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, PRC **Report No:** NCR-000463
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 31-Oct-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0436

Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** North Tower
Procedural	☐	**Procedural**	☐	**Description:** North Tower, Lift 1		

Reference Description: Unapproved free hand thermal cutting of North Tower, Lift 1 Exterior Bearing Stiffeners

Description of Non-Conformance:
During Visual Testing (VT) of North Tower, Lift 1, Skin E exterior bearing stiffeners, QA observed 'free hand thermal cutting' for bevel preparation being carried out by ZPMC personnel without approval by the Engineer.

Applicable reference:
AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Who discovered the problem: Umesh Gaikwad
Name of individual from Contractor notified: Xing Xiao Guang
Time and method of notification: 10/31/2009, 14:00; Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 11/2/2009, 8:00; Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name: Zhu Feng

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	03-Nov-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:**	05.03.06-000422
Subject:	NCR No. ZPMC-0436		

Reference Description: Free hand thermal cutting without prior approval of the Engineer/ North Tower, Lift 1/ Exterior Bearing Stiffeners

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

- ☐ Material or Workmanship not in conformance with contract documents.
- ☐ Quality Control (QC) not performed in conformance with contract documents.
- ☑ Recurring QC issue that constitutes a systematic problem in quality control.
- ☐ Non-Conformance Resolved.

Material Location: Tower **Lift:** 01

Remarks:

During Visual Testing (VT) of North Tower, Lift 1, Skin E exterior bearing stiffeners, QA observed ‘free hand thermal cutting’ for bevel preparation being carried out by ZPMC personnel without approval by the Engineer.
AWS D1.5-2002, Section 3.2.3 - “Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer.”

Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance, documenting that the affected plate edges have been brought in compliance with the contract requirements.

In addition, to the material/workmanship non-conformance, propose a resolution for this systematic non-conformance that addresses the failure of Quality Control to identify the deficiency. NPR ZPMC-391 and NPR ZPMC-412 addressed the same type of non-conformance, ABFJV stated in part, "ZPMC understands and acknowledges that free hand thermal cutting is not permitting without prior Engineer approval and in the future ZPMC CWIs monitor thermal cutting activities closer to ensure that it is in compliance". Please also address the apparent failure of the internal communication within ZPMC that caused this now systematic failure. In the event of another repeated incident of this type, address what steps/ actions will be taken by ABFJV.

Transmitted by: Ken Lee Transportation Engineer
Attachments: ZPMC-0436

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe, Scott Kennedy
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: 05.03.06-000422

Subject: NCR No. ZPMC-0436

Dated: **17-Nov-2009**

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

Job Name: SAS Superstructure

Document No.: **ABF-NPR-000422 Rev: 00**

Contractor's Proposed Resolution:

Reference Resolution: ZPMC has resolved the discrepancy between their internal procedure and AWS D1.5 and understands that Engineer approval is required for free hand thermal cutting.

ZPMC has resolved the discrepancy between their internal procedure and AWS D1.5 and understands that Engineer approval is required for free hand thermal cutting. A CWI will monitor free hand thermal cutting in the future to prevent this non conformance. ZPMC has provided their internal free hand thermal procedure which was used in the documented NCR. Enclosed are photos of the final condition of the free hand cut. Based on this ZPMC requests closure of this NCR.

Submitted by:

Attachment(s): ABF-NPR-000422R00;

Caltrans' comments:

Status: CLO

Date: 18-Nov-2009

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0436 is closed.

Submitted by: Lee, Ken

Date: 18-Nov-2009

Attachment(s):

No. T-079

LETTER OF RESPONSE

TO: American Bridge/Flour JV
DATE: 2009-11-16
REGARDING: NCR-000463（ZPMC-0436）
NCR-000469（ZPMC-0442）
NCR-000438（ZPMC-0412）
NCR-000417（ZPMC-0391）

ZPMC received four NCRs, it mentioned that QA observed "free hand thermal cutting" being carried out by ZPMC personnel during in-process VT of West Tower and North Tower.

Actually, ZPMC conducted freehand flame cutting as the attached internal procedure. Since there is the discrepancy between the ZPMC internal procedure and the AWS D1.5 clause, now ZPMC understands and acknowledges that free hand thermal cutting is not permitting without prior Engineer approved and in the future. ZPMC QA and QC had discussed with the relative work team. The CWI will monitor thermal cutting activities closer to ensure that it is compliance. Also, ZPMC will try to use the automatic thermal cutting machine or prepare a mechanical guide before cutting.

