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-000769
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 19-Jun-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0731

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑		
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:**	34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:**	OBG Lift 8 West
Procedural	☐	**Procedural**	☐	**Description:**	Missed MT cracks		

Reference Description: QA found some cracks in Lift 8 West by MT after ZPMC's had tested and accepted the welds

Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of hold back welds located on Segment 8BW, this QA Inspector discovered the following issues:
-Four (4) longitudinal linear cracks measuring approximately 30mm, 3mm, 5mm, and 12mm in length.
-The weld is identified as: EP074-001-010.
-The weld is a 6mm Fillet Weld joining the I-Rib RS90C to Edge Plate EP074A in the Corner Assembly (cross beam side).
-The cracks are clearly marked on the material.
-The Notice of Witness Inspection Number (NWIT) is 006009. The cracks are located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 8BW, this QA Inspector discovered the following issue:
-Three (3) Transverse linear cracks measuring approximately 7~15mm in length.
-The weld is identified as: SEG045C-043.
-The weld is designated as Non-Seismic Performance Critical Member (Non SPCM).
-The weld is located at the east side of Panel Point (PP) 67 Crossbeam side.
-The cracks are clearly marked on the material near the weld.
-The weld is a Complete Joint Penetration (CJP) weld joint, joining the Longitudinal Diaphragm (LD) identified as LD16B (X68D) to Bottom Plate identified as BP149A (PL793A).
-OBG segment 8BW is located at Trial Assembly area.
-The Notice of Witness Inspection Number (NWIT) is 006010. The cracks are located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of base metal and welds located on

counterweight (CW) and cross beam (CB) of Segment 8AW+8BW weld splice, this QA Inspector discovered the following issues:

CW Side

-Three (3) linear cracks measuring approximately between 9mm and 12mm in length.

-The cracks were found at temporary attachment removal areas on two side panels.

-The Side Panel on 8AW is identified as: SP434A

-The Side Panel on 8BW is identified as: SP435A

-The CJP splice weld # is designated as OBE8B-001.

-Length and Y location of the MT cracks on SP434A (8AW) are as followed: 12mm in length and 1500mm off weld joint OBW8B-002 on the counterweight side of segment.

-Length and Y location of the MT cracks on SP434A (8AW) are as followed: 10mm in length and 6000mm off weld joint OBW8B-002 on the counterweight side of segment.

-Length and Y location of the MT cracks on SP435A (8BW) are as followed: 9mm in length and 8500mm off weld joint OBW8B-002 on the counterweight side of segment.

CB Side

-One (1) linear crack measuring approximately 40mm in length.

-The crack was found at a temporary attachment removal area on one side panel.

-The Side Panel on 8AW is identified as: SP445A

-The CJP splice weld # is designated as OBE8B-005.

-Length and Y location of the MT cracks on SP445A (8AW) are as followed: 40mm in length and 2890mm off edge plate on the cross beam side of segment.

-The Notice of Witness Inspection Number (NWIT) is No. 006009. The cracks are 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 temporary attachment removal sites.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Suspender Bracket SB013 this QA Inspector discovered the following issue:

- One (1) Linear crack in the weld toe measuring approximately 45mm length.

- The weld is identified as SB013-066-025 (Lift 8BW).

-The weld is designated as Non Seismic Performance Critical Member (Non SPCM).

-The weld is located on Suspender Bracket Stiffener SB013.

-The cracks are clearly marked on the material near the weld.

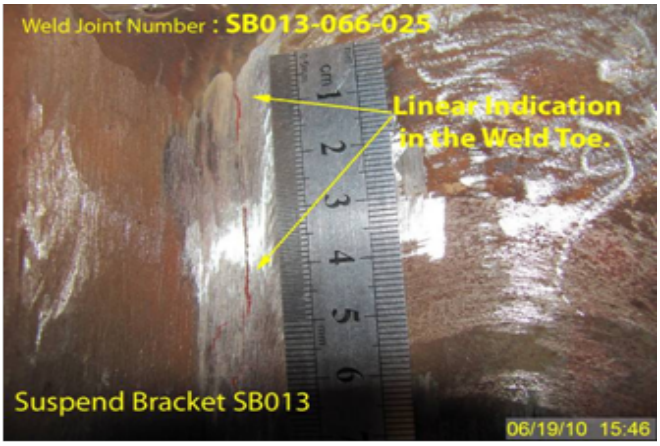
-The weld is a complete joint penetration (CJP).

