

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



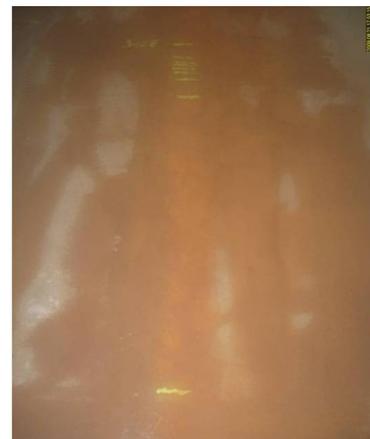
Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

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-000389**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 24-Aug-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0363**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: 1AW/1BW OBG Segment Splice
Procedural	Procedural	Description:	

Reference Description: Missed UT indications by QC on 1AW/1BW Segment Transverse Splice**Description of Non-Conformance:**

This Quality Assurance (QA) Inspector performed Ultrasonic Testing (UT) of Segment Assembly Transverse Splice Weld #OBW1A-007. QA Inspector discovered UT indications that did not meet the minimum acceptance criteria of AWS D1.5-2002, Table 6.3. A total of nine (9) transverse indications were discovered in the weld mentioned above. The indications were detected utilizing scanning pattern "E" or scanning pattern "D" as described in AWS D1.5, Figure 6.7 on areas where the weld surface condition permitted scanning on top of the weld. These welds have been 100% UT tested and accepted by ZPMC Quality Control (QC).

**Applicable reference:**

AWS D1.5/2002 Table 6.3

Who discovered the problem: Stefan Holmes**Name of individual from Contractor notified:** Steve Lawton**Time and method of notification:** 1300, verbal**Name of Caltrans Engineer notified:** Ching Chao

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 1400, verbal

QC Inspector's Name: Wang Lu

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, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By:	Tsang, Eric	SMR
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Reviewed By:	Wahbeh, Mazen	SMR
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DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge

333 Burma Road
Oakland CA 94607
Tel: Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 31-Aug-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: 05.03.06-000352

Subject: NCR No. ZPMC-0363

Reference Description: Missed UT indications by QC on 1AW/1BW Segment Transverse Splice

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:** 01

Remarks:

This Quality Assurance (QA) Inspector performed Ultrasonic Testing (UT) of Segment Assembly Transverse Splice Weld #OBW1A-007. QA Inspector discovered UT indications that did not meet the minimum acceptance criteria of AWS D1.5-2002, Table 6.3. A total of nine (9) transverse indications were discovered in the weld mentioned above. The indications were detected utilizing scanning pattern "E" or scanning pattern "D" as described in AWS D1.5, Figure 6.7 on areas where the weld surface condition permitted scanning on top of the weld. These welds have been 100% UT tested and accepted by ZPMC Quality Control (QC).

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval.
Note: Missed indications after 100% UT testing by ZPMC welding inspectors is frequent.

Transmitted by: Bill Howe

Attachments: ZPMC-0363

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, 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: 05.03.06-000352

Subject: NCR No. ZPMC-0363

Dated: 21-Sep-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000359 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: ZPMC will perform repairs as necessary and submit the required documentation when all repair and re-inspection work is performed for closure of this NCR.

ABF has had ZPMC re-inspect this weld and ZPMC concurs with the findings of CT. ZPMC will perform repairs as necessary and submit the required documentation when all repair and re-inspection work is performed for closure of this NCR. As for preventive action regarding the missed indication, ZPMC has informed all UT operators of the importance of using the proper scanning patterns when the welds are ground flush as well as the scanning speeds utilized.

Submitted by:

Attachment(s): ABF-NPR-000359R00

Caltrans' comments:

Status: AAP

Date: 22-Sep-2009

Will review and confirm the acceptance when the repair documentation is submitted.

Submitted by: Chao, Ching

Date: 22-Sep-2009

Attachment(s):

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000352

Subject: NCR No. ZPMC-0363

Dated: 30-Nov-2009

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000359 Rev: 01

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the indications documented in the NCR. ABFJV and Caltrans has conducted the NDT and found that the welds are acceptable which is included in the attached documents.

ZPMC has repaired the indications documented in the NCR. ABFJV and Caltrans has conducted the NDT and found that the welds are acceptable which is included in the attached documents. Based on tis ZPMC is requesting closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000359R01;

Caltrans' comments:

Status: CLO

Date: 03-Dec-2009

The documentation submitted has been reviewed by the Engineer and is found to be acceptable.