So ZPMC provided the internal cutting procedure and the pictures of final condition of the joint freehand cut, hoping Caltrans could take a review and consider close these NCR. If it's necessary to use the freehand flame cutting, ZPMC will ask for Engineer's approval in the future.

ATTACHMENT:
NCR-000463（ZPMC-0436）
NCR-000469（ZPMC-0442）
NCR-000438（ZPMC-0412）
NCR-000417（ZPMC-0391）
Freehand Flame cutting procedure
4 Relative Pictures After Bevel Preparation

2009-11-17

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To:	AMERICAN BRIDGE/FLUOR, A JV 375 BURMA ROAD OAKLAND CA 95607	**Date:**	03-Nov-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:**	05.03.06-000422
Subject:	NCR No. ZPMC-0436		

Reference Description: Free hand thermal cutting without prior approval of the Engineer/ North Tower, Lift 1/ Exterior Bearing Stiffeners

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

- ☐ Material or Workmanship not in conformance with contract documents.
- ☐ Quality Control (QC) not performed in conformance with contract documents.
- ☑ Recurring QC issue that constitutes a systematic problem in quality control.
- ☐ Non-Conformance Resolved.

Material Location: Tower **Lift:** 01

Remarks:

During Visual Testing (VT) of North Tower, Lift 1, Skin E exterior bearing stiffeners, QA observed 'free hand thermal cutting' for bevel preparation being carried out by ZPMC personnel without approval by the Engineer.

AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Action Required and/or Action Taken:

Propose a resolution for this systematic non-conformance, documenting that the affected plate edges have been brought in compliance with the contract requirements.

In addition, to the material/workmanship non-conformance, propose a resolution for this systematic non-conformance that addresses the failure of Quality Control to identify the deficiency. NPR ZPMC-391 and NPR ZPMC-412 addressed the same type of non-conformance, ABFJV stated in part, "ZPMC understands and acknowledges that free hand thermal cutting is not permitting without prior Engineer approval and in the future ZPMC CWIs monitor thermal cutting activities closer to ensure that it is in compliance". Please also address the apparent failure of the internal communication within ZPMC that caused this now systematic failure. In the event of another repeated incident of this type, address what steps/ actions will be taken by ABFJV.

Transmitted by: Ken Lee Transportation Engineer
Attachments: ZPMC-0436

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe, Scott Kennedy
File: 05.03.06

02.02:15.04 05.03.06-000422.NCT

Received
NCT-000422 03 Nov 09

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

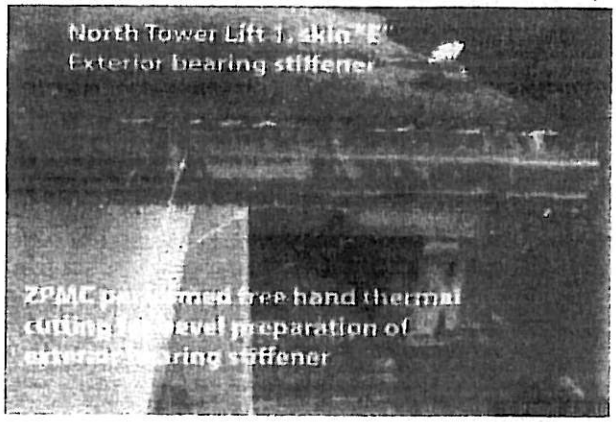
Location: Changxing Island, Shanghai, PRC **Report No:** NCR-000463
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 31-Oct-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0436

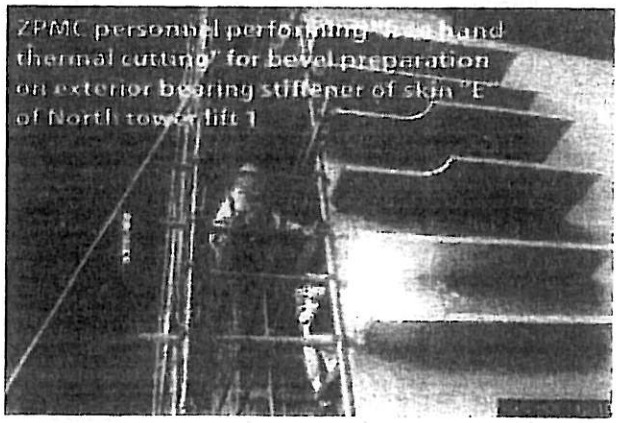
Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** North Tower
Procedural	☐	**Procedural**	☐	**Description:** North Tower, Lift 1		