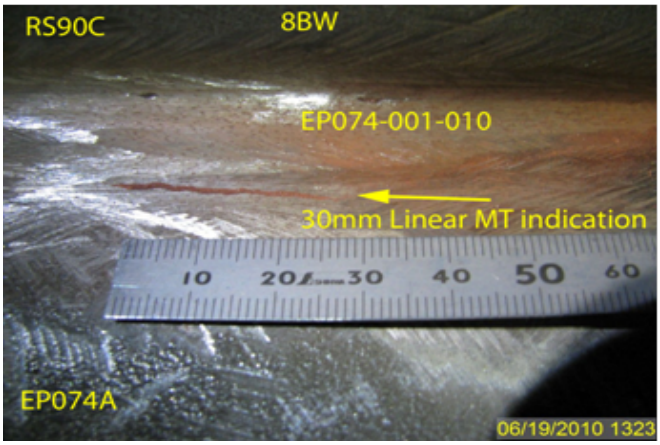
-The Suspender Bracket is located in Bay# 19.

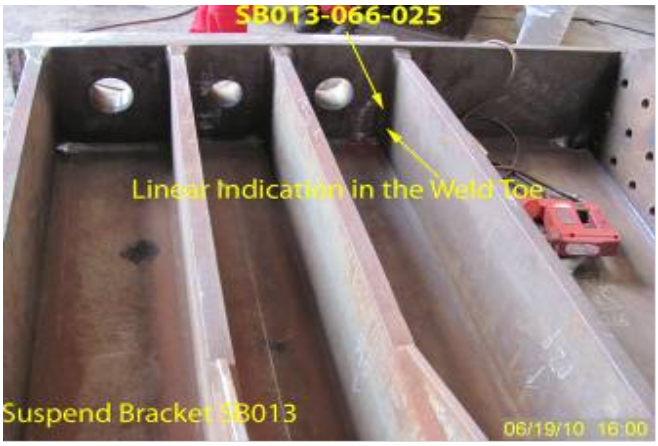
-The Notice of Witness Inspection Number (NWIT) is 006012. The crack is located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

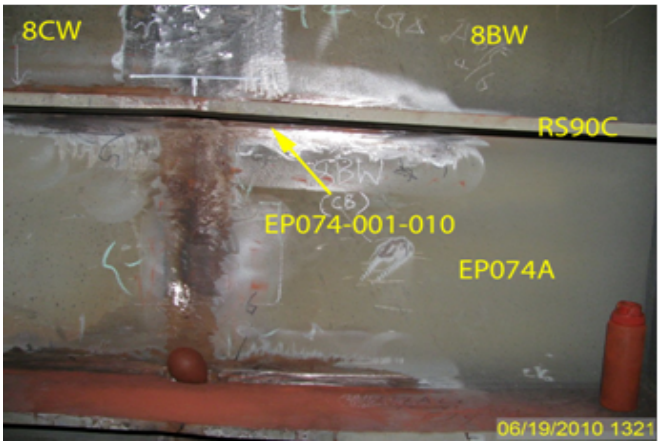
QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

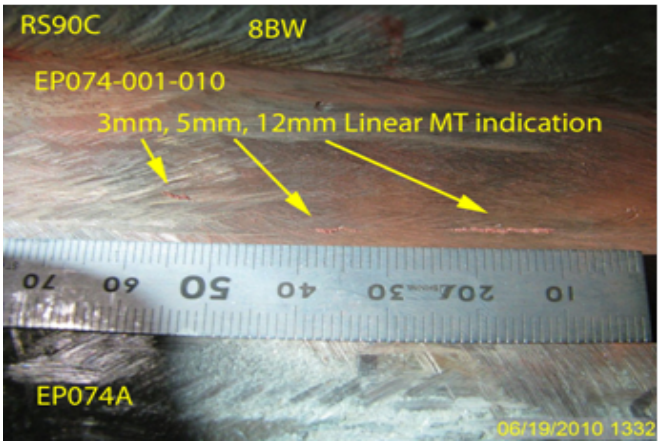
(Continued Page 3 of 5)

