

**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-000469

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 04-Nov-2009

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

**NCR #:** ZPMC-0442

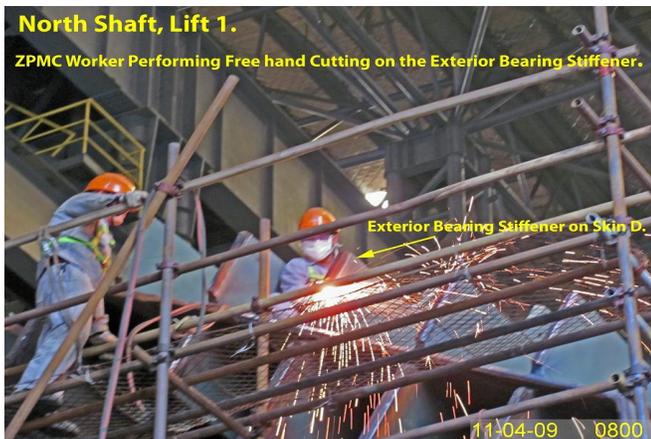
### Type of problem:

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b> North Tower
<b>Procedural</b>	<b>Procedural</b>	<b>Description:</b> 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

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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**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.

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<b>Inspected By:</b>	Sinevod,Serge	ASMR
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<b>Reviewed By:</b>	Wahbeh,Mazen	SMR
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**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

**Dear:** Mr. Charles Kanapicki  
**Attention:** Mr. Thomas Nilsson Project/Fabrication Manager  
**Subject:** NCR No. ZPMC-0442

**Job Name:** SAS Superstructure  
**Document No:** 05.03.06-000432

**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 identify 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

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000432

**Subject:** NCR No. ZPMC-0442

**Dated:** 17-Nov-2009

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000423 **Rev:** 00

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### 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 CVI 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-000423R00;

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### Caltrans' comments:

**Status:** CLO

**Date:** 18-Nov-2009

The proposed resolution is acceptable. The Department concurs that Non-conformance ZPMC-0442 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 Page 1 of 1

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



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

**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

**Location:** Changxing Island, Shanghai, 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

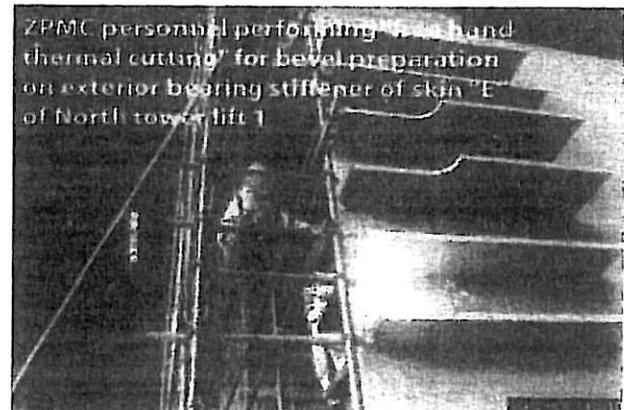
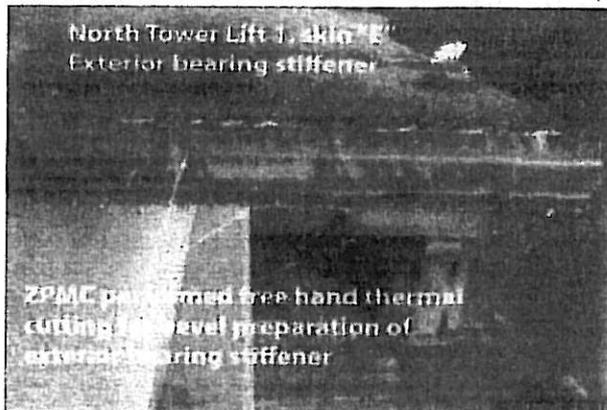
**Type of problem:**

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

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

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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.

