

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



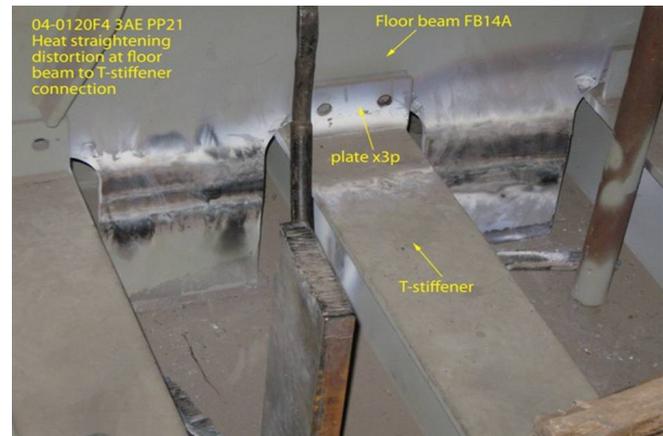
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-000286**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 27-May-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0260**Type of problem:****Welding****Concrete****Other****Welding****Curing****Procedural****Bridge No:** 34-0006**Joint fit-up****Coating****Other****Component:** FB014-003, Segment 3AE**Procedural****Procedural****Description:****Reference Description:** Unapproved Heat Straightening, Segment 3AE**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed that ZPMC personnel performed heat straightening on FB014-003 (Segment 3AE, PP021). The 12mm plate was adjusted by 17mm in a span of 355mm (48 in 1000).

This exceeds the Special Provisions requirement of 6 in 1000 (for members less than or equal to 16mm thick).

ZPMC performed the heat straightening without the required Engineer's approval.

**Applicable reference:**

Contract Special Provisions, Section 8.3: "For material less than or equal to 16 mm thick, the Contractor shall not heat straighten members more than 6 in 1000 without prior approval of the Engineer."

CALTRANS Standard Specifications July 1999 Section 55-3.02, STRAIGHTENING MATERIAL: "Rolled material before being laid out or worked shall be straight. Subassemblies and completed members shall be straight before being incorporated into the work. If straightening is necessary, it shall be done by methods acceptable to the Engineer. Details for methods proposed for straightening shall be submitted in writing to the Engineer prior to their use. After straightening, evidence of fracture or other damage will be cause for rejection

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

of the material.”

Who discovered the problem: Mark J. Miller

Name of individual from Contractor notified: Larry Luo

Time and method of notification: 1400 hours, 05-27-09, Verbal

Name of Caltrans Engineer notified: Stanley Ku, Ching Chao

Time and method of notification: 1845 hours, 05-28-09, Email

QC Inspector's Name: Wang Lu

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 Skyler Guest, (86) 1500.042.2360, who represents the Office of Structural Materials for your project.

| | | |
|----------------------|---------------|-----|
| Inspected By: | Guest, Skyler | SMR |
|----------------------|---------------|-----|

| | | |
|---------------------|---------------|-----|
| Reviewed By: | Wahbeh, Mazen | SMR |
|---------------------|---------------|-----|



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
666 Feng Bin Road Room 708, Changxing Island
Shanghai 201913 PR China
Tel: 021-56856666 ext 207061 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 02-Jun-2009

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-0260

Job Name: SAS Superstructure
Document No: 05.03.06-000251

Reference Description: Unapproved Heat Straightening, Segment 3AE

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:**

Remarks:

Caltrans Quality Assurance (QA) Inspector observed that ZPMC personnel performed heat straightening on FB014-003 (Segment 3AE, PP021). The 12mm plate was adjusted by 17mm in a span of 355mm (48 in 1000). This exceeds the Special Provisions requirement of 6 in 1000 (for members less than or equal to 16mm thick). ZPMC performed the heat straightening without the required Engineer's approval.

Action Required and/or Action Taken:

Please propose a resolution for the identified non-conformance to prevent future occurrences.

Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0260

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, 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: 05.03.06-000251

Subject: NCR No. ZPMC-0260

Dated: 22-Jun-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000253 **Rev:** 00

Contractor's Proposed Resolution:

Reference Resolution: ABF has instructed ZPMC to provide an HSR that properly documents the method of heat straightening, furthermore, ZPMC is to address all affected welds by providing the necessary NDT reports.

ABF has instructed ZPMC to provide an HSR that properly documents the method of heat straightening, furthermore, ZPMC is to address all affected welds by providing the necessary NDT reports. ZPMC has been instructed by the ABF QCM to perform heat straightening in strict accordance with the special provisions. ZPMC will provide the required documentation at a later date.

Submitted by:

Attachment(s): ABF-NPR-000253R00

Caltrans' comments:

Status: AAP

Date: 25-Jun-2009

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

Please provide documentation of the heat straightening that was performed and inspection documents on all affected welds. The Department will review the Contractor's proposal to close Non-Conformance ZPMC-0260 at that time.

Submitted by: Wright, Doug

Date: 25-Jun-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000251

Subject: NCR No. ZPMC-0260

Dated: 27-Jul-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000253 **Rev:** 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

ZPMC has responded to this NCR and has attached documents as evidence of completion. ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000253R01;

Caltrans' comments:

Status: CLO

Date: 07-Aug-2009

The proposed resolution is acceptable. The heat straightening record is included, and the welds in question (FB014-003-003 and FB014-003-004) have been accepted by VT and MT as shown in the attached documents. The Department concurs that Non-Conformance ZPMC-0260 is closed.

Submitted by: Wright, Doug

Date: 07-Aug-2009

Attachment(s):



No. B-411

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-7-22

REGARDING: NCR-000256 (ZPMC-0260)

With this letter of response, ZPMC requests closure for Caltrans **NCR-000256 (ZPMC-0260)**. Per the comments of the NPR "please provide the documentation of the heat straightening that was performed and inspection documents on all affected welds". Therefore we provide the attached HSR1 and process checking report, and the VT/MT final inspection report to support the good quality of the base metal corrected surface.

So base on the above explanation and attached documentations, ZPMC applies to close the caltrans's report **NCR-000256 (ZPMC-0260)**.

Please reference attached documentation for acceptance and closure the **NCR-000256 (ZPMC-0260)**.

ATTACHMENT:

NCR-000256 (ZPMC-0260)

The heat straightening record

The heat straightening process checking record

The final VT/MT report

Zhao Shuangbao

2009. 7. 22



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-169 (ZPMC-260) | |
| Item: unapproved heat straightening 名称描述: 没有批准的校火 | Item Number: OBG 3AE 件号: OBG 3AE | Drawing: FB014 图号: FB014 | |
| Location: OBG 3AE 位置: | | Date: 2009-06-06 日期: | |

Description of Nonconformance:

Caltrans Quantity Assurance (QA) Inspector observed that ZPMC personnel performed heat straightening on FB014-003 (Segment 3AE, PP21). The 12mm plate was adjusted by 17mm in a span of 355mm (48 in 1000). This exceeds the Special Provisions requirement of 6 in 1000 (for members less than or equal to 16mm thick). ZPMC performed the heat straightening without the required Engineer's approval.

加州检验员发现 ZPMC 在 3AE, PP21 位置的 FB014-003 上, 没有工程师批准的校火报告就进行校火。12 毫米的钢板在 355 毫米的长度内调整了 17 毫米。这个不符合标书规定的 6/1000 的校火报告要求 (小于 16 毫米的板厚)。

| | | |
|---|--|---|
| Work By: Xia Fa Lin 施工方: Xia Fa Lin | Prepared by: Shen Xuejun 准备: 2009.6.6 | Reviewed by QCE: [Signature] 质量工程师批准: 2009.6.6 |
| <input type="checkbox"/> Drawing Error 图纸错误 | <input type="checkbox"/> Material Defect 材料缺陷 | <input checked="" type="checkbox"/> Fabrication Error 制作错误 |
| <input checked="" type="checkbox"/> Other 其他原因 | | |

| | | |
|---|---------------------------------------|---------------------------------------|
| Disposition: <input type="checkbox"/> Use as is 处理措施: 回用 | <input type="checkbox"/> Repair 返修 | <input type="checkbox"/> Reject 拒收 |
|---|---------------------------------------|---------------------------------------|

