

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-000783**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 02-Jul-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0745**Type of problem:**

| | | | |
|---------------------|-------------------|---------------------|-------------------------------------|
| Welding | Concrete | Other | |
| Welding | Curing | Procedural | Bridge No: 34-0006 |
| Joint fit-up | Coating | Other | Component: East Tower Lift 2 |
| Procedural | Procedural | Description: | |

Reference Description: Missed MT indication: Cross Bracing gusset plate to Doubler**Description of Non-Conformance:**

During Magnetic Particle Testing (MT) review of welds on East Tower Lift 2, Quality Assurance Inspector (QA) discovered the following issues:

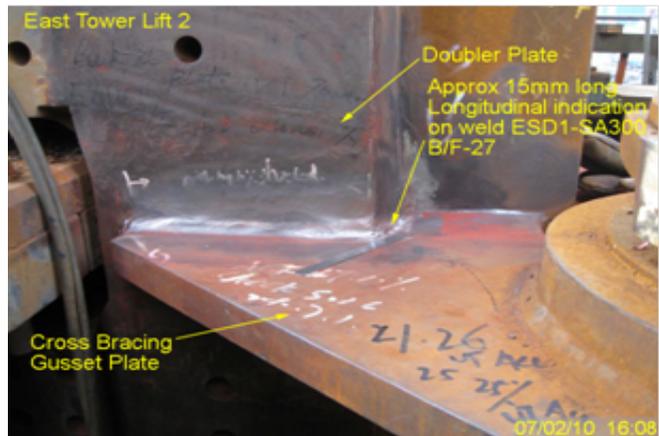
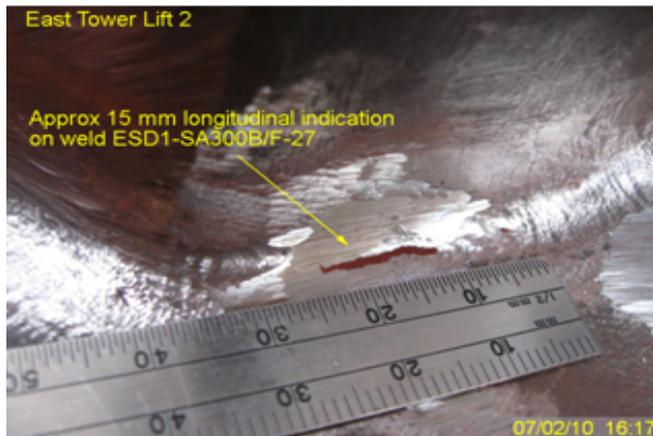
- One Longitudinal crack indication measuring approximately 15mm in length.
- The member is identified as Cross Bracing gusset plate to Doubler plate
- The weld is identified as ESD1-SA300B/F-27.
- The weld is a Partial Joint Penetration (PJP) weld, joining the Cross Bracing gusset plate to Doubler plate.
- The member is Seismic Performance critical Member (SPCM).
- The member is located in Tower Trial Assembly.

The Notice of Witness Inspection Number (NWIT) is 06106. 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 100% MT inspection of this weld.

For further information, please see the attached pictures below.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



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.”

AWS D1.5 (02) Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

Who discovered the problem: Anand Upadhye

Name of individual from Contractor notified: Bi Dewei

Time and method of notification: 17:00/ 07.02.10/ Verbal

Name of Caltrans Engineer notified: Jim Reid

Time and method of notification: 1300/ Verbal

QC Inspector's Name: Zhao Chen Sun

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: Ng,Michael

QA Inspector

Reviewed By: Devey,Jim

SMR



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
 333 Burma Road
 Oakland CA 94607
 Tel: 510-286-0539 Fax: 510-286-0550

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 05-Jul-2010

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-0745

Job Name: SAS Superstructure
Document No: 05.03.06-000740

Reference Description: Missed MT indication: Cross Bracing gusset plate to Doubler/Tower/East Lift 2

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:

During Magnetic Particle Testing (MT) review of welds on East Tower Lift 2, Quality Assurance Inspector (QA) discovered the following issues:

- One Longitudinal crack indication measuring approximately 15mm in length.
- The member is identified as Cross Bracing gusset plate to Doubler plate
- The weld is identified as ESD1-SA300B/F-27.
- The weld is a Partial Joint Penetration (PJP) weld, joining the Cross Bracing gusset plate to Doubler plate.
- The member is Seismic Performance critical Member (SPCM).
- The member is located in Tower Trial Assembly.