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Inspected By: Sinevod,Serge

ASMR

Reviewed By: Wahbeh,Mazen

SMR

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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

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

Job Name: SAS Superstructure

Subject: NCR No. ZPMC-0442

Document No: 05.03.06-000432

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 identify 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 Page 1 of 1

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

**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

**Location:** Changxing Island, Shanghai, PRC

**Report No:** NCR-000469

**Prime Contractor:** American Bridge/Fluor Enterprises, a JV

**Date:** 04-Nov-2009

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

**NCR #:** ZPMC-0442

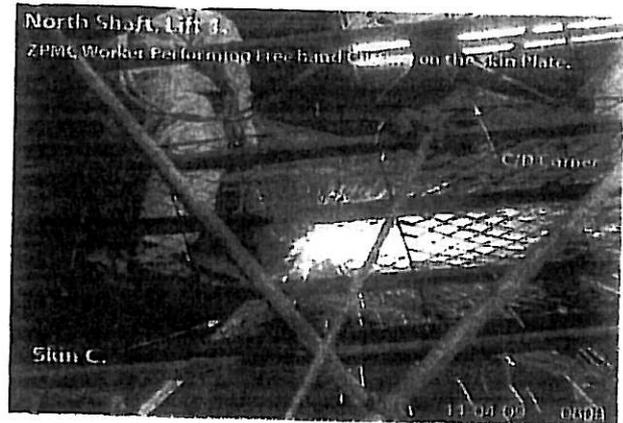
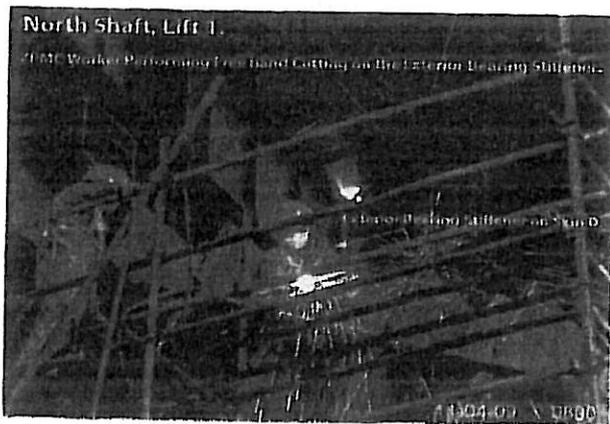
**Type of problem:**

- 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

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## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

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(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.

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**Inspected By:**    Sinevod,Serge

ASMR

**Reviewed By:**    Wahbeh,Mazen

SMR

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

## NON-CONFORMANCE REPORT TRANSMITTAL

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

Date: 02-Oct-2009

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

Dear: Mr. Charles Kanapicki  
Attention: Mr. Thomas Nilsson Project/Fabrication Manager  
Subject: NCR No. ZPMC-0412

Job Name: SAS Superstructure  
Document No: 05.03.06-000398

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 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 identify 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

05.03.06-000398.NCT

RECEIVED  
NCT - 05.03.06 02 Oct 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-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

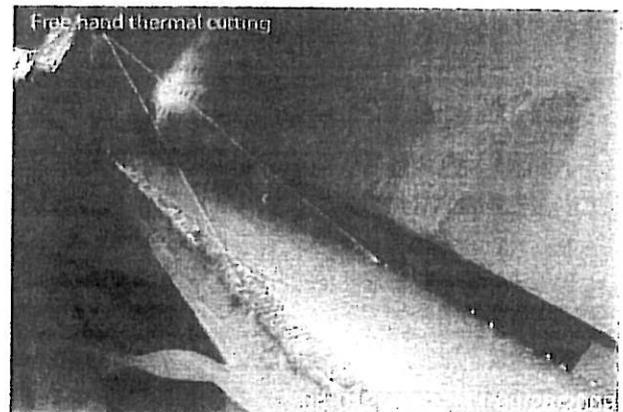
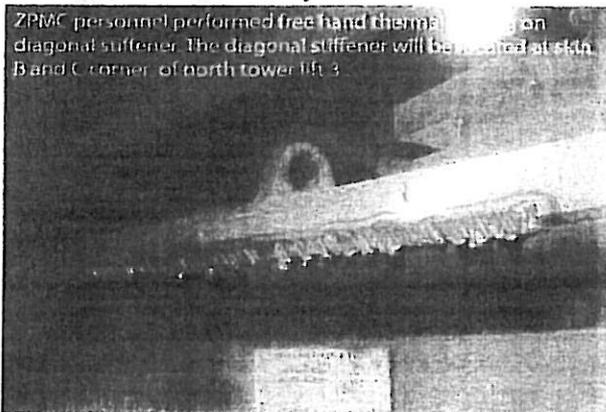
**Type of problem:**