见校火报告 66

Recommendation:
建议:

Prepared by: _____ Approved by QCA: _____
准备 质量经理批准

Reason for Nonconformance:
不符合原因: 由于 3AE 处 PP21 位置的 FB014-003 上, 没有校火报告进行校火。
Heat straighten FB014-003 at 3AE pp21 without report. HSR(B)-66

Prevention of Re-occurrence:
预防措施: 加强现场监控或检查 Enhance supervision and check on-site.

Approved by/批准: Gao Tan 09.26.07

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

Wu zhi cheng
08.21.51

Verified by QCI/质检确认: _____ Reviewed by QCA/质检主任审核: _____

#R787-QCP-1300



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Shanghai 201913 PR China
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NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 02-Jun-2009

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-0260

Job Name: SAS Superstructure
Document No: 05.03.06-000251

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Transmitted by: Stanley Ku Sr. Bridge Engineer

Attachments: ZPMC-0260

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Brian Boal, Doug Coe, Jason Tom, Ching Chao

File: 05.03.06

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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-000286

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 27-May-2009

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

NCR #: ZPMC-0260

Type of problem:

Welding Concrete Other

Welding Curing Procedural Bridge No: 34-0006

Joint fit-up Coating Other Component: FB014-003, Segment 3AE

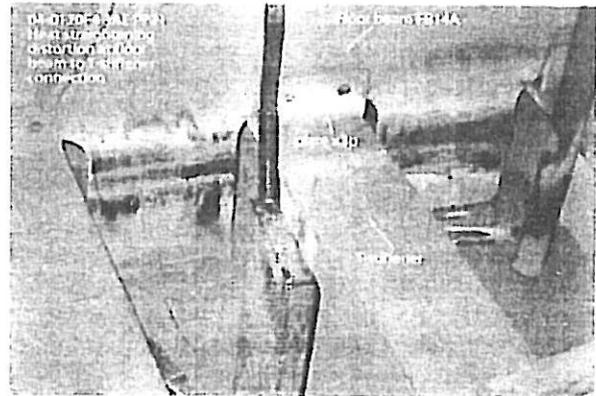
Procedural Procedural Description:

Reference Description: Unapproved Heat Straightening, Segment 3AE

Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector observed that ZPMC personnel performed heat straightening on FB014-003 (Segment 3AE, PP021). The 12mm plate was adjusted by 17mm in a span of 355mm (48 in 1000).

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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Who discovered the problem: Mark J. Miller

Name of individual from Contractor notified: Larry Luo

Time and method of notification: 1400 hours, 05-27-09, Verbal

Name of Caltrans Engineer notified: Stanley Ku, Ching Chao

Time and method of notification: 1845 hours, 05-28-09, Email

QC Inspector's Name: Wang Lu

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 Skyler Guest, (86) 1500.042.2360, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

Reviewed By: Wahbeh, Mazen

SMR



火工校正记录

Heat Straightening Record(HSR1)

报告号 Record#

HSR1(B)-6659

版本号 Revision #

0

日期 Date

2009.05.27

美国海湾大桥 San Francisco Oakland Bay Bridge

CALTRANS #04-0120F4

工程编号 JOB#: ZP06-787

装配 Assembly:

质检代表/Quality Control Representative

部装 Sub-Assembly:

梁段 Gird: 3AE FB014

质检经理/Quality Assurance Manager-Approval

塔段 Tower:

N/A

焊缝号 Weld No:

N/A

焊缝地图号 Weld Map No:

FB014-003

情况描述 Description of Condition

Cause 原因 Welding distortion 焊接变形

Type of Defect 缺陷类型 Welding distortion 焊接变形

Inspection Method 检查方法 Visual 目检

处置方法 Disposition

缺陷去除方法(Defect Removal Method): Flame Straightening by oxygen acetylene

后续NDE(Post-Removal NDE):

