419(ZPMC-0393), it mentioned that QA observed that the temperature of adjacent base metal was above the maximum allowable inter-pass temperature(230°C) during in-process VT of weld repair on North Tower Lift 3 weld no. NSTL3-3B/K-83.

ZPMC acknowledged this problem and 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. ZPMC suggested re-inspecting this area after 72 hours to insure the weld quality. Here attached the related inspection reports to prove the weld was sound.

So ZPMC hope Caltrans could take a review and close this NCR.

ATTACHMENT:

T-CWR274REV2

T787-UT-2133R5

T787-MT-6756

Zhang Jindui

2009. 11. 26

DEPARTMENT OF TRANSPORTATION - District 4 Toil 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: 22-Sep-2009
Contract No: 04-0120F4
04-SF-80-13.2 / 13.9
Job Name: SAS Superstructure
Document No: 05.03.06-000380
Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0393

Reference Description: Excessive Interpass Temperature / North Shaft Lift 3 / A-B Corner Seam Weld Repair

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:

During In-Process Visual Testing (VT) of weld repairs on North Tower, Lift 3, AB corner seam weld NSTL3-3B/K-83, QA observed that the temperature of adjacent base metal was above the maximum allowable interpass temperature (230 C). A 230 degrees Celsius temperature crayon melted when applied to the adjacent base material. The repair was being performed in presence of ZPMC Quality Control Personnel.

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."

Welding Procedure Specification WPS-345-FCAW-2G(2F)-Repair specifies a maximum interpass temperature of 230 degrees Celsius.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance including the steps/actions that will be taken to ensure that Production achieves and maintains the required temperature ranges.

In addition to the material/workmanship non-conformance, propose a resolution that addresses the failure of Quality Control to identify and/or take corrective actions. Provide documentation of the steps/actions taken by the Quality Control Manager to prevent future occurrences.

Transmitted by: Scott Kennedy Sr. Bridge Engineer

Attachments: ZPMC-0393

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe

File: 05.03.06

05.03.06-000380,NCT

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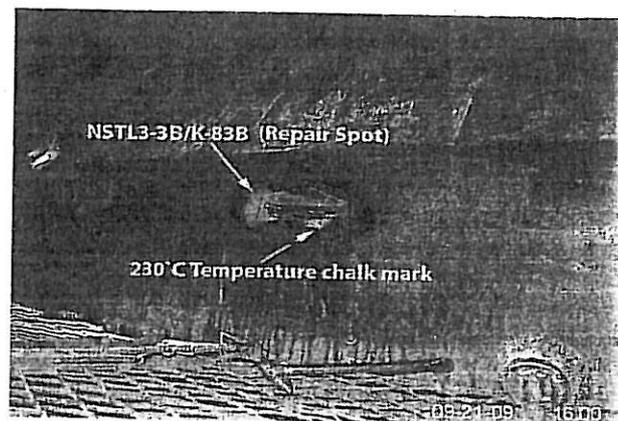
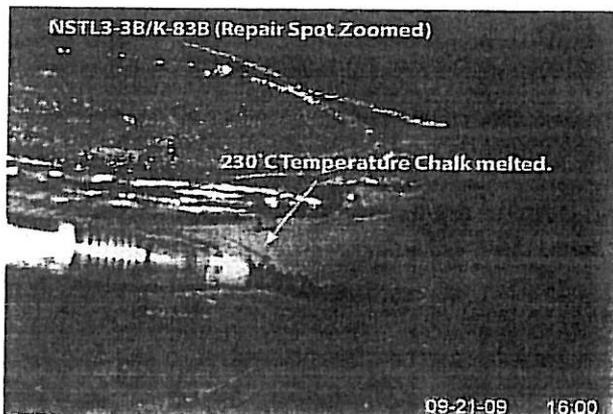
Type of problem:

Welding Concrete Other
Welding Curing Procedural Bridge No: 34-0006
Joint fit-up Coating Other Component: North Tower
Procedural Procedural Description: North Tower, Lift 3

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QC Inspector's Name: Du Zhiqun
Was QC Inspector aware of the problem: Yes No..
Contractor's proposal to correct the problem:

Comments:

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



关键焊缝返修报告
Critical Welding Repair Report (CWR)

版本
Rev. No.:

2

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	NSTL3-3B/K	报告编号 Report No.:	T-CWR274
合同号 Contract No.:	04-0120F4	部件名称 Item Name:	THIRD LIFTING TOWE R(N) ANGLE AB	NDT 报告编号 NDT Report No.:	T787-UT-2133R4
项目编号 Project No.:	ZP06-787				

焊缝缺陷描述:

Description of Welding Discontinuity:

Rejected indication found by ultrasonic inspection at third time.
(UT探伤返修第三次。) NSTL3-3B/K-83A/B