**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





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  
**Attention:** Mr. Thomas Nilsson Project/Fabrication Manager  
**Subject:** NCR No. ZPMC-0391

**Job Name:** SAS Superstructure  
**Document No:** 05.03.06-000379

**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

Contract #: 04-0120F4

City: SF/ALARAte: 80 PM: 13.2/13.9

File #: 69.25B

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

**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT**

Report No: NCR-000417

Location: Changxing Island, Shanghai, PRC

Date: 21-Sep-2009

Prime Contractor: American Bridge/Fluor Enterprises, a JV

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

NCR #: ZPMC-0391

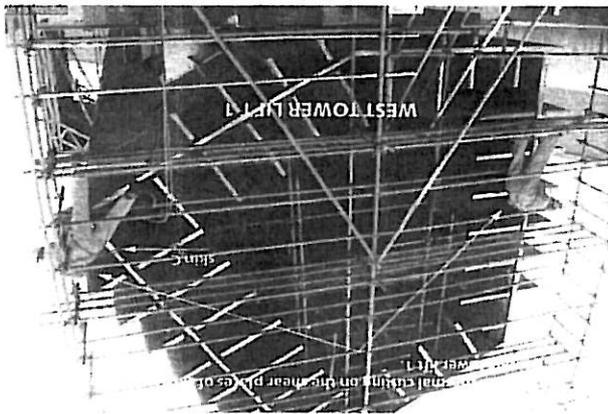
**Type of problem:**

- Welding  Concrete  Other
- Welding  Curing  Procedural  Other
- Joint fit-up  Coating  Other
- 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.

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

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上海振华港机(集团)股份有限公司 ZPMC  
 SHANGHAI ZHENHUA PORT MACHINERY CO., LTD.