Submitted by: Chao, Ching

Date: 03-Dec-2009

Attachment(s):



No. B-503

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2009-11-27

REGARDING: NCR-000389/437/471/474/476/483 (ZPMC-0363/411/444/447/449/456)

With this letter of response, ZPMC requests closure for Caltrans NCR-000389/437/471/474/476/483 (ZPMC-0363/411/444/447/449/456). The above NCR are all about the segment transverse splice weld repair, we have got related CWR approval from the caltrans engineer, the comments and procedure have been used for the repair process. The issue is did more concerned by all three parties, those weld has been complete repair and verified by ABF and caltrans inspector on site, base on the acceptable attached report we are applying to close out the NCRs.

The transverse splice weld all passed through the UT D scanning with the ABF's new procedure, that's mean no any transverse indication internal even the blue points which less than the contract specification and AWS' NDT requirement.

so base on the above explanation, ZPMC applies to close the caltrans's report NCR-000389/437/471/474/476/483 (ZPMC-0363/411/444/447/449/456).

Please reference attached document for acceptance and closure the NCR-000389/437/471/474/476/483 (ZPMC-0363/411/444/447/449/456).

ATTACHMENT:

NCR-000389/437/471/474/476/483 (ZPMC-0363/411/444/447/449/456)

The accepted UT report from ABF

Chao Shuangbao
2009. 11. 27



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: 31-Aug-2009
Contract No: 04-0120F4
Job Name: 04-SF-80-13.2 / 13.9
SAS Superstructure
Document No: 05.03.06-000352

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager
Subject: NCR No. ZPMC-0363

Reference Description: Missed UT indications by QC on 1AW/1BW Segment Transverse Splice

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: 01

Remarks:

This Quality Assurance (QA) Inspector performed Ultrasonic Testing (UT) of Segment Assembly Transverse Splice Weld #OBW1A-007. QA Inspector discovered UT indications that did not meet the minimum acceptance criteria of AWS D1.5-2002, Table 6.3. A total of nine (9) transverse indications were discovered in the weld mentioned above. The indications were detected utilizing scanning pattern "E" or scanning pattern "D" as described in AWS D1.5, Figure 6.7 on areas where the weld surface condition permitted scanning on top of the weld. These welds have been 100% UT tested and accepted by ZPMC Quality Control (QC).

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval.

Note: Missed indications after 100% UT testing by ZPMC welding inspectors is frequent.

Transmitted by: Bill Howe

Attachments: ZPMC-0363

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Ching Chao
File: 05.03.06

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
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 Quality Assurance and Source Inspection

Bay Area Branch
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 (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-000389

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 24-Aug-2009

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

NCR #: ZPMC-0363

Type of problem:

- Welding Concrete Other
 Welding Curing Procedural
 Joint fit-up Coating Other
 Procedural Procedural Description:

Bridge No: 34-0006

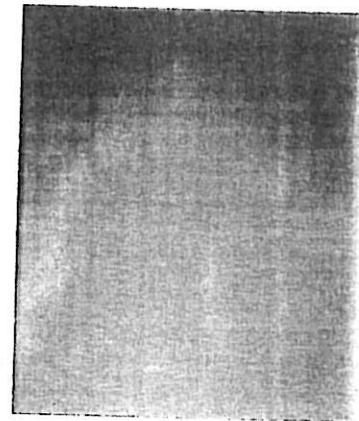
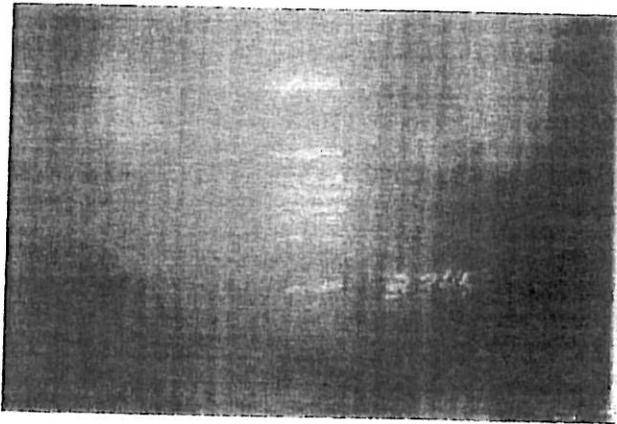
Component: 1AW/1BW OBG Segment Splice