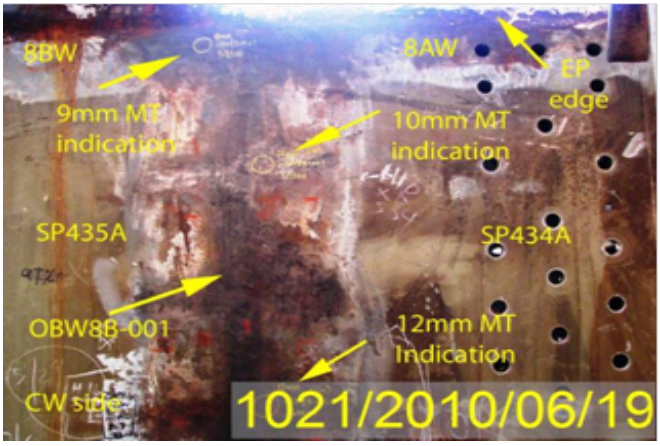


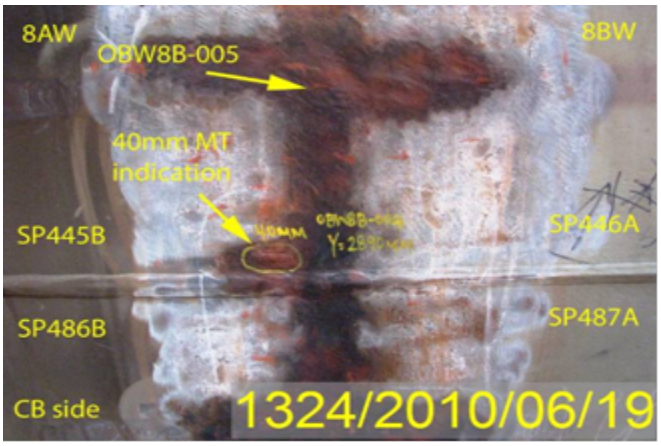












Applicable reference:
Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 (2002) Figure 6.8 – specifies a maximum discontinuity length of approximately 2mm on 6mm weld.

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

AWS D1.5 2002 section 3.3.7.4 The removal of tack welds may expose unacceptably hard or cracked HAZs. Such areas on tension or reversal of stress shall be tested by MT to ensure that no cracks are present.

ZPMC temporary attachment removal procedure TA100: "100% MT will be performed on the surface where the attachment has been removed.

Who discovered the problem: Dan Hernandez, Subhasis Bera, Joe Alaniz, Nagalingam Pandaram Pillai

Name of individual from Contractor notified: Steve Lawton, Ping Ding, Zeng Wen Jun

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 5 of 5)

Time and method of notification: 1345 hours, 06-19-10, verbal

Name of Caltrans Engineer notified: Sean Eagen

Time and method of notification: 0700 hours, 06-20-10, Email

QC Inspector's Name: Li Xiu Yang, Zhou Cheng

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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

Inspected By:	Tsang,Eric	SMR
Reviewed By:	Devey,Jim	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:**	21-Jun-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:**	05.03.06-000727
Subject:	NCR No. ZPMC-0731		

Reference Description: QA found some cracks in Lift 8 West by MT after ZPMC's had tested and accepted the welds

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:** 08

Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of hold back welds located on Segment 8BW, this QA Inspector discovered the following issues:
-Four (4) longitudinal linear cracks measuring approximately 30mm, 3mm, 5mm, and 12mm in length.
-The weld is identified as: EP074-001-010.
-The weld is a 6mm Fillet Weld joining the I-Rib RS90C to Edge Plate EP074A in the Corner Assembly (cross beam side).
-The cracks are clearly marked on the material.
-The Notice of Witness Inspection Number (NWIT) is 006009. The cracks are located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 8BW, this QA Inspector discovered the following issue:
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-The weld is located at the east side of Panel Point (PP) 67 Crossbeam side.
-The cracks are clearly marked on the material near the weld.
-The weld is a Complete Joint Penetration (CJP) weld joint, joining the Longitudinal Diaphragm (LD) identified as LD16B (X68D) to Bottom Plate identified as BP149A (PL793A).
-OBG segment 8BW is located at Trial Assembly area.
-The Notice of Witness Inspection Number (NWIT) is 006010. The cracks are located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of base metal and welds located on counterweight (CW) and cross beam (CB) of Segment 8AW+8BW weld splice, this QA Inspector discovered the following issues:
CW Side

-Three (3) linear cracks measuring approximately between 9mm and 12mm in length.
-The cracks were found at temporary attachment removal areas on two side panels.
-The Side Panel on 8AW is identified as: SP434A
-The Side Panel on 8BW is identified as: SP435A
-The CJP splice weld # is designated as OBE8B-001.
-Length and Y location of the MT cracks on SP434A (8AW) are as followed: 12mm in length and 1500mm off weld joint OBW8B-002 on the counterweight side of segment.
-Length and Y location of the MT cracks on SP434A (8AW) are as followed: 10mm in length and 6000mm off weld joint OBW8B-002 on the counterweight side of segment.
-Length and Y location of the MT cracks on SP435A (8BW) are as followed: 9mm in length and 8500mm off weld joint OBW8B-002 on the counterweight side of segment.
CB Side
-One (1) linear crack measuring approximately 40mm in length.
-The crack was found at a temporary attachment removal area on one side panel.
-The Side Panel on 8AW is identified as: SP445A
-The CJP splice weld # is designated as OBE8B-005.
-Length and Y location of the MT cracks on SP445A (8AW) are as followed: 40mm in length and 2890mm off edge plate on the cross beam side of segment.
-The Notice of Witness Inspection Number (NWIT) is No. 006009. The cracks are 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 temporary attachment removal sites.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Suspender Bracket SB013 this QA Inspector discovered the following issue:
- One (1) Linear crack in the weld toe measuring approximately 45mm length.
- The weld is identified as SB013-066-025 (Lift 8BW).
-The weld is designated as Non Seismic Performance Critical Member (Non SPCM).
-The weld is located on Suspender Bracket Stiffener SB013.
-The cracks are clearly marked on the material near the weld.
-The weld is a complete joint penetration (CJP).
-The Suspender Bracket is located in Bay# 19.
-The Notice of Witness Inspection Number (NWIT) is 006012. The crack is located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Sean Eagen Transportation Engineer