The Notice of Witness Inspection Number (NWIT) is 06106. 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 100% MT inspection of this weld.

References:

- 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."
- AWS D1.5 (02) Section 6.26.2: "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Action Required and/or Action Taken:

Propose a resolution for this non-conformance and provide documentation that the deficiency has been brought into compliance with the contract requirements. Propose a resolution that addresses the apparent failure of Quality Control to identify the indication. Additionally, provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

The response for the resolution of this issue is requested within 7 days.

NCT

(*Continued Page 2 of 2*)

Transmitted by: Gina Rizzardo Transportation Engineer

Attachments: ZPMC-0745

cc: Rick Morrow, Gary Pursell, Mark Woods

File: 05.03.06

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000740

Subject: NCR No. ZPMC-0745

Dated: 13-Aug-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000739 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the indications missed and is submitting the CWR and NDT used at the time.

ZPMC has repaired the indications missed and is submitting the CWR and NDT used at the time. ZPMC has discussed this issue with both their inspectors and productions staff to eliminate the indications during production and also after during inspection. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000739R00;

Caltrans' comments:

Status: CLO

Date: 16-Aug-2010

This proposed resolution is acceptable. The documentation received is sufficient and the Department concurs that Non-Conformance ZPMC-0745 is closed.

Submitted by: Rizzardo, Gina

Attachment(s):

Date: 16-Aug-2010



No. T-155

LETTER OF RESPONSE

TO: American Bridge/Flour JV

DATE: 2010-08-13

REGARDING: NCR-000783(ZPMC-0745), NCR-000788(ZPMC-0750)

ZPMC received NCR-000783(ZPMC-0745) and NCR-000788(ZPMC-0750), they all mentioned that CT inspectors found indications on welds.

ZPMC realized this problem, and put forward T-CWR664 and T-CWR669 at the first time for repairing. Finally these relevant welds were fixed and checked by MT. Also they were re-inspected by CT inspector and green tagged. Here attached the related documents to prove the welds are sound after repairing.

Basing on above information, ZPMC hope CT could take a review and close these NCRs.

ATTACHMENT:

NCR-000783(ZPMC-0745)

T-CWR664 R0

T787-MT-10824

NCR-000788(ZPMC-0750)

T-CWR669 R0

T787-MT-10823 R0

*Zhang J. read
2010.8.13*



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-286-0539 Fax: 510-286-0550

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 05-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: 05.03.06-000740

Subject: NCR No. ZPMC-0745

Reference Description: Missed MT indication: Cross Bracing gusset plate to Doubler/Tower/East Lift 2

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:

During Magnetic Particle Testing (MT) review of welds on East Tower Lift 2, Quality Assurance Inspector (QA) discovered the following issues:

- One Longitudinal crack indication measuring approximately 15mm in length.
- The member is identified as Cross Bracing gusset plate to Doubler plate
- The weld is identified as ESD1-SA300B/F-27.
- The weld is a Partial Joint Penetration (PJP) weld, joining the Cross Bracing gusset plate to Doubler plate.
- The member is Seismic Performance critical Member (SPCM).
- The member is located in Tower Trial Assembly.

The Notice of Witness Inspection Number (NWIT) is 06106. 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 100% MT inspection of this weld.

References:

- 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."
- AWS D1.5 (02) Section 6.26.2: "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Action Required and/or Action Taken:

Propose a resolution for this non-conformance and provide documentation that the deficiency has been brought into compliance with the contract requirements. Propose a resolution that addresses the apparent failure of Quality Control to identify the indication. Additionally, provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

The response for the resolution of this issue is requested within 7 days.