Reference Description: Unapproved free hand thermal cutting of North Tower, Lift 1 Exterior Bearing Stiffeners

Description of Non-Conformance:
During Visual Testing (VT) of North Tower, Lift 1, Skin E exterior bearing stiffeners, QA observed 'free hand thermal cutting' for bevel preparation being carried out by ZPMC personnel without approval by the Engineer.





Applicable reference:
AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."
Who discovered the problem: Umesh Gaikwad
Name of individual from Contractor notified: Xing Xiao Guang
Time and method of notification: 10/31/2009, 14:00; Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 11/2/2009, 8:00; Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name: Zhu Feng

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge
333 Burma Road
Oakland CA 94607
Tel: 510-808-4618 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 06-Nov-2009

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

Job Name: SAS Superstructure

Document No: 05.03.06-000432

Dear: Mr. Charles Kanapicki

Attention: Mr. Thomas Nilsson Project/Fabrication Manager

Subject: NCR No. ZPMC-0442

Reference Description: Unapproved freehand thermal cutting/ North Tower, Lift 1/Exterior bearing stiffeners

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

- ☑ Material or Workmanship not in conformance with contract documents.
- ☑ Quality Control (QC) not performed in conformance with contract documents.
- ☐ Recurring QC issue that constitutes a systematic problem in quality control.
- ☐ Non-Conformance Resolved.

Material Location: Tower **Lift:** 01

Remarks:

During Visual Testing (VT) of North Tower, Lift 1, exterior bearing stiffeners, QA observed 'freehand thermal cutting' being carried out by ZPMC personnel without Engineer approval.

AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the affected plate edges have been brought in compliance with the contract requirements.

In addition, to the material/workmanship non-conformance, propose a resolution for the identified non-conformance that addresses the failure of Quality Control to indentify the deficiency.

Provide documentation of the steps/actions taken by the Quality Control Manager with regard to both Production and Quality Control to prevent future occurrences.

Transmitted by: Ken Lee Transportation Engineer
Attachments: ZPMC-0442

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe, Scott Kennedy
File: 05.03.06

02:15.04
05.03.06-000432.NCT

Received
NCT-000432 06 Nov 09

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
(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, PRC
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

Report No: NCR-000469
Date: 04-Nov-2009
NCR #: ZPMC-0442

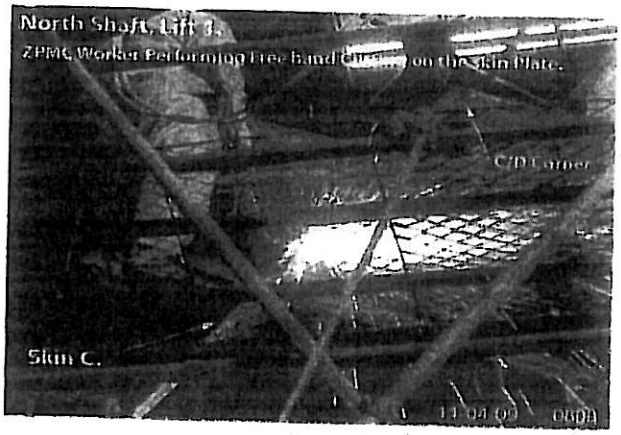
Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** North Tower
Procedural	☐	**Procedural**	☐	**Description:** North Tower, Lift 1		

Reference Description: Unapproved freehand thermal cutting on North Tower, Lift 1

Description of Non-Conformance:

During Visual Testing (VT) of North Tower, Lift 1, exterior bearing stiffeners, QA observed 'freehand thermal cutting' being carried out by ZPMC personnel without Engineer approval.