Attachments: ZPMC-0731

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

File: 05.03.06

AMERICAN BRIDGE/FLUOR ENTERPRISES, a JV

P.O. BOX 23223 Oakland, CA 94623

Phone (510) 419-0120 / Fax (510) 839-0666

NCR PROPOSED RESOLUTION

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

Attention: Pursell, Gary
Resident Engineer

Ref: 05.03.06-000727

Subject: NCR No. ZPMC-0731

Dated: **13-Jul-2010**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000726 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has repaired the areas identified in the NCR and is providing NDT documentation to show the weld is acceptable.

ZPMC has repaired the areas identified in the NCR and is providing NDT documentation to show the weld is acceptable. As stated in ZPMC's letter of response, ZPMC QA has discussed this issue with the head of the NDT Department, who is will address the issue through greater oversight by supervisors. ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000726R00;

Caltrans' comments:

Status: CLO

Date: 19-Jul-2010

The NDT documentation submitted and preventive measures taken by the Contractor are acceptable. This NCR is considered closed.

Submitted by: Woo, Laraine

Date: 19-Jul-2010

Attachment(s):

No. B-820

LETTER OF RESPONSE

TO: American Bridge/Flour
DATE: 2010-7-12
REGARDING: NCR-000769(ZPMC-0731)

ZPMC has finished the repairs and is providing the NDT records show the missed indications are acceptable now. This item has been checked and removed from punchlist after the verification of CT's representative. ZPMC QA personnel have talked with the chief of NDT department regarding the unsatisfied increasing of missed indications. ZPMC's NDT inspector will pay more attention when performing NDT testing. Based on this, ZPMC is requesting closure of this NCR.

ATTACHMENT:
N CR-000769(ZPMC-0731)
B787-MT-24231 R1
B787-MT-24268 R1
B787-MT-23646 R1
B787-MT-24852

7/13/10

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:**	21-Jun-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:**	05.03.06-000727
Subject:	NCR No. ZPMC-0731		

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The attached Non-Conformance Report describes an occurrence where the contractor did not comply with a requirement of the contract document as indicated below:

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- ☑ Quality Control (QC) not performed in conformance with contract documents.
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- ☐ Non-Conformance Resolved.

Material Location: OBG **Lift:** 08

Remarks:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of hold back welds located on Segment 8BW, this QA Inspector discovered the following issues:

-Four (4) longitudinal linear cracks measuring approximately 30mm, 3mm, 5mm, and 12mm in length.

-The weld is identified as: EP074-001-010.

-The weld is a 6mm Fillet Weld joining the I-Rib RS90C to Edge Plate EP074A in the Corner Assembly (cross beam side).

-The cracks are clearly marked on the material.

-The Notice of Witness Inspection Number (NWIT) is 006009. The cracks are located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 8BW, this QA Inspector discovered the following issue:

-Three (3) Transverse linear cracks measuring approximately 7~15mm in length.

-The weld is identified as: SEG045C-043.

-The weld is designated as Non-Seismic Performance Critical Member (Non SPCM).

-The weld is located at the east side of Panel Point (PP) 67 Crossbeam side.

-The cracks are clearly marked on the material near the weld.

-The weld is a Complete Joint Penetration (CJP) weld joint, joining the Longitudinal Diaphragm (LD) identified as LD16B (X68D) to Bottom Plate identified as BP149A (PL793A).

-OBG segment 8BW is located at Trial Assembly area.

-The Notice of Witness Inspection Number (NWIT) is 006010. The cracks are located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of base metal and welds located on counterweight (CW) and cross beam (CB) of Segment 8AW+8BW weld splice, this QA Inspector discovered the following issues:

CW Side

-Three (3) linear cracks measuring approximately between 9mm and 12mm in length.
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-The Side Panel on 8AW is identified as: SP434A
-The Side Panel on 8BW is identified as: SP435A
-The CJP splice weld # is designated as OBE8B-001.
-Length and Y location of the MT cracks on SP434A (8AW) are as followed: 12mm in length and 1500mm off weld joint OBW8B-002 on the counterweight side of segment.
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CB Side
-One (1) linear crack measuring approximately 40mm in length.
-The crack was found at a temporary attachment removal area on one side panel.
-The Side Panel on 8AW is identified as: SP445A
-The CJP splice weld # is designated as OBE8B-005.
-Length and Y location of the MT cracks on SP445A (8AW) are as followed: 40mm in length and 2890mm off edge plate on the cross beam side of segment.
-The Notice of Witness Inspection Number (NWIT) is No. 006009. The cracks are 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 temporary attachment removal sites.

