

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-000592**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 04-Jan-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**NCR #:** ZPMC-0565**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: OBG Segment 5BE LD to FB
Procedural	Procedural	Description:	

Reference Description: Critical Weld Repair Performed without Engineer's Approval, Segment 5BE**Description of Non-Conformance:**

During random in-process observations of the work being performed on Orthotropic Box Girder (OBG) segment identified as 5BE the Caltrans Quality Assurance Inspector (QA) discovered the following issue:

- A critical weld repair being performed without the Engineers approval.
- The weld is a Complete Joint Penetration (CJP) T-joint identified as SEG024B-006 @ Panel Point 034.
- The weld is designated as Seismic Performance Critical Material (SPCM).
- The weld is joining longitudinal diaphragm, LD 9E, top flange identified as X44AE to floor beam, FB028-002, web identified as X94H (SPCM).

The repair is considered a Critical Weld Repair (CWR) for the following reasons:

- The weld thickness is 25mm.
- The weld was excavated to a depth of approximately 25mm.
- The maximum depth of a non-critical weld repair shall not exceed 65% of the weld thickness.
- OBG Segment 5BE is located in the OBG trial assembly area.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

American Weld Society (AWS) section 12.17.4 "All critical repairs to base metal and welds shall be approved by the Engineer prior to beginning the repair and shall be documented giving details of the type of discontinuity and extent of repair."

AWS 12.17.2 Noncritical Repair Welds. "Noncritical repair welds are generally welds to deposit additional weld beads or layers to compensate for insufficient weld size and to fill limited excavations to remove unacceptable edge or surface discontinuities, rollover or undercut, including:

First-time excavation and repair from one side of groove welds and fillet welds...provided the excavations do not exceed the following limits:

The depth of groove weld excavation shall not exceed 65 percent of the weld size shown on the drawings."

AWS 12.17.3 Critical Weld Repairs. "Except as provided in 12.17.2, all welded repairs shall be considered critical."

Who discovered the problem: S. Manjunath Math

Name of individual from Contractor notified: Zhang Xiao Bin

Time and method of notification: 1035 hours, 01-04-09, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1700 hours, 01-04-10, Verbal

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 15000422372, who represents the Office of Structural Materials for your project.

Inspected By: Guest,Skylar

SMR

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: 05-Jan-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-0565

Job Name: SAS Superstructure
Document No: 05.03.06-000554

Reference Description: Critical Weld Repair Performed without Engineer's Approval, Segment 5BE

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:** 05

Remarks:

During random in-process observations of the work being performed on Orthotropic Box Girder (OBG) segment identified as 5BE the Caltrans Quality Assurance Inspector (QA) discovered the following issue:

- A critical weld repair being performed without the Engineers approval.
- The weld is a Complete Joint Penetration (CJP) T-joint identified as SEG024B-006 @ Panel Point 034.
- The weld is designated as Seismic Performance Critical Material (SPCM).
- The weld is joining longitudinal diaphragm, LD 9E, top flange identified as X44AE to floor beam, FB028-002, web identified as X94H (SPCM).

The repair is considered a Critical Weld Repair (CWR) for the following reasons:

- The weld thickness is 25mm.
- The weld was excavated to a depth of approximately 25mm.
- The maximum depth of a non-critical weld repair shall not exceed 65% of the weld thickness.

-OBG Segment 5BE is located in the OBG trial assembly area.

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: Bill Howe Sr. Transportation Engineer

NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0565

cc: Rick Morrow, Gary Pursell, Peter Siegenthaler, Stanley Ku, Brian Boal, 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: 05.03.06-000554

Subject: NCR No. ZPMC-0565

Dated: 09-Mar-2010

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000608 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: The repair is complete and has been removed from the punchlist, attached is documentation showing that the weld is acceptable.

ZPMC acknowledges that this repair required Engineer approval and has issued an internal NCR to notify the Production department to prevent future occurrences of unapproved repairs. The repair is complete and has been removed from the punchlist, attached is documentation showing that the weld is acceptable. Based on this ZPMC requests closure of this NCR.

Submitted by: Ishibashi, Joshua

Attachment(s): ABF-NPR-000608R00;

Caltrans' comments:

Status: CLO

Date: 18-Mar-2010

The documentation received is sufficient to close this NCR.

Submitted by: Howe, Bill

Date: 18-Mar-2010

Attachment(s):



No. B-643

LETTER OF RESPONSE

TO: American Bridge/Flour

DATE: 2010-3-5

REGARDING: NCR-000592 (ZPMC-0565)

With this letter of response, ZPMC requests closure of CT NCR-000592 (ZPMC-0565) what mentioned about the weld repair without approval by Engineer.