Applicable reference:

AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Who discovered the problem: Amit Juvekar
Name of individual from Contractor notified: Mr. Kim
Time and method of notification: 11/4/2009, 8:00; Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 11/5/2009, 13:00; Verbal
QC Inspector's Name: Zhu Feng

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
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:**	02-Oct-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:**	05.03.06-000398
Subject:	NCR No. ZPMC-0412		

Reference Description: Freehand Thermal Cutting Without Engineer Approval / North Shaft Lift 3 / BC Diagonal Stiffener

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

- ☑ Material or Workmanship not in conformance with contract documents.
- ☑ Quality Control (QC) not performed in conformance with contract documents.
- ☐ Recurring QC issue that constitutes a systematic problem in quality control.
- ☐ Non-Conformance Resolved.

Material Location: Tower **Lift:** 03

Remarks:

QA observed ZPMC personnel perform free hand thermal cutting on North Tower, Lift 3, BC Diagonal Stiffener, between the 85m and 89m Diaphragms. The length of the cut was approximately 850mm.

AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regularsurface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the affected plate edges have been brought in compliance with the contract requirements.

In addition, to the material/workmanship non-conformance, propose a resolution for the identified non-conformance that addresses the failure of Quality Control to indentify the deficiency.

Provide documentation of the steps/actions taken by the Quality Control Manager with regard to both Production and Quality Control to prevent future occurrences.

Transmitted by: Scott Kennedy Sr. Bridge Engineer
Attachments: ZPMC-0412

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe
File: 05.03.06

02.02;15.04

Received
NCT-000398 02 Oct 09

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
(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, PRC **Report No:** NCR-000438
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 28-Sep-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0412

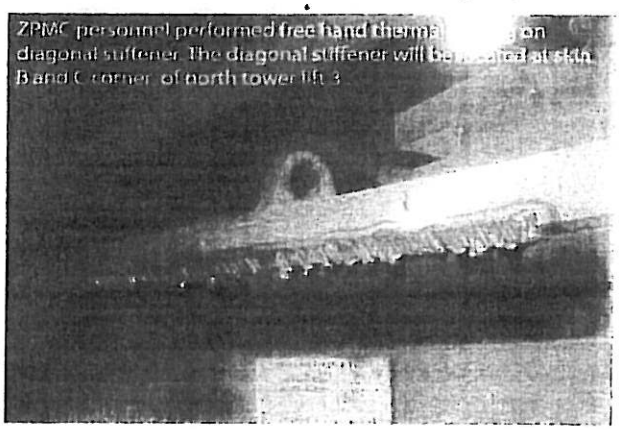
Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** North Tower
Procedural	☐	**Procedural**	☐	**Description:** North Tower, Lift 3, BC Diagonal Stiffener		

Reference Description: Free hand thermal cutting on North Tower, Lift 3, BC Diagonal Stiffener

Description of Non-Conformance:

QA observed ZPMC personnel perform free hand thermal cutting on North Tower, Lift 3, BC Diagonal Stiffener, between the 85m and 89m Diaphragms. The length of the cut was approximately 850mm.



Applicable reference:

AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Who discovered the problem: Shrikant Utekar
Name of individual from Contractor notified: Xiao Jun Peng
Time and method of notification: 9/28/2009, 22:30; Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 9/31/2009, 12:00; Verbal
QC Inspector's Name: Guo Zhi Chun

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	'Sinevod,Serge	ASMR
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:**	21-Sep-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:**	05.03.06-000379
Subject:	NCR No. ZPMC-0391		

Reference Description: Freehand Thermal Cutting Without Engineer Approval / West Shaft Lift 1 / Base Bevel Preparation

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

- ☑ Material or Workmanship not in conformance with contract documents.
- ☑ Quality Control (QC) not performed in conformance with contract documents.
- ☐ Recurring QC issue that constitutes a systematic problem in quality control.
- ☐ Non-Conformance Resolved.

Material Location: Tower **Lift:** 01

Remarks:

During in-process Visual Testing (VT) of West Tower, Lift 1, base-end bevel preparation, QA observed 'freehand thermal cutting' being carried out by ZPMC personnel. Access to the areas being cut were not restricted due to cross sectional geometry and or position in so far as mechanical guides could not be used.

AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Action Required and/or Action Taken:

Propose a resolution for the identified non-conformance, documenting that the affected plate edges have been brought in compliance with the contract requirements.

In addition, to the material/workmanship non-conformance, propose a resolution for the identified non-conformance that addresses the failure of Quality Control to indentify the deficiency.