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-The cracks are clearly marked on the material near the weld.
-The weld is a complete joint penetration (CJP).
-The Suspender Bracket is located in Bay# 19.
-The Notice of Witness Inspection Number (NWIT) is 006012. The crack is located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance with revised procedures to prevent future occurrences. A response for the resolution of this issue is expected within 7 days.

Transmitted by: Sean Eagen Transportation Engineer
Attachments: ZPMC-0731

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

File: 05.03.06

STATE OF CALIFORNIA--BUSINESS,TRANSPORTACTION AND HOUSING AGENCY Arnold Schwarzenegger, Governor

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
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
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QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 19-Jun-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0731

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** OBG Lift 8 West
Procedural	☐	**Procedural**	☐	**Description:** Missed MT cracks		

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-OBG segment 8BW is located at Trial Assembly area.
-The Notice of Witness Inspection Number (NWIT) is 006010. The cracks are located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of base metal and welds located on

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-One (1) linear crack measuring approximately 40mm in length.
-The crack was found at a temporary attachment removal area on one side panel.
-The Side Panel on 8AW is identified as: SP445A
-The CJP splice weld # is designated as OBE8B-005.
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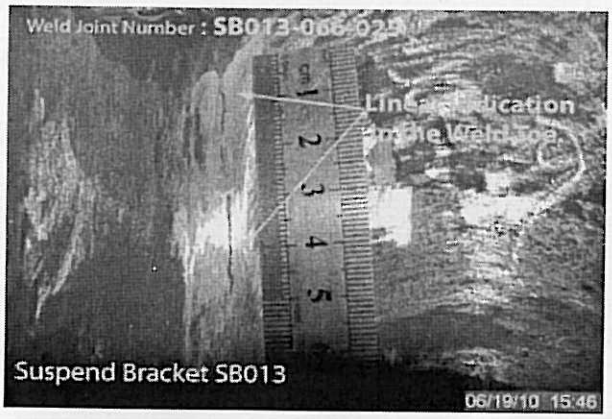
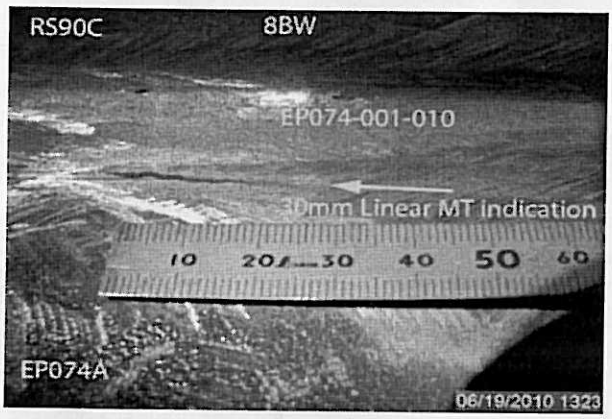
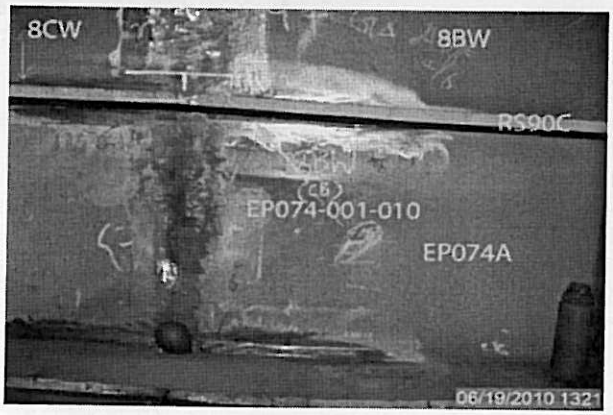
During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Suspender Bracket SB013 this QA Inspector discovered the following issue:
- One (1) Linear crack in the weld toe measuring approximately 45mm length.
- The weld is identified as SB013-066-025 (Lift 8BW).
-The weld is designated as Non Seismic Performance Critical Member (Non SPCM).
-The weld is located on Suspender Bracket Stiffener SB013.
-The cracks are clearly marked on the material near the weld.
-The weld is a complete joint penetration (CJP).
-The Suspender Bracket is located in Bay# 19.
-The Notice of Witness Inspection Number (NWIT) is 006012. The crack is located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