- To adjust the dimension of LDs, the flange and web of LD9E was removed and rewelded. UT rejections were found after then.
- The depth of the deflection in SPCM welds where exceeding 65% should not been repaired without Engineer's approval. For this case, ZPMC performed welding repair without Engineer's approval.
- To emphasize this requirement, ZPMC has issued internal NCR.
- Punch list item 349 what mentioned this NCR has been confirmed and closed by CT inspector.
- Attached NDT documentations show the repaired welds are sound after repair.

Based on response above and attached documentations, ZPMC requests closure of this NCR.

ATTACHMENT:

NCR-000592 (ZPMC-0565)

NCR-B-389 (ZPMC-0565)

B787-UT-11204


3/8/10



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: 05-Jan-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-0565

Job Name: SAS Superstructure
Document No: 05.03.06-000554

Reference Description: Critical Weld Repair Performed without Engineer's Approval, Segment 5BE

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: 05

Remarks:

During random in-process observations of the work being performed on Orthotropic Box Girder (OBG) segment identified as 5BE the Caltrans Quality Assurance Inspector (QA) discovered the following issue:

-A critical weld repair being performed without the Engineers approval.

-The weld is a Complete Joint Penetration (CJP) T-joint identified as SEG024B-006 @ Panel Point 034.

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

-The weld is joining longitudinal diaphragm, LD 9E, top flange identified as X44AE to floor beam, FB028-002, web identified as X94H (SPCM).

The repair is considered a Critical Weld Repair (CWR) for the following reasons:

-The weld thickness is 25mm.

-The weld was excavated to a depth of approximately 25mm.

-The maximum depth of a non-critical weld repair shall not exceed 65% of the weld thickness.

-OBG Segment 5BE is located in the OBG trial assembly area.

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: Bill Howe Sr. Transportation Engineer

NCT

(Continued Page 2 of 2)

Attachments: ZPMC-0565

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

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-000592

Prime Contractor: American Bridge/Fluor Enterprises, a JV

Date: 04-Jan-2010

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

NCR #: ZPMC-0565

Type of problem:

Welding Concrete Other Welding Curing Procedural Bridge No: 34-0006Joint fit-up Coating Other Component: OBG Segment 5BE LD to FBProcedural Procedural Description:

Reference Description: Critical Weld Repair Performed without Engineer's Approval, Segment 5BE

Description of Non-Conformance:

During random in-process observations of the work being performed on Orthotropic Box Girder (OBG) segment identified as 5BE the Caltrans Quality Assurance Inspector (QA) discovered the following issue:

-A critical weld repair being performed without the Engineers approval.

-The weld is a Complete Joint Penetration (CJP) T-joint identified as SEG024B-006 @ Panel Point 034.

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

-The weld is joining longitudinal diaphragm, LD 9E, top flange identified as X44AE to floor beam, FB028-002, web identified as X94H (SPCM).

The repair is considered a Critical Weld Repair (CWR) for the following reasons:

-The weld thickness is 25mm.

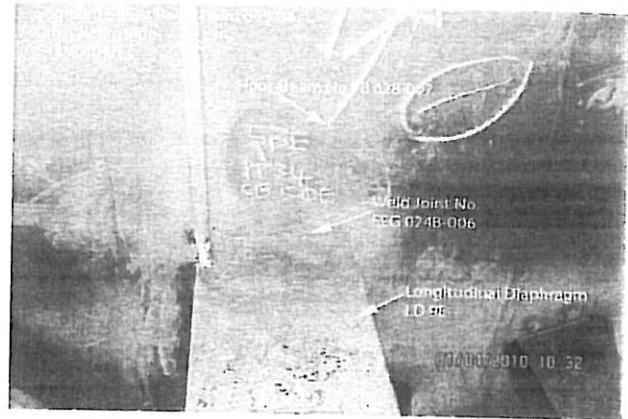
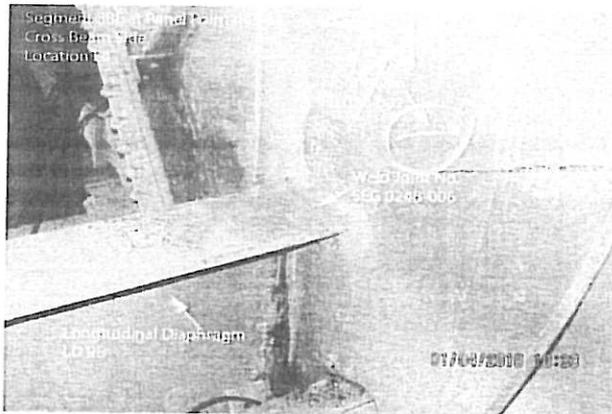
-The weld was excavated to a depth of approximately 25mm.