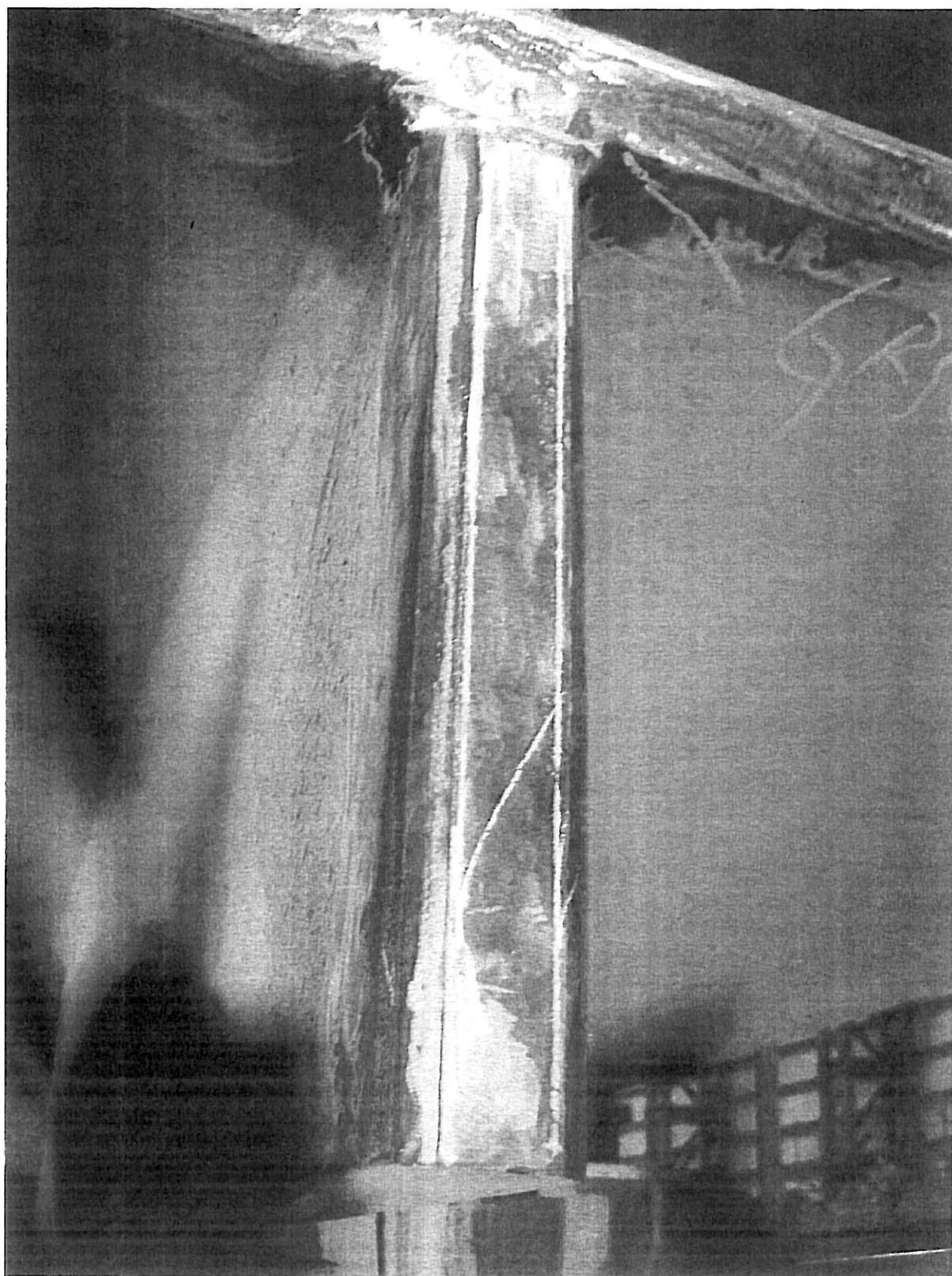
地址: 中华人民共和国上海浦东东陆路3470号 ADDRESS: 3470 FUDONG NANLU, SHANGHAI 200125, P.R.CHINA  
 电话(电传): 201125 Telephone(电传): +86 21 58386666 Fax (电传): +86 21 58386665 E-mail: zpmc@zpmc.com