CS

Reference Description: Missed UT indications by QC on 1AW/1BW Segment Transverse Splice

Description of Non-Conformance:

This Quality Assurance (QA) Inspector performed Ultrasonic Testing (UT) of Segment Assembly Transverse Splice Weld #OBW1A-007. QA Inspector discovered UT indications that did not meet the minimum acceptance criteria of AWS D1.5-2002, Table 6.3. A total of nine (9) transverse indications were discovered in the weld mentioned above. The indications were detected utilizing scanning pattern "E" or scanning pattern "D" as described in AWS D1.5, Figure 6.7 on areas where the weld surface condition permitted scanning on top of the weld. These welds have been 100% UT tested and accepted by ZPMC Quality Control (QC).



Applicable reference:

AWS D1.5/2002 Table 6.3

Who discovered the problem: Stefan Holmes

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 1300, verbal

Name of Caltrans Engineer notified: Ching Chao

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

Time and method of notification: 1400, verbal

QC Inspector's Name: Wang Lu

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, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

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-Oct-2009

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

Dear: Mr. Charles Kanapicki
Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Job Name: SAS Superstructure
Document No: 05.03.06-000402

Subject: NCR No. ZPMC-0411

Reference Description: Missed MT Transverse Indications by QC on The Side Panel Segment Splice at 1AAW/1AW

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: 01

Remarks:

The Quality Assurance (QA) Inspector observed on Sept 18, 2009 and Sept 19, 2009 three (3) visual Transverse Linear Indications in the repair gouges of weld OBWJA-004 (1AAW to 1AW Side Panel Splice at the crossbeam side). The indications were located and documented at Y locations of 5842mm, 6165mm and 6520mm respectively. These visual Transverse Indications were measured from the weld of the Bottom Panel to Side Panel progressing toward the Edge Panel. Subsequently, ZPMC QC performed MT and confirmed that these are transverse indications. This weld joint had been previously tested and accepted by ZPMC QC NDT department. Please see attached NCR No. ZPMC-411 for details.

Action Required and/or Action Taken:

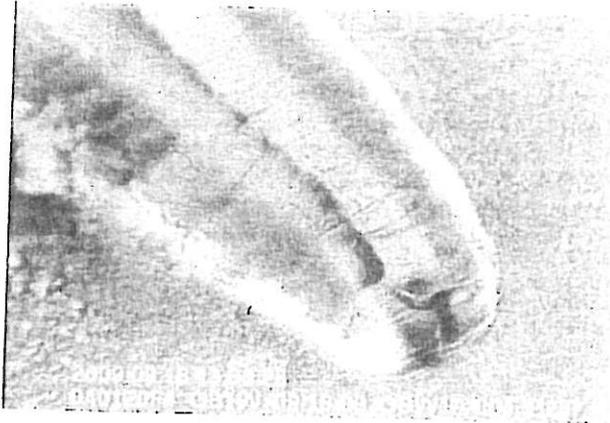
Propose a resolution for the identified recurring non-conformance which constitutes a systematic problem on both materials/workmanship and quality control issues with revised procedures to remedy the defected work and to prevent future occurrences. A response for the resolution of this issue is expected within 14 days.

Transmitted by: Ching Chao

Attachments: ZPMC-0411

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coe, Jason Tom, Contract Files, Ching Chao, Bill Howe
File: 05.03.06

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT
(Continued Page 2 of 2)



Applicable reference:

Special Provisions Section 8.3;

1) "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."

2) "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them."

3) "In addition to the provisions in AWS D1.5, Section 3.7.4 and Section 12.17, all repairs of cracks require prior approval of the Engineer."

AWS D1.5 (02) Section 6.26.1.1 "The weld shall have no cracks"

Who discovered the problem: Bert Madison

Name of individual from Contractor notified: CK Chan

Time and method of notification: 0800 hours, Verbal

Name of Caltrans Engineer notified: Bill Howe, Ching Chao

Time and method of notification: 0800 hours, verbal

QC Inspector's Name: Wang Lu

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, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Tsang, Eric

SMR

Reviewed By: Wahbeh, Mazen

SMR

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-000471

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 07-Oct-2009

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

NCR #: ZPMC-0444

Type of problem:

- Welding Concrete Other
- Welding Curing Procedural
- Joint fit-up Coating Other
- Procedural Procedural Description:

Bridge No: 34-0006

Component: 1AW to 1BW Weld #OBW1A-007

CS

Reference Description: ZPMC performed weld repair without performing MT to ensure the excavation is free of defect.