02.02.15.04
NCT-05.03.06-000740.NCT

Received
NCT-000740 07 Jul 10 Page 1 of 2

NCT

(Continued Page 2 of 2)

Transmitted by: Gina Rizzardo Transportation Engineer

Attachments: ZPMC-0745

cc: Rick Morrow, Gary Pursell, Mark Woods

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 #: 04-0120F4
 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-000783

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 02-Jul-2010

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

NCR #: ZPMC-0745

Type of problem:

Welding Concrete Other

Welding Curing Procedural Bridge No: 34-0006

Joint fit-up Coating Other Component: East Tower Lift 2

Procedural Procedural Description:

Reference Description: Missed MT indication: Cross Bracing gusset plate to Doubler

Description of Non-Conformance:

During Magnetic Particle Testing (MT) review of welds on East Tower Lift 2, Quality Assurance Inspector (QA) discovered the following issues:

- One Longitudinal crack indication measuring approximately 15mm in length.
- The member is identified as Cross Bracing gusset plate to Doubler plate
- The weld is identified as ESD1-SA300B/F-27.
- The weld is a Partial Joint Penetration (PJP) weld, joining the Cross Bracing gusset plate to Doubler plate.

-The member is Seismic Performance critical Member (SPCM).

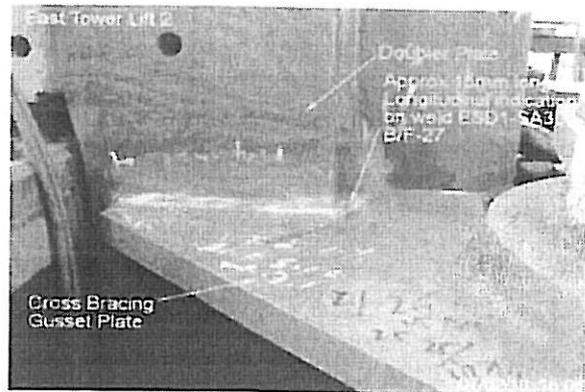
-The member is located in Tower Trial Assembly.

The Notice of Witness Inspection Number (NWIT) is 06106. 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 100% MT inspection of this weld.

For further information, please see the attached pictures below.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)



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.”

AWS D1.5 (02) Section 6.26.2 – “Welds that are subject to MT in addition to visual inspection shall have no cracks.

Who discovered the problem: Anand Upadhye

Name of individual from Contractor notified: Bi Dewei

Time and method of notification: 17:00/ 07.02.10/ Verbal

Name of Caltrans Engineer notified: Jim Reid

Time and method of notification: 1300/ Verbal

QC Inspector's Name: Zhao Chen Sun

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: Ng, Michael

QA Inspector

Reviewed By: Devey, Jim

SMR



关键焊缝返修报告

版本
Rev. No.:

Critical Welding Repair Report (CWR)

0

| | | | | | |
|-----------------------|-----------------|----------------------|---|-----------------------------|----------|
| 项目名称 Project Name: | 美国海湾大桥 SFOBB | 部件图号 Drawing No.: | ESD1-SA300B/F | 报告编号 Report No.: | T-CWR664 |
| 合同号 Contract No.: | 04-0120F4 | 部件名称 Item Name: | 东二吊53米十字撑 补板Tower(E) 2 nd 5 3m strut plate | NDT 报告编号 NDT Report No.: | NA |
| 项目编号 Project No.: | ZP06-787 | | | | |

焊缝缺陷描述:

Description of Welding Discontinuity:

东二吊53米十字撑补板焊缝ESD1-SA300B/F-27在加州报验MT时发现长度20MM的裂纹, 现需返修。

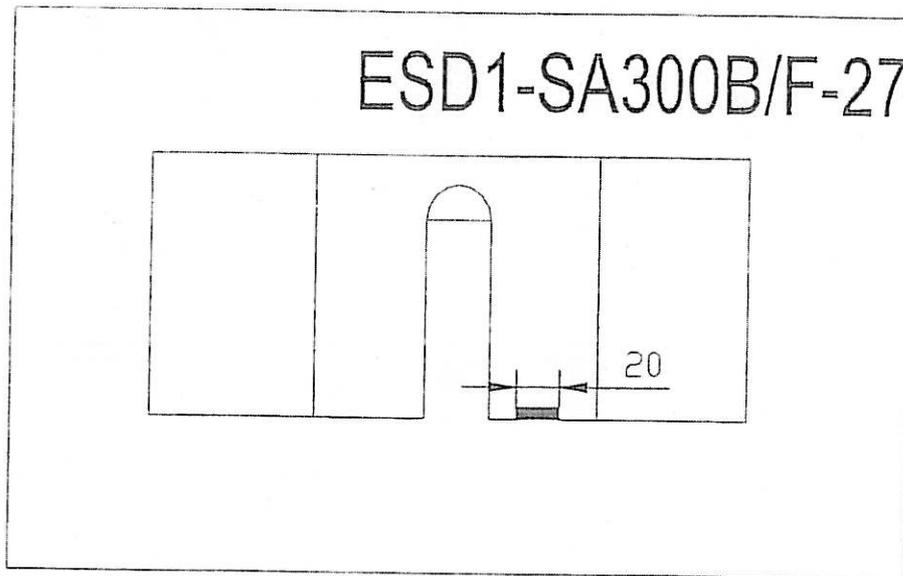
The crack was found at east tower 2nd lifting strut plate weld (ESD1-SA300B/F-27), and need to repair.