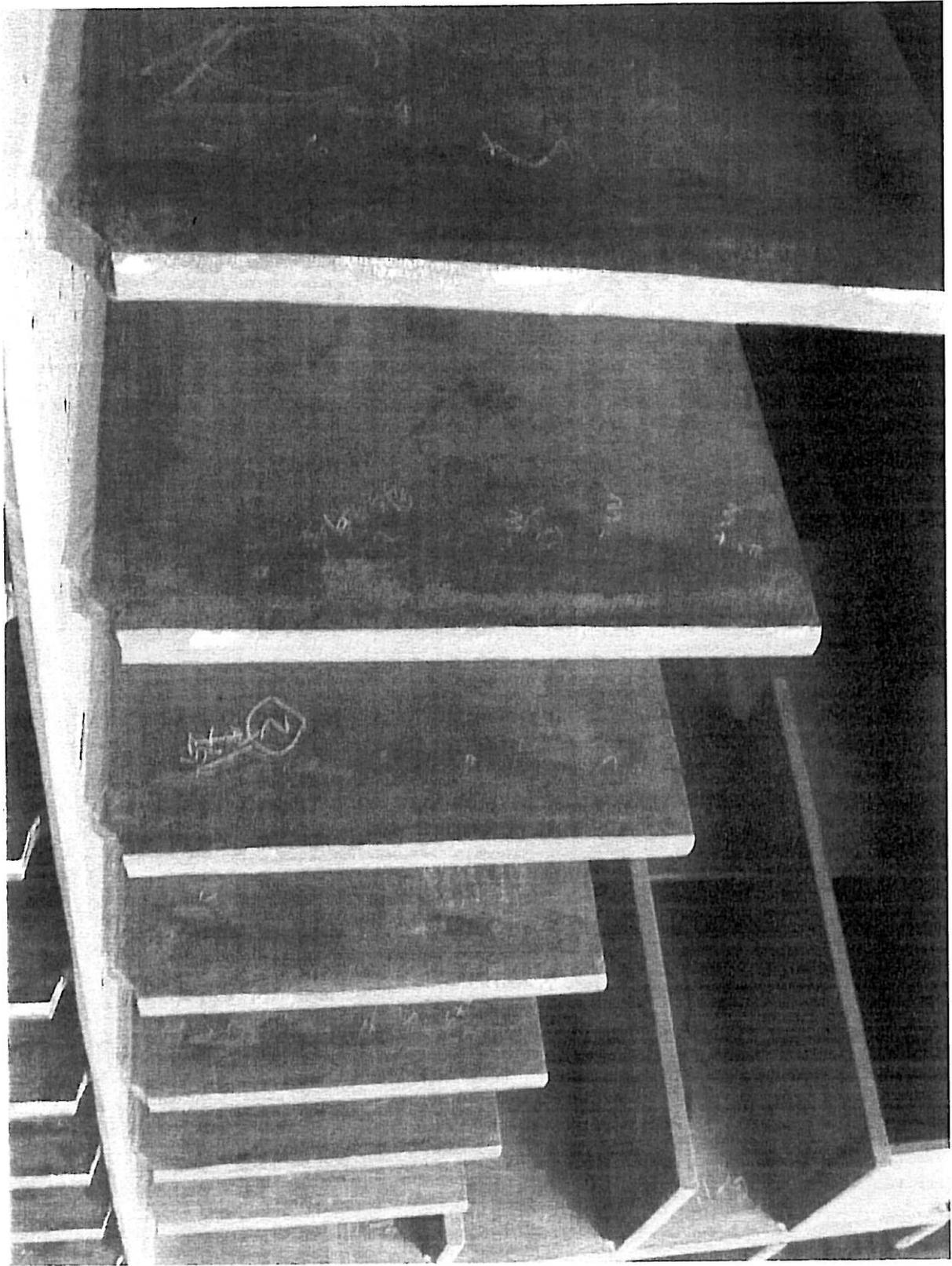
Freehand Flame Cutting.