Provide documentation of the steps/actions taken by the Quality Control Manager with regard to both Production and Quality Control to prevent future occurrences.

Transmitted by: Scott Kennedy Sr. Bridge Engineer
Attachments: ZPMC-0391

cc: Rick Morrow, Gary Pursell, Mark Woods, Doug Coe
File: 05.03.06

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

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

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

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

Location: Changxing Island, Shanghai, PRC **Report No:** NCR-000417
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 21-Sep-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0391

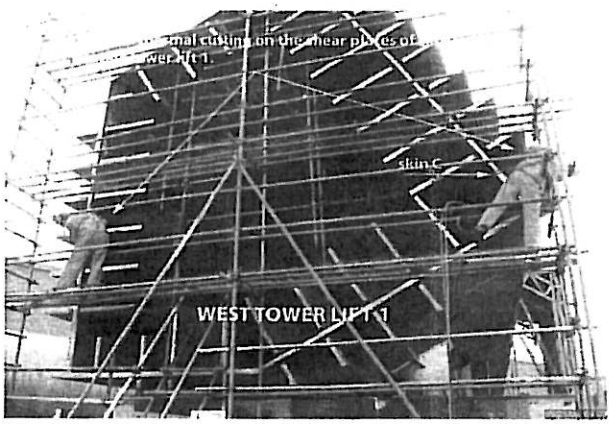
Type of problem:

Welding	☐	**Concrete**	☐	**Other**	☑	
Welding	☐	**Curing**	☐	**Procedural**	☐	**Bridge No:** 34-0006
Joint fit-up	☐	**Coating**	☐	**Other**	☑	**Component:** West Tower
Procedural	☐	**Procedural**	☐	**Description:** West Tower, Lift 1		

Reference Description: Unapproved freehand thermal cutting on West Tower base-end bevel preparation

Description of Non-Conformance:

During in-process Visual Testing (VT) of West Tower, Lift 1, base-end bevel preparation, QA observed 'freehand thermal cutting' being carried out by ZPMC personnel. Access to the areas being cut were not restricted due to cross sectional geometry and or position in so far as mechanical guides could not be used.



Applicable reference:

AWS D1.5-2002, Section 3.2.3 - "Steel and weld metal may be thermally cut, provided a smooth and regular surface free from cracks and notches is secured, and provided that an accurate profile is secured by the use of a mechanical guide. Freehand thermal cutting shall be done only where approved by the Engineer."

Who discovered the problem: Umesh Gaikwad
Name of individual from Contractor notified: Luo Lai Quan
Time and method of notification: 9/21/2009, 10:00; Verbal
Name of Caltrans Engineer notified: Scott Kennedy
Time and method of notification: 9/21/2009, 12:00; Verbal

QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

(Continued Page 2 of 2)

QC Inspector's Name: Zhao Mao Mao

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 Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	ASMR
Reviewed By:	Wahbeh,Mazen	SMR