Description of Non-Conformance:

During a random visual observation of ZPMC personnel performing air carbon arc gouging of segment 1AW to 1BW Side Panel transverse splice weld OBW1A-007 at the Counterweight side, the Caltrans Quality Assurance (QA) inspector observed ZPMC was performing this repair utilizing the weld repair report (B-WR8086). This weld repair report did not describe any magnetic particle testing (MT) verifications in the excavation prior to re-welding nor after the completion of welding to ensure that the joint is free of defects. The QA Inspector had the opportunity to perform MT after air carbon arc gouging and observed numerous transverse cracks present ranging from 2 mm to 30 mm in length. No Critical Weld Repair Report was obtained for this weld repair.

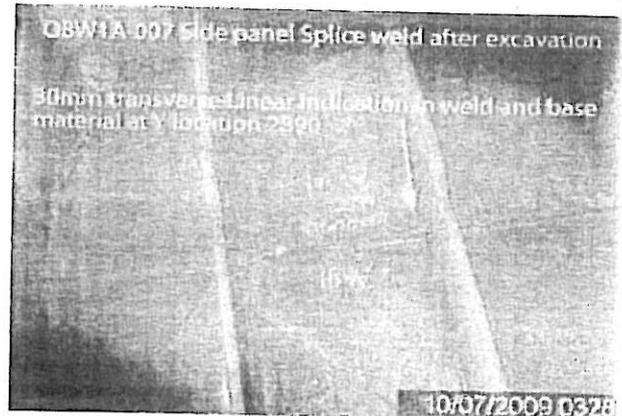
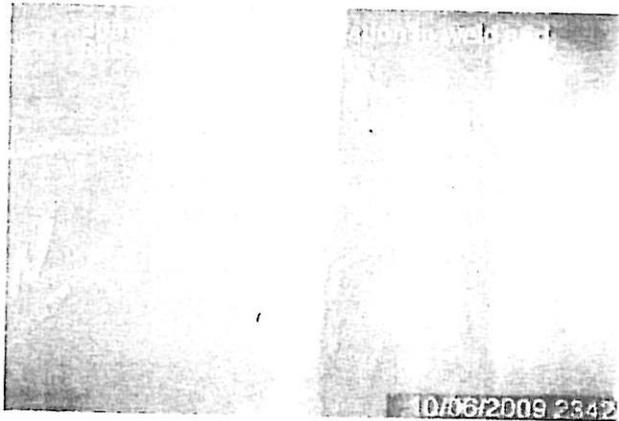
The Y locations and the number of Transverse Cracks observed in weld # OBW1A-007:

- 1) Y=50~2475mm, (14) Transverse Cracks
- 2) Y=2720~5030mm, (29) Transverse Cracks

Note: Y location taken from Bottom Panel to Side Panel splice weld at the Counterweight side.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

Special Provisions 8-3; In addition to the provisions in AWS D1.5, Section 3.7.4 and Section 12.17, regardless of NDT method, and all repairs of cracks require prior approval of the Engineer. The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also the proposed repair procedures to correct them.

AWS D1.5-2002 Section 3.7.2.4 Crack in Weld or Base Metal; The extent of the crack shall be ascertained by the use of MT, PT, or other equally positive means; the metal shall be removed for the full length of the crack plus 50mm [2"] beyond the end of each crack and re-welded.

AWS D1.5-2002 Section 6.26.2; "Welds that are subject to RT or MT in addition to visual inspection shall have no cracks and shall be unacceptable if the RT or MT shows any of the types of discontinuities described in 6.26.2.1, 6.26.2.2, 6.26.2.3, or 6.26.2.4".

AWS D1.5-2002 Section 6.26.1; "The weld shall have no cracks."

Who discovered the problem: Larry Viars

Name of individual from Contractor notified: Mike William

Time and method of notification: 0700 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 0800 hours, Email

QC Inspector's Name: Wang Lu

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, +(86) 134.7247.7571, who represents the Office of Structural Materials for your project.