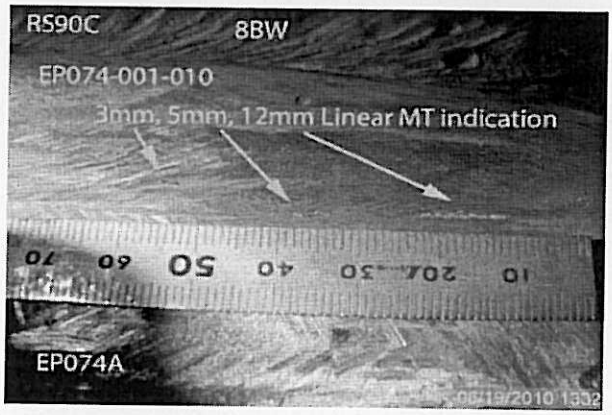
QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

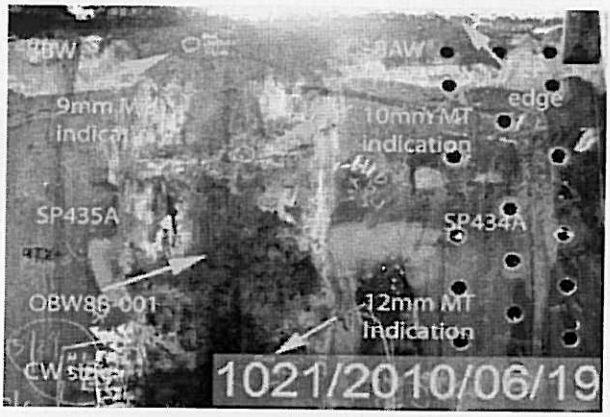
(Continued Page 3 of 5)

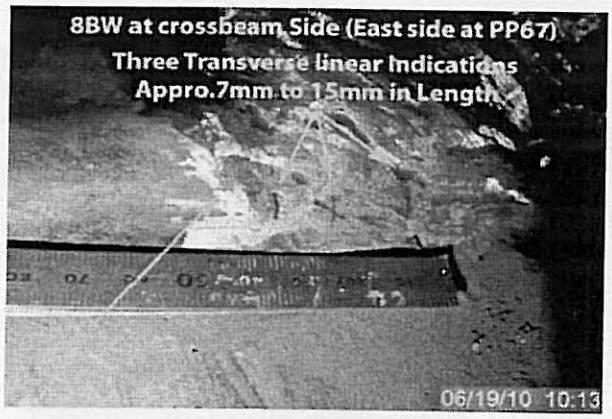


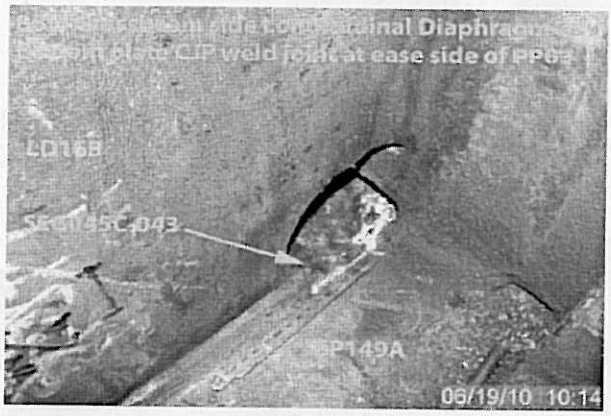


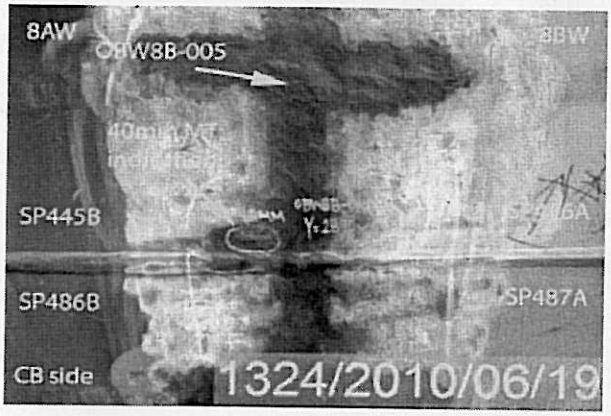












Applicable reference:
Special Provisions Section 8.3 – "Quality Control (QC) shall be the responsibility of the Contractor. As a minimum, the Contractor shall perform inspection and testing of each weld joint prior to welding, during welding, and after welding as specified in this section and to ensure that materials and workmanship conform to the requirements of the contract documents."

AWS D1.5 (2002) Figure 6.8 – specifies a maximum discontinuity length of approximately 2mm on 6mm weld.

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

AWS D1.5 2002 section 3.3.7.4 The removal of tack welds may expose unacceptably hard or cracked HAZs. Such areas on tension or reversal of stress shall be tested by MT to ensure that no cracks are present.