检验员 (Inspector): SUN ZIWANG

日期 (Date): 2010.07.03

焊缝返修位置示意图:

Draft of Welding Discontinuity:



注: 阴影部位为堆焊区域。

Remark: repair area in shadow.

APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION
 Pursuant to Section 6-1.02
 of the Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
 Office of Structure Construction
 Date: 7/5/10

产生原因:

Cause:

1. 火焰加热时, 水汽没有完全的去除或者这个区域预热不够;
1. Moisture wasn't completely removed during drying operation (preheating) or the area wasn't preheated sufficiently.

车间负责人 (Foreman): *Lishiyun* 日期 (Date): 10.07.03

处理意见

Disposition :

1. QC /CWI shall monitor and direct all gouging, grinding and welding during the repair procedure.
2. Remove defects by gouging and /or grinding. If gouging is used, preheat the repair area to a minimum temperature of 65°C.
3. Prepare excavation according to the approved repair WPS.
4. Grind the repair area to a smooth and shiny surface.
5. Verify that no defects are present by VT and MT prior to weiding.
6. Clean excavation of all loose debris and MT powder.
7. Weld according to the approved WPS.
8. Preheat and maintain interpass temperature control in accordance to the approved WPS.
9. QC shall ensure all slag has been removed prior to the deposition of the next pass.
10. Blend the weld repaired areas into the adjacent weld or base metal by grinding.
11. Perform VT, MT and UT inspection to the repaired areas.

1. QC 和 CWI 应当监督和指导所有碳刨、打磨和焊接工作;
2. 使用碳刨和打磨方式去除缺陷, 如果使用碳刨方式, 则在碳刨前须将返修区域预热到 65° C;
3. 根据返修 WPS 准备合适的刨槽;
4. 把返修区域打磨光滑;
5. 在焊接前进行 VT、MT, 确保没有表面缺陷;
6. 清理刨槽内的杂质和磁粉;
7. 按照批准的 WPS 进行焊接;
8. 根据批准的 WPS 进行焊接温度预热和道间温度控制;
9. QC 应当确保在施焊下一道焊层前所有焊渣已被清理干净;
10. 将返修区域与邻近焊缝或母材打磨至顺滑过渡;
11. 对返修区域进行 VT, MT 和 UT 检查。

APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION
 Pursuant to Section 6-1.02
 of the Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
 Office of Structures Construction

Ani Rig 7/5/10
Structures Representative

工艺:

Technical Engineer:

Zheyi Lu

审核:

Approved By:

Lu Jianhua

日期:

Date: 10.07.03

#R787-QCP-701



关键焊缝返修报告

版本
Rev. No.:

Critical Welding Repair Report (CWR)

0

| | | | | | |
|-----------------------|-----------------|----------------------|---|-----------------------------|----------|
| 项目名称 Project Name: | 美国海湾大桥 SFOBB | 部件图号 Drawing No.: | ESD1-SA300B/F | 报告编号 Report No.: | T-CWR664 |
| 合同号 Contract No.: | 04-0120F4 | 部件名称 Item Name: | 东二吊53米十字撑 补板Tower(E) 2 nd 5 3m strut plate | NDT 报告编号 NDT Report No.: | NA |
| 项目编号 Project No.: | ZP06-787 | | | | |

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 返修前, QC确认有效的预热, 以将水汽全部去除。

1. QC shall verify sufficient preheat has been applied, to remove moisture, prior to welding.

 APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION

Pursuant to Section 5-1.02

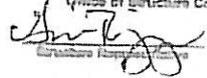
of Specifications

State of California

DEPARTMENT OF TRANSPORTATION

Division of Engineering Services

Office of Structure Construction

 7/5/10
 Date

车间负责人 (Foreman):