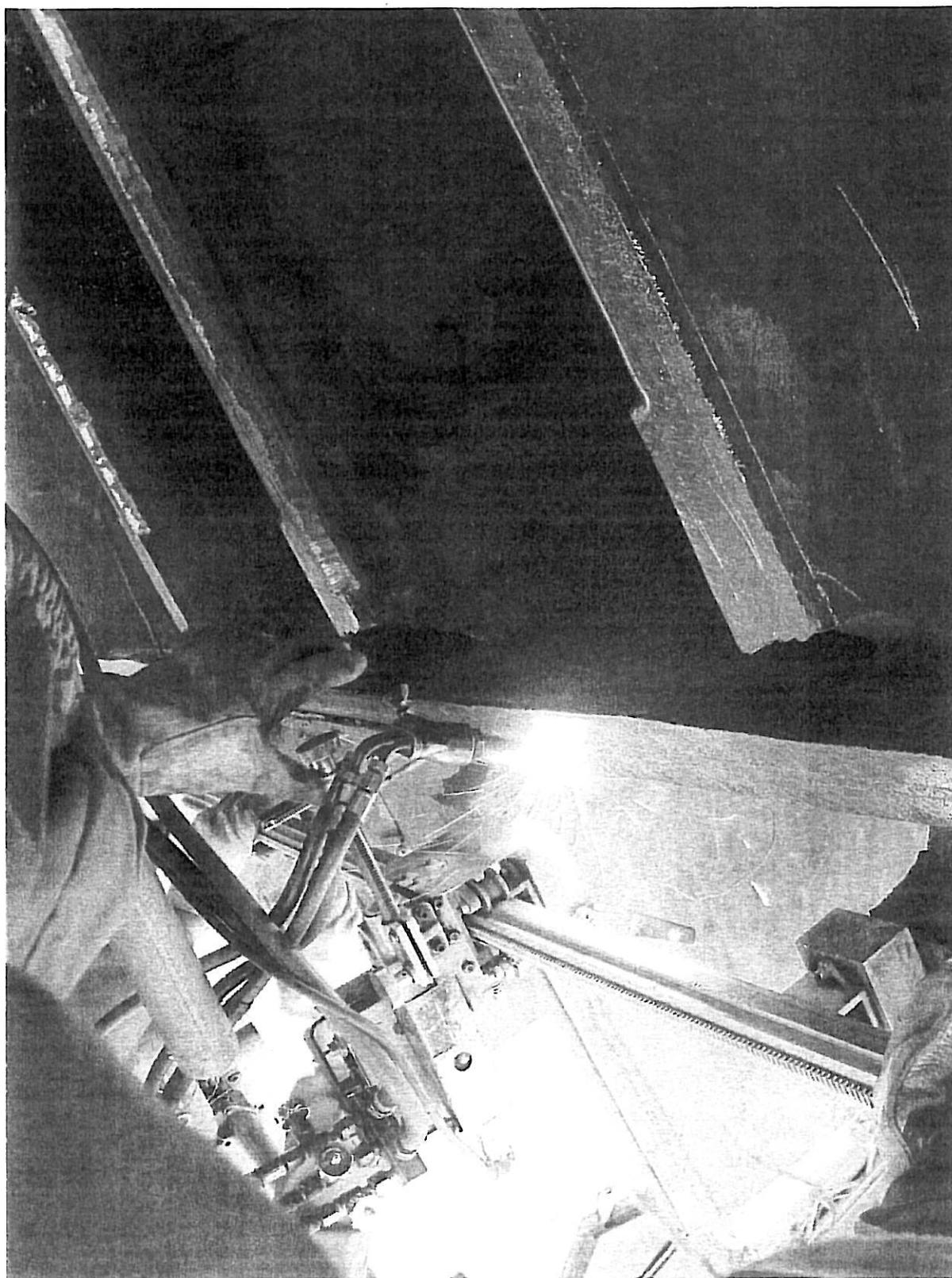
Freehand flame cutting procedure:

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  
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(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, PRC**Report No:** NCS-000331**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 23-Nov-2009**Submitting Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **NCR #:** ZPMC-0442**Type of problem:**

<b>Welding</b>	<b>Concrete</b>	<b>Other</b>	
<b>Welding</b>	<b>Curing</b>	<b>Procedural</b>	<b>Bridge No:</b> 34-0006
<b>Joint fit-up</b>	<b>Coating</b>	<b>Other</b>	<b>Component:</b>
<b>Procedural</b>	<b>Procedural</b>	<b>Descriptor:</b>	

**Date the Non-Conformance Report was written:** 04-Nov-2009**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.

**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:**

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**Inspected By:** Sinevod, Serge

Quality Assurance Inspector

**Reviewed By:** Wahbeh, Mazen

QA Reviewer