ZPMC temporary attachment removal procedure TA100: "100% MT will be performed on the surface where the attachment has been removed.

Who discovered the problem: Dan Hernandez, Subhasis Bera, Joe Alaniz, Nagalingam Pandaram Pillai

Name of individual from Contractor notified: Steve Lawton, Ping Ding, Zeng Wen Jun

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 5 of 5)

Time and method of notification: 1345 hours, 06-19-10, verbal
Name of Caltrans Engineer notified: Sean Eagen
Time and method of notification: 0700 hours, 06-20-10, Email
QC Inspector's Name: Li Xiu Yang, Zhou Cheng
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 Jim Devey, (86) 150-0002-6784, who represents the Office of Structural Materials for your project.

Inspected By:	Tsang,Eric	SMR
Reviewed By:	Devey,Jim	SMR

0731

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-24852	DATE日期 2010.06.30	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:	SP434A/435A/445A SIDE PLATE	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2010
EQUIPMENT 设备	MANUFACTURER 制造商	MODEL NO. 样式编号	SERIAL NO. 连续编号
MT YOKE	PARKER	B310S	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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345F2 18mm
WELDING PROCESS 焊接方法	NA	TYPE OF JOINT 焊缝类型	NA

WELD I.D. 焊缝编号	DISCONTINUITY不连续性 INDICATION 指示	TYPE 类型	LENGTH IN mm 长度	ACCEPT 接受	REJECT 拒收	REMARKS 备注
SP434A				ACC.		BASE METAL
SP435A				ACC.		BASE METAL
SP445A				ACC.		BASE METAL
BLANK						

EXAMINED BY主探	REVIEWED BY 审核
_Wang Wei Wang Wei 2010.06.30	SUWEI 2010.06.30
LEVEL - II SIGN 签名 / DATE日期	LEVEL-II SIGN / DATE日期
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

0731

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-23646R1	DATE日期 2010.07.06	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: OBW8 8BW CORNER ASSEMBLY I-RIB		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. 28ST ,2010
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	√ WELDING 焊接件 ☐ CASTING 铸件 ☐ FORGING 锻造	Material & thickness 母材,厚度	A709M-345 20/18/16mm
WELDING PROCESS 焊接方法	SMAW	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			
EP074-001-010	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
	4R1			ACC.		100%MT
AFTER B-CWR1668 REV1						
BLANK						

EXAMINED BY主探 _Wang Wei Wang Wei 20/0.07.06 LEVEL - II SIGN 签名 / DATE日期	REVIEWED BY 审核 GUXIN WU 20/0.07.06. LEVEL-II SIGN / DATE日期
质量经理 / QCM 签字 SIGN / 日期 DATE	用户CUSTOMER 签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

0731

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION

磁粉检测报告

REPORT NO. 报告编号 B787-MT-24231R1	DATE日期 2010.07.11	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:	SB66W support beam	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2010

EQUIPMENT 设备	MANUFACTURER 制造商	MODEL NO. 样式编号	SERIAL NO. 连续编号
MT YOKE	PARKER	B310S	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	√ WELDING 焊接件 □ CASTING 铸件 □ FORGING 锻造	Material & thickness 母材,厚度	A709M-345T2 30/25mm
WELDING PROCESS 焊接方法	SMAW	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			
SB013-066-025	1R1			ACC.		100%MT
AFTER B-CWR1660 REV0						
BLANK						

EXAMINED BY主探	REVIEWED BY 审核
_Chang Fangjie Chang Fangjie 2010.07.11	SUWei 2010.07.11
LEVEL - II SIGN 签名 / DATE日期	LEVEL-II SIGN / DATE日期
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

0731

ZPMC

REPORT OF MAGNETIC PARTICLE EXAMINATION
磁粉检测报告

REPORT NO. 报告编号 B787-MT-24268R1	DATE日期 2010.07.09	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:	OBW8 8BW LONGITUDINAL DIAPHRAGM	CALTRANS CONTRACT NO.: 加州工程编号	04-0120F4

REFERENCING CODE 参考规范编码	ACCEPTANCE STANDARD 接受标准	PROCEDURE NO. 程序编号	CALIBRATION DUE DATE 仪器校正有效期
AWS D1.5-2002	AWS D1.5-2002	ZPQC-MT-01	Dec. 28ST ,2010