Lishiguo

日期 (Date):

10-07-03

| | | | |
|---|--|---|-------------------------|
| 参照的WPS编号 Repair WPS No.: | wps-345+485-SMAW-3G (3F)-Repair wps-345+485-FCAW-3G (3F)-Repair | 工艺员 Technologist: | zheng linyi 10-07-03 |
| 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: | |
| 焊接电流 Current: | | 焊接电压 Voltage: | |
| | | 焊接位置 Position: | |
| | | 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-701



DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-286-0539 Fax: 510-286-0550

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV
375 BURMA ROAD
OAKLAND CA 95607
Date: 08-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: 05.03.06-000746
Subject: NCR No. ZPMC-0750
Reference Description: Missed MT indication/ Tower/ Lift 2 gusset to 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:

During Magnetic Particle Testing (MT) review of welds on West Tower Lift 2, Caltrans Quality Assurance Inspector (QA) discovered the following issues:

- One transverse linear indication measuring approximately 10mm in length in PJP weld between gusset plate and doubler plate
- The weld is identified as WSD1-SA340B/F-16.
- The member is Seismic Performance Critical Member (SPCM).
- The member is located in Tower Trial Assembly(Lift2/Lift3) yard, Heavy Dock

The Notice of Witness Inspection Number (NWIT) is #06134. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per Contract, 100% MT inspection is required for this weld.

References:

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."

AWS D1.5 (02) Section 6.26.2 – "Welds that are subject to MT in addition to visual inspection shall have no cracks."

Action Required and/or Action Taken:

Propose a resolution for this non-conformance and provide documentation that the deficiency has been brought into compliance with the contract requirements. Propose a resolution that addresses the apparent failure of Quality Control to identify the indication. Additionally, provide documentation of the steps taken by the Quality Control Manager to prevent future occurrences.

The response for the resolution of this issue is requested within 7 days.

NCT

(Continued Page 2 of 2)

Transmitted by: Gina Rizzardo Transportation Engineer

Attachments: ZPMC-0750

cc: Rick Morrow, Gary Pursell, Mark Woods

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PR China

Report No: NCR-000788

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 06-Jul-2010

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

NCR #: ZPMC-0750

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

Reference Description: Missed MT indication

Description of Non-Conformance:

During Magnetic Particle Testing (MT) review of welds on West Tower Lift 2, Caltrans Quality Assurance Inspector (QA) discovered the following issues:

-One transverse indication (crack) measuring approximately 10mm in length in PJP weld between gusset plate and doubler plate

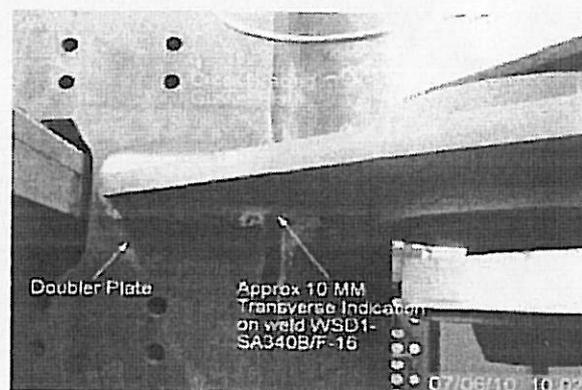
-The weld is identified as WSD1-SA340B/F-16.

-The member is Seismic Performance Critical Member (SPCM).

-The member is located in Tower Trial Assembly (Lift2/Lift3) yard, Heavy Dock

The Notice of Witness Inspection Number (NWIT) is #06134. The indication is located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel. As per Contract, 100% MT inspection is required for this weld.

Please refer to attached photos below.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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."