Inspected By: Carreon, Albert

Lead Reviewer/Task Leader

Caltrans

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: 12-Nov-2009

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

Dear: Mr. Charles Kanapicki

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0447

Document No: 05.03.06-000437

Reference Description: Missed MT Indications by QC on OBG Segment 1AW/1BW Transverse Splice

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: 01

Remarks:

During a random visual inspection of repair work located at 1AW to 1BW side panel segment transverse splice weld OBW1A-007, the Caltrans Quality Assurance (QA) Inspector observed ZPMC workers performing repair excavations at two (2) separate areas along this weld splice. The QA Inspector performed Magnetic Particle testing (MT) at the excavated areas that had been previously tested and accepted by ZPMC MT technician. This QA inspector observed seven (7) Transverse Cracks present in the 2 excavation areas. The submitted critical weld repair procedure (CWR) for this location has not been approved by the Engineer prior to the repair work being started. The Y locations, length of excavated area and number of Transverse Cracks are as followed:

Transverse Weld Splice OBW1A-007

1. Y location 150mm, length of excavation 2,400mm, one (1) indication verified.
2. Y location 760-920mm, length of excavation 2,400mm, three (3) indications verified.
3. Y location 2,650mm, length of excavation 2,300mm, one (1) indication verified.
4. Y location 2,800mm, length of excavation 2,300mm, one (1) indication verified (in 1AW base metal).
5. Y location 3,400mm, length of excavation 2,300mm, one (1) indication verified.
6. Y location 4,600mm, length of excavation 2,300mm, one (1) indication verified.

Note: Measurements were pulled from the Bottom Plate to Side Plate weld joint at W3.

Action Required and/or Action Taken:

Submit a repair procedure for the approval of the engineer. Do not start weld repair until the CWR has been approved by the engineer. Missed MT indications have become a chronic problem. Provide training and tests to verify MT technician competency.

Transmitted by: Bill Howe

Attachments: ZPMC-0447

TV 05.03.06-000437,NCT

NCT

(Continued Page 2 of 2)

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Doug Coc, Jason Tom, Contract Files, Ching Chao
File: 05.03.06

DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
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Quality Assurance and Source Inspection

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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-000474

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 09-Oct-2009

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

NCR #: ZPMC-0447

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description:

Bridge No: 34-0006

Component: 1AW to 1BW Side Panel Splice Weld OBW1A-007

Reference Description: Missed MT Indications by QC on OBG Segment 1AW/1BW Transverse Splice

Description of Non-Conformance:

During a random visual inspection of repair work located at 1AW to 1BW side panel segment transverse splice weld OBW1A-007, the Caltrans Quality Assurance (QA) Inspector observed ZPMC workers performing repair excavations at two (2) separate areas along this weld splice. The QA Inspector performed Magnetic Particle testing (MT) at the excavated areas that had been previously tested and accepted by ZPMC MT technician. This QA inspector observed seven (7) Transverse Cracks present in the 2 excavation areas. The submitted critical weld repair procedure (CWR) for this location has not been approved by the Engineer prior to the repair work being started. The Y locations, length of excavated area and number of Transverse Cracks are as followed:

Transverse Weld Splice OBW1A-007

1. Y location 150mm, length of excavation 2,400mm, one (1) indication verified.
2. Y location 760~920mm, length of excavation 2,400mm, three (3) indications verified.
3. Y location 2,650mm, length of excavation 2,300mm, one (1) indication verified.
4. Y location 2,800mm, length of excavation 2,300mm, one (1) indication verified (in 1AW base metal).
5. Y location 3,400mm, length of excavation 2,300mm, one (1) indication verified.
6. Y location 4,600mm, length of excavation 2,300mm, one (1) indication verified.

Note: Measurements were pulled from the Bottom Plate to Side Plate weld joint at W3.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

Special Provisions 8-3; In addition to the provisions in AWS D1.5, Section 3.7.4 and Section 12.17, regardless of NDT method, and all repairs of cracks require prior approval of the Engineer. The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also the proposed repair procedures to correct them.

AWS D1.5-2002 Section 3,7,2,4 Crack in Weld or Base Metal; The extent of the crack shall be ascertained by the use of MT, PT, or other equally positive means; the metal shall be removed for the full length of the crack plus 50mm [2"] beyond the end of each crack and re-welded.