-The maximum depth of a non-critical weld repair shall not exceed 65% of the weld thickness.

-OBG Segment 5BE is located in the OBG trial assembly area.

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 3)



Applicable reference:

American Weld Society (AWS) section 12.17.4 "All critical repairs to base metal and welds shall be approved by the Engineer prior to beginning the repair and shall be documented giving details of the type of discontinuity and extent of repair."

AWS 12.17.2 Noncritical Repair Welds. "Noncritical repair welds are generally welds to deposit additional weld beads or layers to compensate for insufficient weld size and to fill limited excavations to remove unacceptable edge or surface discontinuities, rollover or undercut, including:

First-time excavation and repair from one side of groove welds and fillet welds...provided the excavations do not exceed the following limits:

The depth of groove weld excavation shall not exceed 65 percent of the weld size shown on the drawings."

AWS 12.17.3 Critical Weld Repairs. "Except as provided in 12.17.2, all welded repairs shall be considered critical."

Who discovered the problem: S. Manjunath Math

Name of individual from Contractor notified: Zhang Xiao Bin

Time and method of notification: 1035 hours, 01-04-09, Verbal

Name of Caltrans Engineer notified: Bill Howe

Time and method of notification: 1700 hours, 01-04-10, Verbal

QC Inspector's Name: Wang Lu

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Comments:

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, 15000422372, who represents the Office of Structural Materials for your project.

Inspected By: Guest, Skyler

SMR

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 3 of 3)

Reviewed By: Wahbeh,Mazen

SMR



Nonconformance Report

不符合项报告

Project Name: S.F.O.B.B
项目名称: 美国加州海湾大桥

NCR Number:
NCR 编号: NCR-B-389(ZPMC-0565)

Item: CWR Performed without
Engineer's Approval
名称描述:

Item Number:
件号: 5BE

Drawing:
图号: 5BE LD to FB

Location: Trial assembly
位置: 后场总拼

Date:
日期: 2010-01-15

Description of Nonconformance:

During random in process observations of the work being performed on Orthotropic Box Girder segment identified as 5BE the Caltrans Quality Assurance Inspector discovered the following issue:

A critical weld repair being performed without the Engineers approval.

The weld is a complete joint penetration T-joint identified as SEG024B-006 @ Panel Point 34

The weld is designated as Seismic Performance Critical Material(SPCM)

The weld is jointing longitudinal diaphragm, LD9E,top flange identified as X44E to floor beam,FB028-002.web identified as X94H(SPCM)

The repair is considered a Critical Weld Repair for the following reasons:

The weld thickness is 25mm

The weld was excavated to a depth of approximately 25mm

The maximum depth of a non-critical weld repair shall not exceed 65% of the weld thickness.

OBG Segment 5BE is located in the OBG trial assembly area.

在日常的检验中加州检验员发现以下问题:

关键返修没有提交关键返修报告,焊接母材是 SPCM。是 LD9E 的翼板 X44E 养育隔板 FB0028-002 (X94H) 的焊缝,焊缝深度为 25MM, 碳刨返修深度超过焊缝深度的 65%。

Work By:
施工方: Xiafa Ling 2010

Prepared by: Wanghr
准备: 2010.1.15

Reviewed by QCE: zhaoshuang bo
质量工程师批准: 2010.1.15

- Drawing Error Material Defect Fabrication Error Other
 图纸错误 材料缺陷 制作错误 其他原因

Disposition: Use as is Repair Reject
 处理措施: 回用 返修 拒收

Recommendation:
建议:

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

Reason for Nonconformance:

不符合原因:
对于材料返修未提交关键返修报告。
repair without approved CWR.

Prevention of Re-occurrence:

预防措施:

加强现场监控或检查。

Enhance supervision and inspection on-site

Approved by/批准: Guo Jun 2.2

Technical Justification for Use-As-Is/Repair:

Attachment

Non-attachment

回用或返修的技术依据:

附件

无附件

请拉紧管道连接处 WR-8063 零件, 并加强现场监控
杜绝此问题再次发生, 对返修零件进行 NDT 检测

Deal with this problem ^{根据图纸技术} per disposition in WR-8063, and enhance supervision on site
to avoid this kind of thing happen again. Check the repair area with NDT according
to work drawing.