Welder ID No. (焊工编号): 040343 048627 Position:(位置): 2G

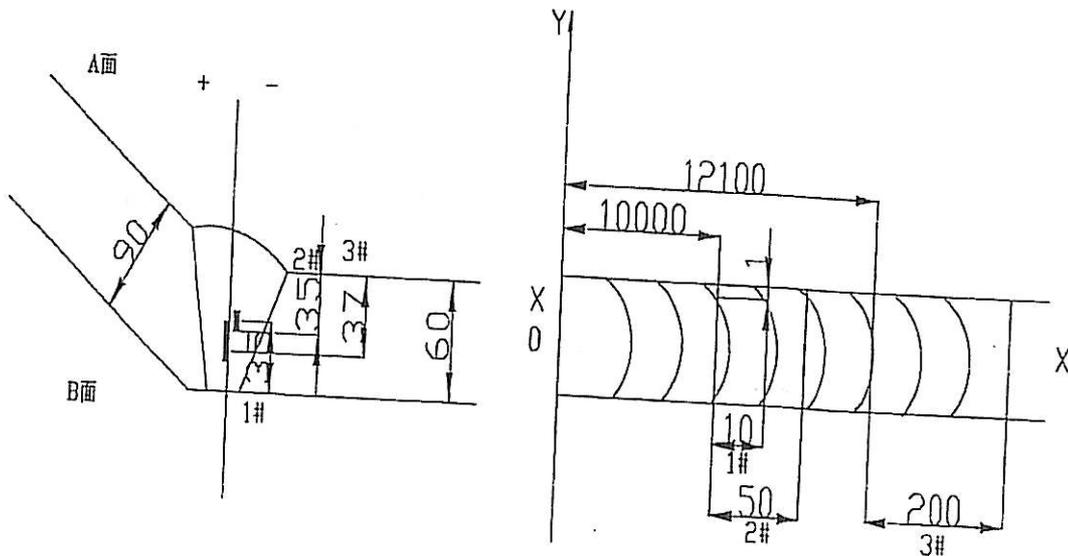
Tang Xingshan

检验员 (Inspector): Tang Xingshan

日期 (Date): 2009.10.30

焊缝返修位置示意图:

Draft of Welding Discontinuity:



WELD NUMBER: NSTL3-3B/K-83A/B

This document is APPROVED
State of California
DEPARTMENT OF TRANSPORTATION
in accordance with Section 5.1.02 of the
Standard Specifications
SPK Date 11/03/09



关键焊缝返修报告

Critical Welding Repair Report (CWR)

版本
Rev. No.:

2

项目名称 Project Name:	美国海湾大桥 SFOBB	部件图号 Drawing No.:	NSTL3-3B/K	报告编号 Report No.:	T-CWR274
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项目编号 Project No.:	ZP06-787				

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 碳刨打磨后, 要圆滑过度, VT和MT确认所有的缺陷已经去除;
 2. 教导在烧熔透焊缝和焊道清理时, 焊工必须负责任;
 3. 关键焊缝返修时, 主要的QC负责人要在现场;
1. Grind smoothly transition after gouging. Perform VT and MT to ensure all the defects have been removed.
 2. Instruct the welder that it is his responsibility to produce sound welds and perform interpass cleaning.
 3. Greater QC presence during critical welding operations.

车间负责人 (Foreman):

Lu Yefei

日期 (Date):

9.10.30

参照的WPS编号 Repair WPS No.:	WPS-345-FCAW-1 G (1F) -Repair WPS-345-FCAW-2 G (2F) -Repair WPS-345-SMAW-1 G(1F)-Repair WPS-345-SMAW-2 G(2F)-Repair	工艺员 Technologist:	Zhou Jindong 9.10.30
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 Gouge:		碳刨总长 Total Length of Gouge:	
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 Repair:**

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

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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, PRC**Report No:** NCS-000377**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 02-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0393**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: 22-Sep-2009**Description of Non-Conformance:**

During In-Process Visual Testing (VT) of weld repairs on North Tower, Lift 3, AB corner seam weld NSTL3-3B/K-83, QA observed that the temperature of adjacent base metal was above the maximum allowable interpass temperature (230 C). A 230 degrees Celsius temperature crayon melted when applied to the adjacent base material. The repair was being performed in presence of ZPMC Quality Control Personnel.

Contractor's proposal to correct the problem:

Notify ZPMC to increase QC monitoring of interpass temperature.

Corrective action taken:

ZPMC has instructed the production personnel to improve the control of interpass temperature. Furthermore, NDT reports have been submitted indicating that the affected weld is sound.

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:**

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Inspected By: Sinevod, Serge

Quality Assurance Inspector

Reviewed By: Wahbeh, Mazen

QA Reviewer