AWS D1.5-2002 Section 6.26.2; "Welds that are subject to RT or MT in addition to visual inspection shall have no cracks and shall be unacceptable if the RT or MT shows any of the types of discontinuities described in 6.26.2.1, 6.26.2.2, 6.26.2.3, or 6.26.2.4".

AWS D1.5-2002 Section 6.26.1; "The weld shall have no cracks."

Who discovered the problem: Joe Alaniz

Name of individual from Contractor notified: Kevin Chen

Time and method of notification: 1050 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 1200 hours, Email

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

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Inspected By: Carreon, Albert

Lead Reviewer/Task Leader

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT
(Continued Page 3 of 3)

Reviewed By: Wahbeh, Mazen

SMR



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: 17-Nov-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-0449

Job Name: SAS Superstructure
Document No: 05.03.06-000439

Reference Description: Missed UT indications by QC on IAAW/1AW Segment Transverse Splice

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: 01

Remarks:

Caltrans Quality Assurance (QA) Inspector performed ultrasonic testing (UT) verification of OBG segment designated IAAW and 1AW transverse segment to segment splice repairs.

The QA inspector discovered one (1) class "A" rejectable Longitudinal Linear indication in the OBW1-001 (deck panel) weld. This weld was previously tested and accepted by the contractor. This acceptance by the contractor is evident by the presence of the contractor's distinguishing mark indicating QC acceptance. The QA inspector was also able to verify this UT longitudinal indication by magnetic particle (MT) testing from the interior side of the splice weld.

NOTE: The Y location of the Class "A" rejectable Longitudinal Linear Crack is at 5310-5340mm measured from Point W1, or 19750-19780mm if measured from W6. This indication is identified as #25 on ZPMC UT Report B787-UT-8548-1 associated with B-WR7867. The QA inspector verified a 40mm Magnetic Particle (MT) Linear Crack from the interior surface that is associated with Class "A" UT" Rejectable Indication mentioned above.

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval.

Note: ZPMC QA personnel are missing rejectable indications on a routine basis. Further training and certification testing should be performed.

Transmitted by: Bill Howe

Attachments: ZPMC-0449

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao
File: 05.03.06

05.03.06-000439,NCT

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/ALArte: 80 PM: 13.2/13.9
 File #: 69.25B

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, P. R. China

Report No: NCR-000476

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 09-Oct-2009

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

NCR #: ZPMC-0449

Type of problem:

- Welding Concrete Other
 Welding Curing Procedural
 Joint fit-up Coating Other
 Procedural Procedural Description: Missed UT Indication by QC

Bridge No: 34-0006

Component: 1AAW to 1AW Deck Panel Weld Splice OBW1-001

A1

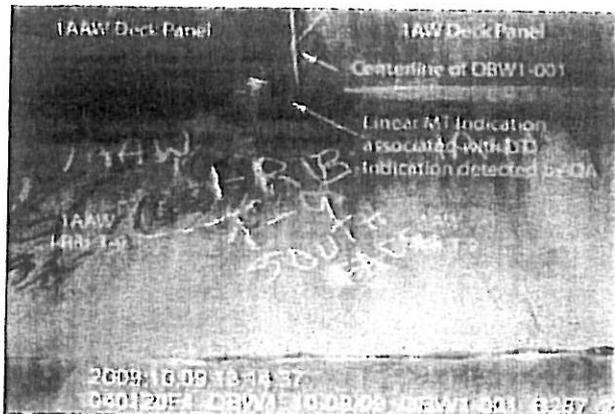
Reference Description: Missed UT indications by QC on 1AAW/1AW Segment Transverse Splice

Description of Non-Conformance:

Caltrans Quality Assurance (QA) Inspector performed ultrasonic testing (UT) verification of OBG segment designated 1AAW and 1AW transverse segment to segment splice repairs.

The QA inspector discovered one (1) class "A" rejectable Longitudinal Linear indication in the OBW1-001 (deck panel) weld. This weld was previously tested and accepted by the contractor. This acceptance by the contractor is evident by the presence of the contractor's distinguishing mark indicating QC acceptance. The QA inspector was also able to verify this UT longitudinal indication by magnetic particle (MT) testing from the interior side of the splice weld.