Reviewed/批准: Tang Yongbo

Verification:

Acceptable

Unacceptable

确认:

可接受

不可接受

Jin Yongjian 5/120611

2010.3.8

Verified by QCI/质检确认:

Reviewed by QCA/质检主任审核:

#R787-QCP-1300

MCR-13-2009



REPORT OF ULTRASONIC EXAMINATION

UT探伤报告

REPORT NO. 报告编号 B787-UT-11204 DATE 2010.02.07 PAGE 1 OF 1 Revision No: 0

PROJECT NO.: 工程编号 ZP06-787 CONTRACTOR: CALTRANS

ITEMS NAME: LONGITUDINAL DIAPHRAGM DRAWING NO.: LD9E CALTRANS CONTRACT NO.: 04-0120F4
 部件名称 图号 加州工程编号

REFERENCING CODE 参考规范 ACCEPTANCE STANDARD 接受标准 PROCEDURE NO. 程序编号
 AWS D1.5-2002 AWS D1.5-2002(Table 6.3) ZPQC-UT-01

WELDING PROCESS 焊接方法 JOINT TYPE 焊缝类型 CALIBRATION DUE DATE 仪器校正有效期
 FCAW CORNER JOINT Dec. 28ST, 2010

EQUIPMENT 设备 MANUFACTURER 制造商 MODEL NO. 样式编号 SERIAL NO. 序列编号
 UT SCOPE PANAMETRICS EPOCH-4B 071565311, 061488510, 061495811, 070152011,

CALIBRATION BLOCK 试块 COUPLANT 耦合剂 MATERIAL/THICKNESS 材料厚度
 √S IIW BLOCK TYPE II C.M.C A709M-345T2 25/35/14mm

TRANSDUCER 探头

MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸	MANUFACTURER 制造商	ANGLE 角度	FREQUENCY 频率	SIZE 尺寸
Changchao	70°	2.5MHz	18×18mm				
Changchao	0°	2.5MHz	20mm	Reference Level 参考灵敏度		20dB	

Base metal inspected per AWS D1.5-2002 Section 6.19.5 0° UT OK.

WELD IDENTIFICATION 焊缝部件编号	INDICATION NO. 指示号	PROBE ANGLE 探测角度	FROM FACE 检测面	LEG (次数)	DECIBELS分贝				DISCONTINUITY 不连续性					Discontinuity Evaluation 缺陷估计	Remark 备注	
					Indication Level	Reference Level	Attenuation Factor	Indication Rating	LOCATION OF DISCONTINUITY 不连续位置(mm)							
									a	b	c	d	Length 长度			Sound Path 声程
SEG024B-024		70				33									ACC	100%
SEG024B-006		70				33									ACC	100%
SEG024B-026		70				33									ACC	100%

AFTER B-WR8063

BLANK

EXAMINED BY 主探 <u>Tang Xing shan</u> LEVEL - II SIGN 1 DATE 10.02.07	REVIEWED BY 审核 <u>Xia Rong gang</u> LEVEL - II SIGN 1 DATE 10.02.07
质量经理 / QCM <u>Wu Jianhua (10-21)</u> 签字 SIGN / 日期 DATE	用户 CUSTOMER _____ 签字 SIGN / 日期 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-000551**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 18-Mar-2010**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0565**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component:
Procedural	Procedural	Description:	

Date the Non-Conformance Report was written: 04-Jan-2010**Description of Non-Conformance:**

During random in-process observations of the work being performed on Orthotropic Box Girder (OBG) segment identified as 5BE the Caltrans Quality Assurance Inspector (QA) discovered the following issue:

- A critical weld repair being performed without the Engineers approval.
- The weld is a Complete Joint Penetration (CJP) T-joint identified as SEG024B-006 @ Panel Point 034.
- The weld is designated as Seismic Performance Critical Material (SPCM).
- The weld is joining longitudinal diaphragm, LD 9E, top flange identified as X44AE to floor beam, FB028-002, web identified as X94H (SPCM).

The repair is considered a Critical Weld Repair (CWR) for the following reasons:

- The weld thickness is 25mm.
- The weld was excavated to a depth of approximately 25mm.
- The maximum depth of a non-critical weld repair shall not exceed 65% of the weld thickness.

- OBG Segment 5BE is located in the OBG trial assembly area.

Contractor's proposal to correct the problem:

Perfrom NDT required to verify weld quality.

Corrective action taken:

Contractor repaired weld defects and submitted subsequent NDT documentation verifying the weld is in conformance with Contract specifications.

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 Jim Simonis 152. 1675.3703, who represents the Office of Structural Materials for your project.

Inspected By: Simonis,Jim

Quality Assurance Inspector

Reviewed By: Wahbeh,Mazen

QA Reviewer