AWS D1.5 (02) Section 6.26.2 -- "Welds that are subject to MT in addition to visual inspection shall have no cracks

Who discovered the problem: Anand Upadhye

Name of individual from Contractor notified: Bi Dewei

Time and method of notification: 1430 Hrs/ 07.06.10/ Verbal

Name of Caltrans Engineer notified: Jim Reid

Time and method of notification: 1330 Hrs/ Verbal

QC Inspector's Name: Sunzhi Wang

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

Inspected By: Ng,Michael

QA Inspector

Reviewed By: Devey,Jim

SMR



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

版本
Rev. No.:

0

| | | | | | |
|-----------------------|-----------------|----------------------|---|-----------------------------|----------|
| 项目名称 Project Name: | 美国海湾大桥 SFOBB | 部件图号 Drawing No.: | WSD1-SA340B/F | 报告编号 Report No.: | T-CWR669 |
| 合同号 Contract No.: | 04-0120F4 | 部件名称 Item Name: | 西二吊53米十字撑 补板Tower(w) 2 nd lifting 53m strut plate | NDT 报告编号 NDT Report No.: | NA |
| 项目编号 Project No.: | ZP06-787 | | | | |

焊缝缺陷描述:

Description of Welding Discontinuity:

西二吊53米十字撑补板焊缝WSD1-SA340B/F-16在加州报验MT时发现长度10MM的裂纹, 现需返修。

The crack was found at west tower 2nd lifting 53m strut plate weld WSD1-SA340B/F-16, 10mm in length, and needed to repair.

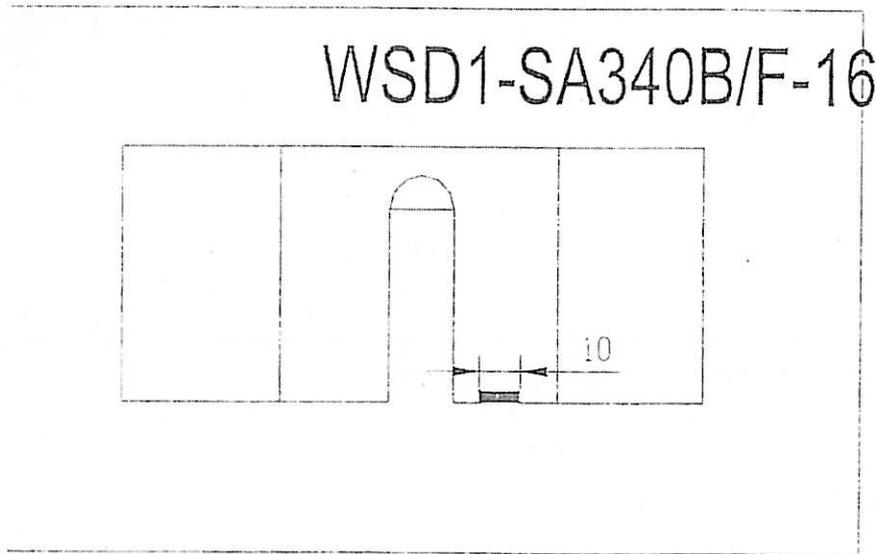
MT

检验员 (Inspector): SUN ZIWANG

日期 (Date): 2010.07.06

焊缝返修位置示意图:

Draft of Welding Discontinuity



注: 阴影部位为堆焊区域。Remark: repair area in shadow.

APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION

Pursuant to Section 5-101
of the Standard Specifications
State of California

DEPARTMENT OF TRANSPORTATION
Division of Engineering Services
Office of Structure Construction

[Signature] 7/9/10
Structure Representative

产生原因:

Cause:

1. 火焰加热时, 水汽没有完全的去掉或者这个区域预热不够;
1. Moisture wasn't completely removed during drying operation (preheating) or the area wasn't preheated sufficiently

车间负责人 (Foreman): *L. Shigu*, 日期 (Date): 10.07.06

处理意见

Disposition :

1. QC /CWI shall monitor and direct all gouging, grinding and welding during the repair procedure.
2. Remove defects by gouging and /or grinding. If gouging is used, preheat the repair area to a minimum temperature of 65°C.
3. Prepare excavation according to the approved repair WPS.
4. Grind the repair area to a smooth and shiny surface.
5. Verify that no defects are present by VT and MT prior to weiding.
6. Clean excavation of all loose debris and MT powder.
7. Weld according to the approved WPS.
8. Preheat and maintain interpass temperature control in accordance to the approved WPS.
9. QC shall ensure all slag has been removed prior to the deposition of the next pass.
10. Blend the weld repaired areas into the adjacent weld or base metal by grinding.
11. Perform VT, MT and UT inspection to the repaired areas.