After finishing heat straightening, the weld of the heat area shall perform NDT according to the approved shop drawing 校火后, 根据图纸要求对热影响区域进行 NDT 检测。

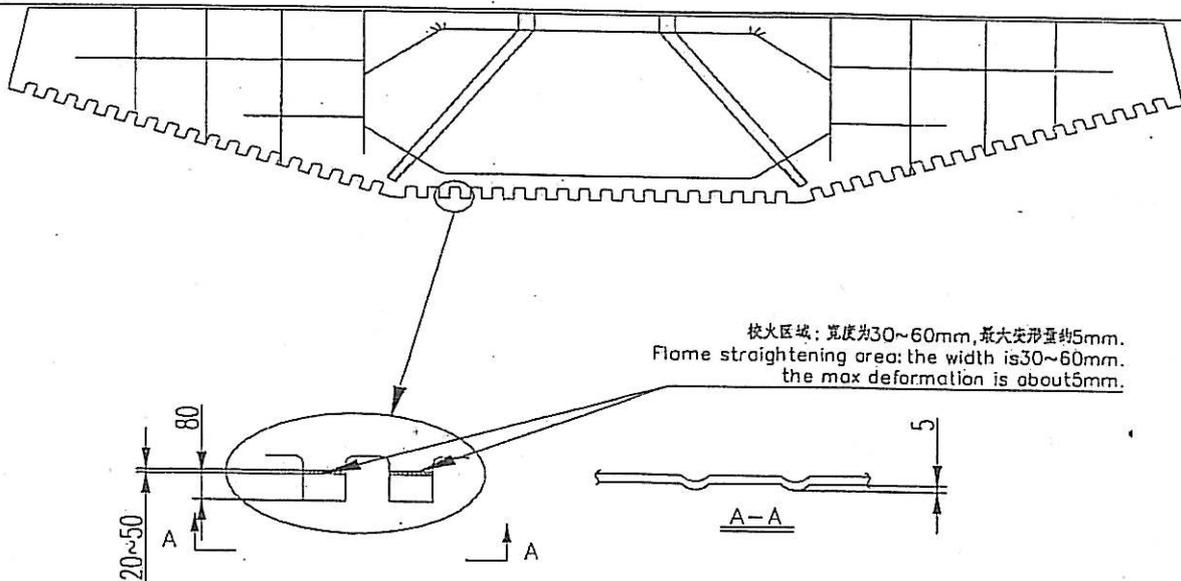
纠正措施(Corrective Action(s)):

Control current, voltage and weld speed according to relevant WPS. If necessary anti-deformation or hold down device can be added. 依据相应的 WPS 的要求控制电流, 电压和焊接速度。如有必要,

实施次数(Number of application): 1~3

最高温度(Maximum temperature): <650°C

简图 Sketch



To be signed when Closing HSR~Verify compliance and all necessary reports are ready to attach

检验员 Inspector:

Wuzhi cheng

签字 Signature:

CWI #

08021751

II 级探伤 NDE Certification:

Level II

Closing Date:

2009.7.18

质检经理 QC Manager

审核日期 Review Date:

Note: All repair work shall be performed in accordance with applicable CALTRANS approved procedures, contract specifications and AWS D1.5 2002.

#R787-QCP-1101

Approved by Lufanhua 5/27/09



美国钢桥钢板平整度火工校正检查记录卡
The report of steel plate heat straightening process checking

| | | |
|--|---------------------------------|--|
| 工程编号: The serial no. of project: 2P06-787 | 图号: The drawing no.: 0BE3 | 构件名称: The part name: 隔板 |
| 材质: Material: NA | 炉批号: The heatno of plate: NA | 火工校正次数: The times of heat straightening: 1次 |
| 移位是否正确: Material mark checking: NA | 钢板编号: Plate ID: NA | 桥段名称: Section name: 第三段 |

火工校正温度控制 The temperature record of heat straightening

| | | | | |
|-------------------------|-------|-------|-------|-------|
| 检查时间 Checking time: | 10:10 | 10:20 | 10:45 | 11:10 |
| 测量温度 Measure result: | 600c | 580c | 550c | 400c |