NOTE: The Y location of the Class "A" rejectable Longitudinal Linear Crack is at 5310-5340mm measured from Point W1, or 19750-19780mm if measured from W6. This indication is identified as #25 on ZPMC UT Report B787-UT-8548-1 associated with B-WR7867. The QA inspector verified a 40mm Magnetic Particle (MT) Linear Crack from the interior surface that is associated with Class "A" UT" Rejectable Indication mentioned above.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

AWS D1.5-02 Section 6.6.2 "The Contractor shall be responsible for visual inspection and NDT described in 6.7 and necessary correction of all deficiencies in materials and workmanship in conformance with the requirements of Clause 3 and 6.26 and as specified elsewhere in the contract documents."

AWS D1.5-02 Section 6.26.3.1 "Welds that are subject to UT in addition to visual inspection shall be acceptable if they meet the following requirements:

- (1) Welds subject to tensile stress under any condition of loading shall conform to the requirements of Table 6.3.

AWS D1.5-2002 Section 6.26.2; "Welds that are subject to RT or MT in addition to visual inspection shall have no cracks and shall be unacceptable if the RT or MT shows any of the types of discontinuities described in 6.26.2.1, 6.26.2.2, 6.26.2.3, or 6.26.2.4".

AWS D1.5-2002 Section 6.26.1; "The weld shall have no cracks."

Who discovered the problem: Bert Madison

Name of individual from Contractor notified: Steve Lawton

Time and method of notification: 1800 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 0800, Email

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Inspected By: Carreon, Albert

Lead Reviewer/Task Leader

Reviewed By: Wahbeh, Mazen

SMR



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: 17-Nov-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-0456

Job Name: SAS Superstructure
 Document No: 05.03.06-000446

Reference Description: Missed MT Indication by QC on excavated welds prior to welding repair on 1AW/1AAW Side Panel Transverse Splice
 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: 01

Remarks:

During random visual inspection the QA Inspector performed Magnetic Particle Testing (MT) of an Ultrasonic Testing (UT) reject excavation in the segment CJP Side Plate splice (OBW1A-004), cross beam side joining SP397A (1AW) and PL1475A (1AAW). During this verification the QA Inspector discovered three (3) Transverse Cracks in the excavation. One (1) 2 mm crack was located at Y location 1945mm and two (2) 1mm cracks at Y location 2785mm from the cross beam side Edge Plate.

Action Required and/or Action Taken:

Submit a repair procedure to the engineer for approval.

Transmitted by: Bill Howe

Attachments: ZPMC-0456

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, Jason Tom, Contract Files, Ching Chao
 File: 05.03.06

DEPARTMENT OF TRANSPORTATION
 DIVISION OF ENGINEERING SERVICES
 Office of Structural Materials
 Quality Assurance and Source Inspection

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 (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-000483

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 17-Oct-2009

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

NCR #: ZPMC-0456

Type of problem:

Welding Concrete Other

Welding Curing Procedural

Joint fit-up Coating Other

Procedural Procedural Description: Missed MT indication by QC

Bridge No: 34-0006

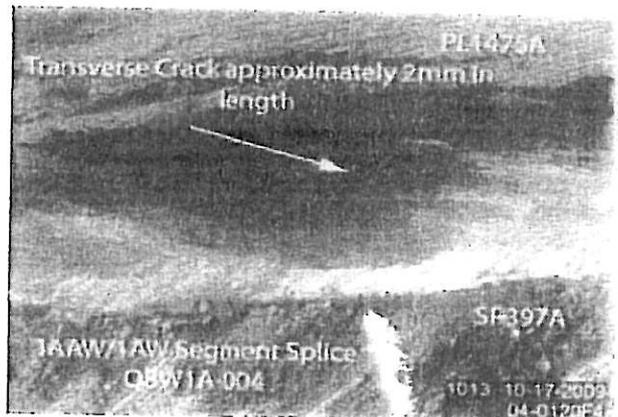
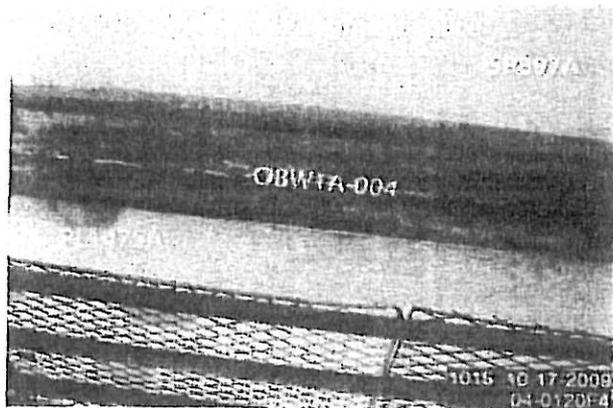
Component: 1AW to 1AAW Side Panel Splice Weld OBW1A-00