1. QC 和 CWI 应当监督和指导所有碳刨、打磨和焊接工作;
2. 使用碳刨和打磨方式去除缺陷, 如果使用碳刨方式, 则在碳刨前须将返修区域预热到 65° C;
3. 根据返修 WPS 准备合适的刨槽;
4. 把返修区域打磨光滑;
5. 在焊接前进行 VT、MT, 确保没有表面缺陷;
6. 清理刨槽内的杂质和磁粉;
7. 按照批准的 WPS 进行焊接;
8. 根据批准的 WPS 进行焊接温度预热和道间温度控制;
9. QC 应当确保在施焊下一道焊层前所有焊渣已被清理干净;
10. 将返修区域与邻近焊缝或母材打磨至顺滑过渡;
11. 对返修区域进行 VT, MT 和 UT 检查。

APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION
 Pursuant to Section 5-1.52
 of the Standard Specifications
 State of California
 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
 Office of Structure Construction

Lin Peng 7/10/10
 Structure Representative

工艺:

Technical Engineer: *shayidong*

审核:

Approved By: *W. Frank*

日期:

Date: 10.07.06

#R787-QCP-701



关键焊缝返修报告

版本
Rev. No.:

Critical Welding Repair Report (CWR)

0

| | | | | | |
|-----------------------|-----------------|----------------------|---|-----------------------------|----------|
| 项目名称 Project Name: | 美国海湾大桥 SFOBB | 部件图号 Drawing No.: | WSD1-SA340B/F | 报告编号 Report No.: | T-CWR669 |
| 合同号 Contract No.: | 04-0120F4 | 部件名称 Item Name: | 西二吊53米十字撑 补板Tower(w) 2 nd lifting 53m strut plate | NDT 报告编号 NDT Report No.: | NA |
| 项目编号 Project No.: | ZP06-787 | | | | |

纠正措施:

Corrective Action to Prevent Re-occurrence:

1. 返修前, QC确认有效的预热, 以将水汽全部去除.

1. QC shall verify sufficient preheat has been applied, to remove moisture, prior to welding.

车间负责人 (Foreman):

Lisiquan 日期 (Date):

10.07.06

| | | | |
|---|--|--|-----------------------|
| 参照的WPS编号 Repair WPS No.: | WPS-485-SMAW-1 G(1F)- Repair-1 WPS-485-SMAW-2 G(2F)- Repair-1 | 工艺员 Technologist: | 2hej 2ndy 10.07.06 |
| 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-701

 APPROVED
 APPROVED AS NOTED
 RETURNED FOR CORRECTION

 Pursuant to Section 413.22
 of the Standard Specifications
 State of California

 DEPARTMENT OF TRANSPORTATION
 Division of Engineering Services
 Office of Structure Construction

 [Signature] 7/8/10
 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, P.R. China**Report No:** NCS-000733**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 13-Aug-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0745**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: 02-Jul-2010**Description of Non-Conformance:**

During Magnetic Particle Testing (MT) review of welds on East Tower Lift 2, Quality Assurance Inspector (QA) discovered the following issues:

- One Longitudinal crack indication measuring approximately 15mm in length.
- The member is identified as Cross Bracing gusset plate to Doubler plate
- The weld is identified as ESD1-SA300B/F-27.
- The weld is a Partial Joint Penetration (PJP) weld, joining the Cross Bracing gusset plate to Doubler plate.

- The member is Seismic Performance critical Member (SPCM).
- The member is located in Tower Trial Assembly.

The Notice of Witness Inspection Number (NWIT) is 06106. 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 100% MT inspection of this weld.

For further information, please see the attached pictures below.

Contractor's proposal to correct the problem:

ZPMC to repair the missed indication and submit the documentation to confirm the areas affected are in conformance with Contract requirements. ABF/ZPMC will impose on the testing operators and production staff to pay more attention to the inspection and apply timely corrective measures.

Corrective action taken:

ZPMC has repaired the defects, submitted CWR and NDT reports confirming the results of the repair. ABF has discussed with the personnel involved to take appropriate actions to prevent similar occurrence in future

Did corrective action require Engineer's approval?

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 2 of 2)

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

Inspected By: Ng,Michael

Quality Assurance Inspector

Reviewed By: Devey,Jim

QA Reviewer