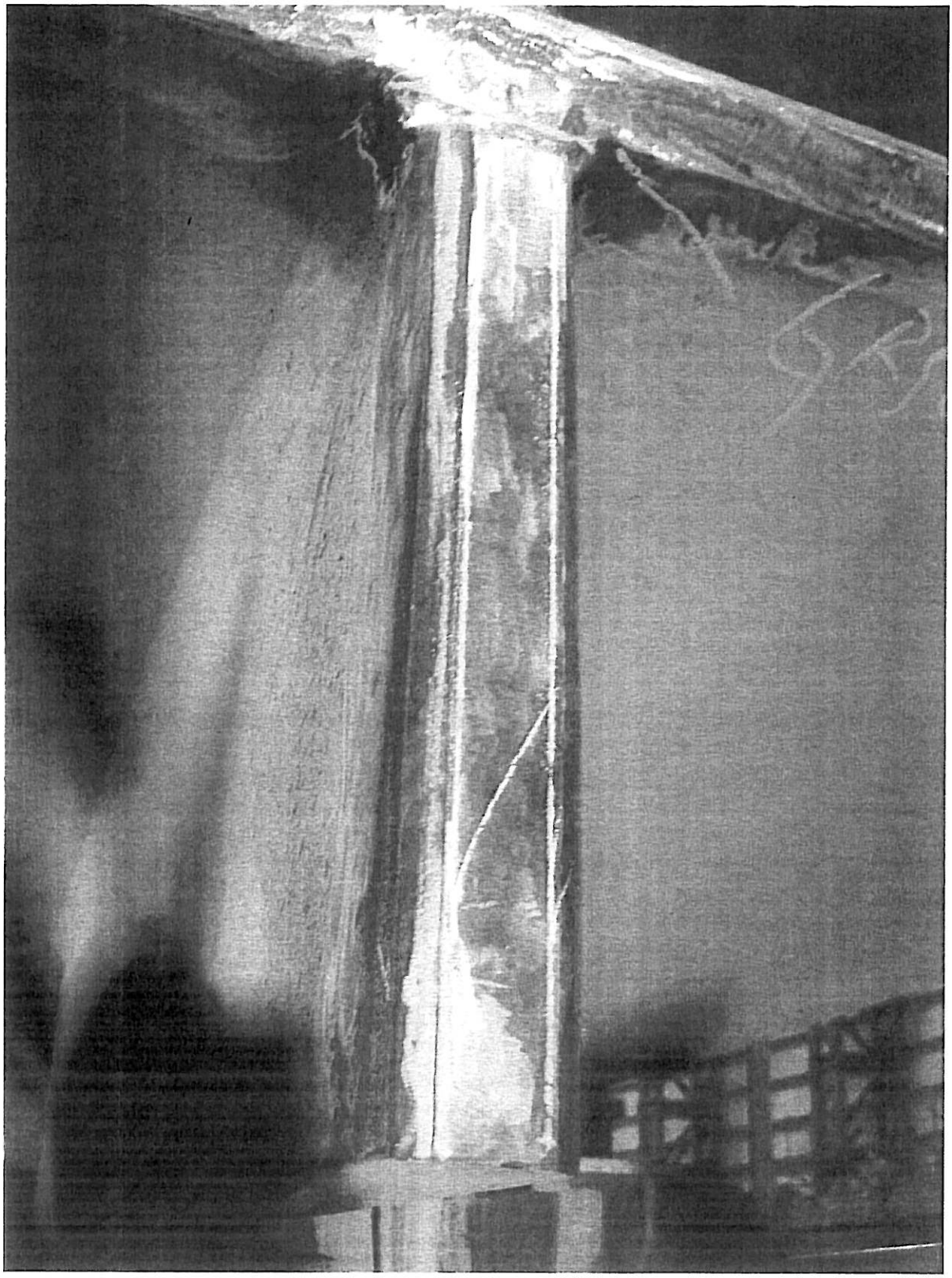
上海振华港机(集团)股份有限公司 ZPMC
SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.
地址：中华人民共和国上海浦东南路 3470 号 ADDRESS: 3470 PUDONG NAN-LU, SHANGHAI 200125, P.R.CHINA
Postcode (邮编): 200125 Telephone(电话): +86 21 58396565 Fax (传真): +86 21 58396555 E-mail(电子邮件): ma...@zpmc.com