Reference Description: Missed MT Indication by QC on excavated welds prior to welding repair on 1AW/1AAW Side Panel Transverse Splice

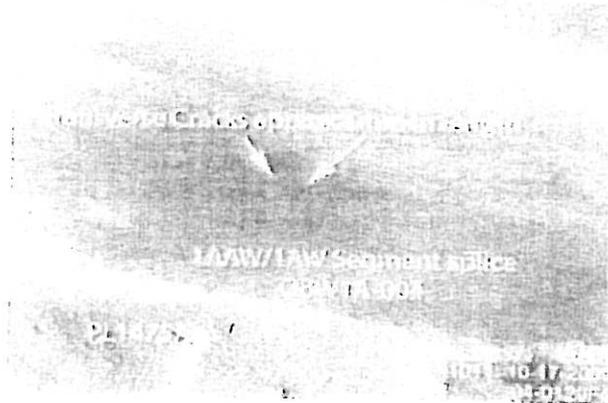
77

Description of Non-Conformance:

During random visual inspection the QA Inspector performed Magnetic Particle Testing (MT) of an Ultrasonic Testing (UT) reject excavation in the segment CJP Side Plate splice (OBW1A-004), cross beam side joining SP397A (1AW) and PL1475A (1AAW). During this verification the QA Inspector discovered three (3) Transverse Cracks in the excavation. One (1) 2 mm crack was located at Y location 1945mm and two (2) 1mm cracks at Y location 2785mm from the cross beam side Edge Plate.



QUALITY ASSURANCE -- NON-CONFORMANCE REPORT
(Continued Page 2 of 3)



Applicable reference:

Special Provisions 8-3; In addition to the provisions in AWS D1.5, Section 3.7.4 and Section 12.17, regardless of NDT method, and all repairs of cracks require prior approval of the Engineer. The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also the proposed repair procedures to correct them.

AWS D1.5-2002 Section 3,7,2,4 Crack in Weld or Base Metal; The extent of the crack shall be ascertained by the use of MT, PT, or other equally positive means; the metal shall be removed for the full length of the crack plus 50mm [2"] beyond the end of each crack and re-welded.

AWS D1.5-2002 Section 6.26.2; "Welds that are subject to RT or MT in addition to visual inspection shall have no cracks and shall be unacceptable if the RT or MT shows any of the types of discontinuities described in 6.26.2.1, 6.26.2.2, 6.26.2.3, or 6.26.2.4".

AWS D1.5-2002 Section 6.26.1; "The weld shall have no cracks."

Who discovered the problem: Dan Hernandez

Name of individual from Contractor notified: Kevin Chen

Time and method of notification: 0930 hours, Verbal

Name of Caltrans Engineer notified: Ching Chao

Time and method of notification: 1030 hours, Email

QC Inspector's Name: Feng Ya Jun

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

N/A

Comments:

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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Inspected By: Carreon, Albert

Lead Reviewer/Task Leader

Reviewed By: Wahbeh, Mazen

SMR

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-000403**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 25-Dec-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0363**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: 24-Aug-2009**Description of Non-Conformance:**

This Quality Assurance (QA) Inspector performed Ultrasonic Testing (UT) of Segment Assembly Transverse Splice Weld #OBW1A-007. QA Inspector discovered UT indications that did not meet the minimum acceptance criteria of AWS D1.5-2002, Table 6.3. A total of nine (9) transverse indications were discovered in the weld mentioned above. The indications were detected utilizing scanning pattern "E" or scanning pattern "D" as described in AWS D1.5, Figure 6.7 on areas where the weld surface condition permitted scanning on top of the weld. These welds have been 100% UT tested and accepted by ZPMC Quality Control (QC).

Contractor's proposal to correct the problem:

The contractor will repair the weld and perform NDT to verify that the weld is acceptable.

Corrective action taken:

ZPMC has repaired the indications documented in the NCR. ABFJV has conducted the NDT and found that the weld is acceptable.

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: Tsang, Eric **Quality Assurance Inspector****Reviewed By:** Wahbeh, Mazen **QA Reviewer**