校火前平整度测量 Flatness checking before heat straightening (mm)

| | | | | | | | | | |
|--------------------------|------|------|------|------|--|--|--|--|--|
| 测量点 Measure position: | ① | ② | ③ | ④ | | | | | |
| 测量值 Measure result: | 4 mm | 5 mm | 5 mm | 4 mm | | | | | |

校火后平整度测量 Flatness checking after heat straightening (mm)

| | | | | | | | | | |
|--------------------------|--------|------|--------|--------|--|--|--|--|--|
| 测量点 Measure position: | ① | ② | ③ | ④ | | | | | |
| 测量值 Measure result: | 0.9 mm | 1 mm | 0.8 mm | 0.7 mm | | | | | |

整体平整度/钢板垂直度是否合格
Heat straightening result: 是

检验员
QC inspector: 潘文龙

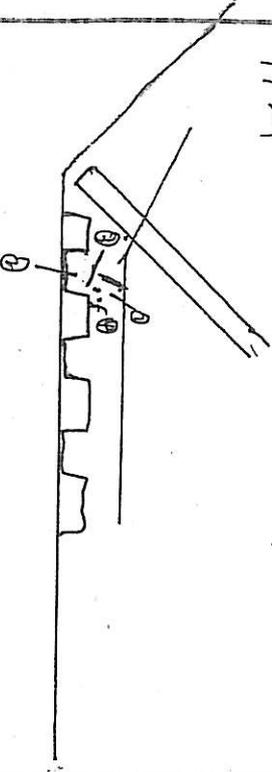
日期
Date: 09.7.15

若校正影响焊缝, 请填写以下项目
Fill the following items if the straightening affects the weld

对应NDT报告编号
NDT report no.

NDT检验员签字
NDT inspector: Lin Chen Hua

日期
Date: 09.7.17





REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

| REPORT NO. 报告编号 B787-MT-12294 | | DATE日期 2009.07.17 | | 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: SSD12 OBG PLATE PANEL SPLICE | | | 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 5395 5617 5620 | |
| 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-X 12/14 mm | |
| 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 | | | | |
| SSD17-PP21-082 | | | | ACC. | | 100%MT | |
| SSD17-PP21-083 | | | | ACC. | | 100%MT | |
| SSD17-PP21-028 | | | | ACC. | | 100%MT | |
| SSD17-PP21-029 | | | | ACC. | | 100%MT | |
| FB014-003-003 | | | | ACC. | | 100%MT | |
| FB014-003-004 | | | | ACC. | | 100%MT | |
| AFTER HSR1 (B) - 6659 | | | | | | | |
| BLANK | | | | | | | |
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| | | | | | | | |
| EXAMINED BY 主探 Li Zhenhua Li zhen hua 09.07.17 LEVEL - II SIGN 签名 / DATE日期 质量经理 / QCM | | | | REVIEWED BY 审核 Sun Gong chang 09.07.17 LEVEL-II SIGN / DATE日期 用户 CUSTOMER | | | |
| 签字 SIGN / 日期 DATE | | | | 签字 SIGN / 日期 DATE | | | |

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, P.R. China**Report No:** NCS-000266**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0260**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: 27-May-2009**Description of Non-Conformance:**

Caltrans Quality Assurance (QA) Inspector observed that ZPMC personnel performed heat straightening on FB014-003 (Segment 3AE, PP021). The 12mm plate was adjusted by 17mm in a span of 355mm (48 in 1000). This exceeds the Special Provisions requirement of 6 in 1000 (for members less than or equal to 16mm thick). ZPMC performed the heat straightening without the required Engineer's approval.

Contractor's proposal to correct the problem:

Submit HSR and perform subsequent NDT.

Corrective action taken:

Contractor submitted HSR along with VT and MT reports verifying repair was performed in conformance with Contract specifications.

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 Jim Simonis, who represents the Office of Structural Materials for your project.

Inspected By: Simonis, Jim Quality Assurance Inspector**Reviewed By:** Wahbeh, Mazen QA Reviewer