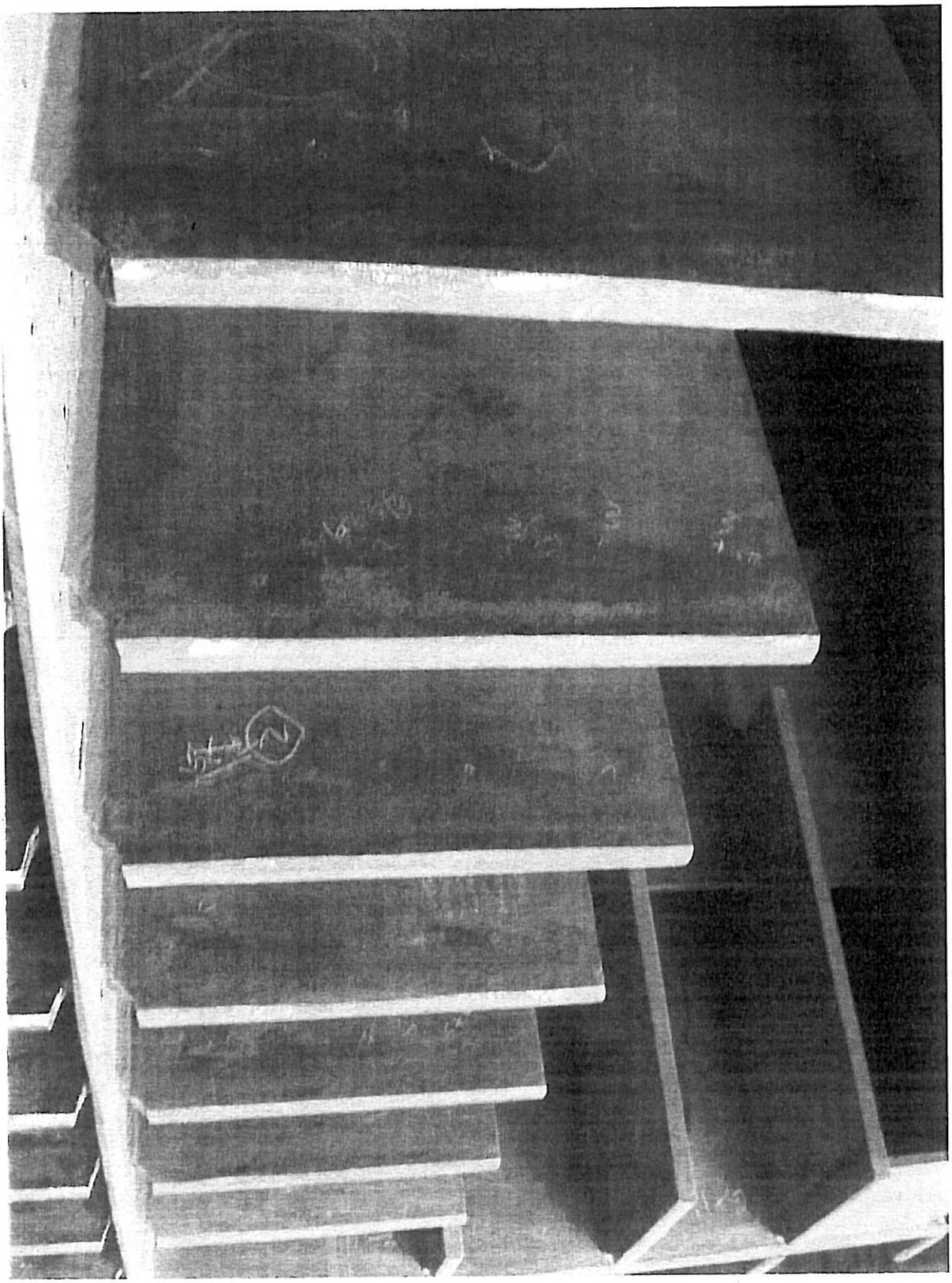
Freehand Flame Cutting.