EQUIPMENT 设备	MANUFACTURER 制造商	MODEL NO. 样式编号	SERIAL NO. 连续编号
MT YOKE	PARKER	B310S	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 检测材料料	√ WELDING 焊接件 □ CASTING 铸件 □ FORGING 锻造	Material & thickness 母材,厚度	A709M-345 20/25/30/14 mm
WELDING PROCESS 焊接方法	SMAW	TYPE OF JOINT 焊缝类型	CORNER 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			
SEG045C-043	1R1			ACC.		100%MT
	2R1			ACC.		100%MT
	3R1			ACC.		100%MT
AFTER B-CWR1662 REV0						
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EXAMINED BY主探	REVIEWED BY 审核
_Wang Wei Wang Wei 2010.07.09	SUWei 2010.07.09
LEVEL - II SIGN 签名 / DATE日期	LEVEL-II SIGN / DATE日期
质量经理 / QCM	用户CUSTOMER
签字 SIGN / 日期 DATE	签字 SIGN / 日期 DATE

(FORM# ZPQC-MT01)

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 #: xx.25A

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

Location: Changxing Island, Shanghai, P.R. China **Report No:** NCS-000689
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 19-Jul-2010
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0731

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:**
Procedural	☐	**Procedural**	☐	**Descripton:**		

Date the Non-Conformance Report was written: 19-Jun-2010

Description of Non-Conformance:

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of hold back welds located on Segment 8BW, this QA Inspector discovered the following issues:
-Four (4) longitudinal linear cracks measuring approximately 30mm, 3mm, 5mm, and 12mm in length.
-The weld is identified as: EP074-001-010.
-The weld is a 6mm Fillet Weld joining the I-Rib RS90C to Edge Plate EP074A in the Corner Assembly (cross beam side).
-The cracks are clearly marked on the material.
-The Notice of Witness Inspection Number (NWIT) is 006009. The cracks are located within the area that has been previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Orthotropic Box Girder (OBG) Segment 8BW, this QA Inspector discovered the following issue:
-Three (3) Transverse linear cracks measuring approximately 7~15mm in length.
-The weld is identified as: SEG045C-043.
-The weld is designated as Non-Seismic Performance Critical Member (Non SPCM).
-The weld is located at the east side of Panel Point (PP) 67 Crossbeam side.
-The cracks are clearly marked on the material near the weld.
-The weld is a Complete Joint Penetration (CJP) weld joint, joining the Longitudinal Diaphragm (LD) identified as LD16B (X68D) to Bottom Plate identified as BP149A (PL793A).
-OBG segment 8BW is located at Trial Assembly area.
-The Notice of Witness Inspection Number (NWIT) is 006010. The cracks are located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of base metal and welds located on counterweight (CW) and cross beam (CB) of Segment 8AW+8BW weld splice, this QA Inspector discovered

the following issues:
CW Side
-Three (3) linear cracks measuring approximately between 9mm and 12mm in length.
-The cracks were found at temporary attachment removal areas on two side panels.
-The Side Panel on 8AW is identified as: SP434A
-The Side Panel on 8BW is identified as: SP435A
-The CJP splice weld # is designated as OBE8B-001.
-Length and Y location of the MT cracks on SP434A (8AW) are as followed: 12mm in length and 1500mm off weld joint OBW8B-002 on the counterweight side of segment.
-Length and Y location of the MT cracks on SP434A (8AW) are as followed: 10mm in length and 6000mm off weld joint OBW8B-002 on the counterweight side of segment.
-Length and Y location of the MT cracks on SP435A (8BW) are as followed: 9mm in length and 8500mm off weld joint OBW8B-002 on the counterweight side of segment.
CB Side
-One (1) linear crack measuring approximately 40mm in length.
-The crack was found at a temporary attachment removal area on one side panel.
-The Side Panel on 8AW is identified as: SP445A
-The CJP splice weld # is designated as OBE8B-005.
-Length and Y location of the MT cracks on SP445A (8AW) are as followed: 40mm in length and 2890mm off edge plate on the cross beam side of segment.
-The Notice of Witness Inspection Number (NWIT) is No. 006009. The cracks are 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 temporary attachment removal sites.

During the Quality Assurance (QA) Magnetic Particle Testing (MT) review of welds located on Suspender Bracket SB013 this QA Inspector discovered the following issue:
- One (1) Linear crack in the weld toe measuring approximately 45mm length.
- The weld is identified as SB013-066-025 (Lift 8BW).
-The weld is designated as Non Seismic Performance Critical Member (Non SPCM).
-The weld is located on Suspender Bracket Stiffener SB013.
-The cracks are clearly marked on the material near the weld.
-The weld is a complete joint penetration (CJP).
-The Suspender Bracket is located in Bay# 19.
-The Notice of Witness Inspection Number (NWIT) is 006012. The crack is located within area previously tested and accepted by ZPMC Quality Control (QC) personnel.

Contractor's proposal to correct the problem:
Repair said indications and perform NDT required to verify weld quality.

Corrective action taken:
Contractor supplied post repair NDT documentation verifying weld conforms with Contract weld quality requirements. An internal NCR was also issued by ZPMC in regards to this issue.

Did corrective action require Engineer's approval?

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

(Continued Page 3 of 3)

☐ **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