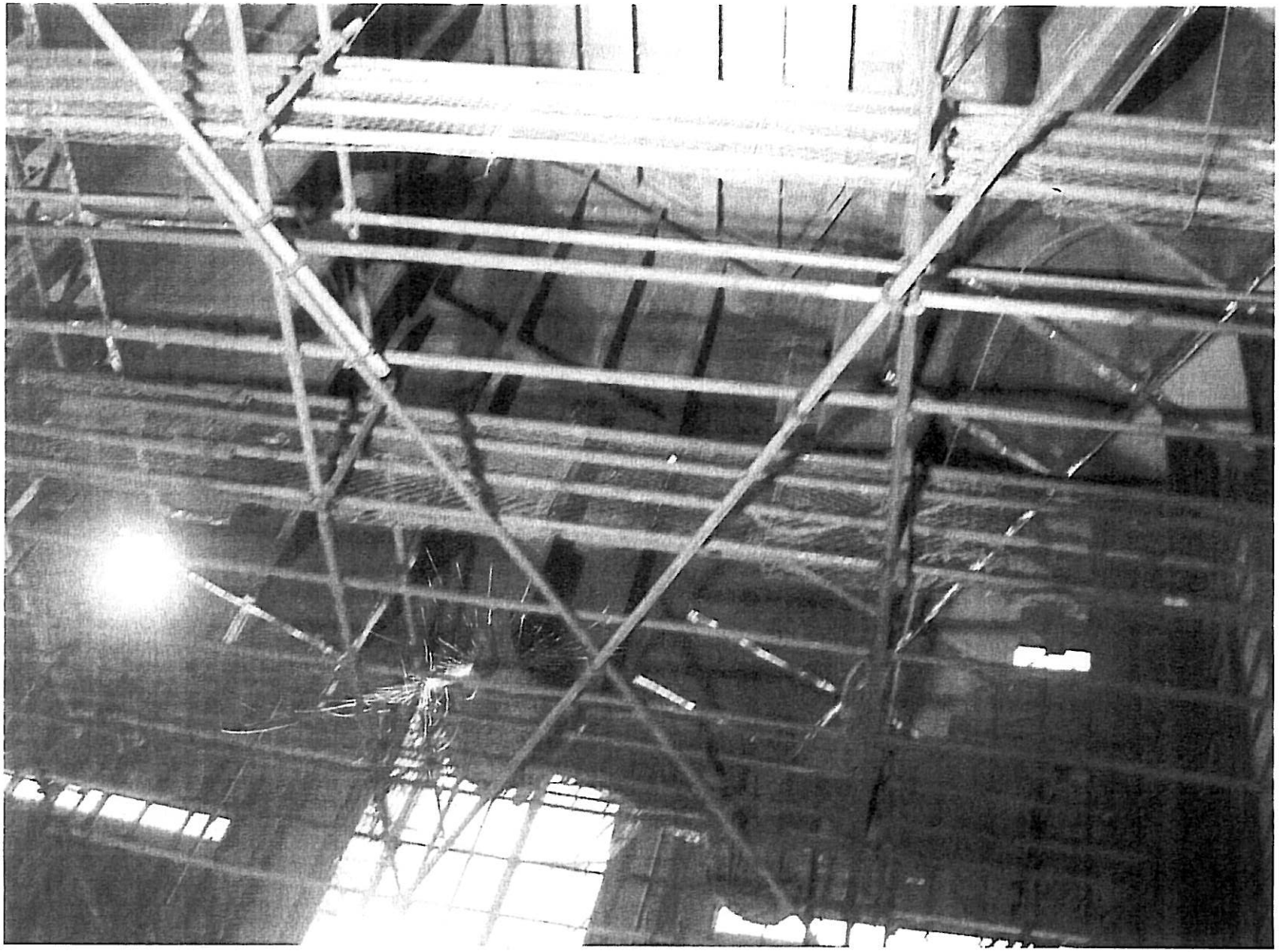
Freehand flame cutting procedure:

Freehand flame cutting procedure may be performed in areas where it is impractical to use machine flame cutting or a mechanical guide. Freehand flame cutting should follow this procedure unless otherwise approved by Engineer.

1. Mark the cutting line on steel plate.
2. Carefully freehand flame cut to approximately 3mm above the cutting line.
3. Grind the remaining 3mm to the cutting line.
4. Occasional notches or gouges deeper than the cutting line, which are not subsequently welded, should be removed by fairing to the material edge with a slope not steep than 1:10 and with grinding marks parallel to the material surfaces. The repair should not remove more than 2% of the nominal section.
5. Maximum roughness for the flame cut surface should meet the requirements in AWS D1.5.
6. Sharp corners that are not to be incorporated into a weld shall be removed by chamfering the edge.







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, PRC **Report No:** NCS-000332
Prime Contractor: American Bridge/Fluor Enterprises, a JV **Date:** 23-Nov-2009
Submitting Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0436

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: 31-Oct-2009

Description of Non-Conformance:
During Visual Testing (VT) of North Tower, Lift 1, Skin E exterior bearing stiffeners, QA observed 'free hand thermal cutting' for bevel preparation being carried out by ZPMC personnel without approval by the Engineer.

Contractor's proposal to correct the problem:
ABF to discuss AWS D1.5 freehand thermal cutting requirements with ZPMC.

Corrective action taken:
The affected thermal cut edges have been brought into conformance. ZPMC understands that Engineer approval is required for freehand thermal cutting. A CWR will monitor freehand cutting in the future to prevent recurrence.

Did corrective action require Engineer's approval? ☐ **Yes** ☑ **No**
If so, name of Engineer providing approval: **Date:**
Is Engineer's approval attached? ☐ **Yes** ☑ **No**

Comments:
This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod, 134-8257-0045, who represents the Office of Structural Materials for your project.

Inspected By:	Sinevod,Serge	Quality Assurance Inspector
Reviewed By:	Wahbeh,Mazen	QA Reviewer