

**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 #: 70.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** Murooran Japan**Report No:** NCR-000140**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 04-Jun-2008**Submitting Contractor:** Japan Steel Works**NCR #:** JSW-0003**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> West Deviation Saddle W2E2 |
| <b>Procedural</b>   | <b>Procedural</b> | <b>Descriptor:</b> |  |

**Reference Description:** Section 4.2.7 of AWS D 1.5, 2002**Description of Non-Conformance:**

On this date the Caltrans Quality Assurance (QA) inspector, Joe Lanz observed tack welding on grillage plates for weld joint identified as E2Y-16V of the West Deviation Saddle W2E2. During welding of the lower tack weld the preheat was measured on the opposite face of the stem plate and found to be less than the required preheat of 160° Celisus. The actual temperature observed at 100mm from the weld zone was 120° Celisus.

**Applicable reference:**

AWS D1.5-2002 paragraph 4.2.7 "When the base metal is below the temperature listed for the welding process being used and the thickness of material being welded, it shall be preheated (except as otherwise provided) in such a manner that the steel on which weld metal is being deposited is at or above the specified minimum temperature for a distance equal to the thickness of the part being welded, but not less than 75 mm [3 in.] in all directions from the point of welding."

**Who discovered the problem:** QA inspector Joe Lanz**Name of individual from Contractor notified:** Kazunori Sato**Time and method of notification:** 17:30 by email and telephone**Name of Caltrans Engineer notified:** Warren Collins**Time and method of notification:** 17:30 by email**QC Inspector's Name:** Chung-Fu Kuan**Was QC Inspector aware of the problem:** Yes No**Contractor's proposal to correct the problem:**

Not provided at this time.

**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 Venkatesh Iyer, (510) 808-4542, who represents the Office of Structural Materials for your project.

---

---

# QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

---

---

---

|                      |                |     |
|----------------------|----------------|-----|
| <b>Inspected By:</b> | Brasel,Ron     | SMR |
| <b>Reviewed By:</b>  | Iyer,Venkatesh | SMR |

---



**DEPARTMENT OF TRANSPORTATION**

333 Burma Road  
Oakland CA 94607  
Tel: 510-622-5661 Fax:

**NON-CONFORMANCE REPORT TRANSMITTAL**

**To:** AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607  
**Date:** 06-Jun-2008

**Dear:** Mr. Charles Kanapicki  
**Contract No:** 04-0120F4  
04-SF-80-13.2 / 13.9

**Attention:** Mr. James Bowers  
**Job Name:** SAS Superstructure

**Subject:** NCR No. JSW-0003  
**Document No:** 05.03.06-000115

**Reference Description:** Section 4.2.7 of AWS D 1.5, 2002

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.

**Remarks:**

**Material Location:** Casting **Lift:** N/A

The preheat requirements for weld joint E2Y-16V on West Deviation Saddle W2E2 were not in accordance with Section 4.2.7 of AWS D1.5-2002

See NCR- JSW-0003 for further details.

**Action Required and/or Action Taken:**

The Contractor must insure that the specified minimum preheat has been obtained for a distance equal to the thickness of the parts being welded in all directions as required by Section 4.2.7 of AWS D1.5-2002.

The Contractor is to provide training to to ensure this requirement is understood.

**Transmitted By:** Warren Collins Assistant Structural Rep

**Attachments:** JSW-0003

**cc:** Rick Morrow, Brian Boal, Robert Kick, Karsten Baltzer

**File:** 05.03.06



DEPARTMENT OF TRANSPORTATION

333 Burma Road  
Oakland CA 94607  
Tel: 510-622-5661 Fax:

NON-CONFORMANCE REPORT TRANSMITTAL

To: AMERICAN BRIDGE/FLUOR, A JV  
375 BURMA ROAD  
OAKLAND CA 95607  
Date: 06-Jun-2008  
Contract No: 04-0120F4  
04-SF-80-13.2 / 13.9  
Dear: Mr. Charles Kanapicki  
Job Name: SAS Superstructure  
Attention: Mr. James Bowers  
Document No: 05.03.06-000115  
Subject: NCR No. JSW-0003  
Reference Description: Section 4.2.7 of AWS D 1.5, 2002

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.

Remarks:

Material Location: Casting Lift: N/A

The preheat requirements for weld joint E2Y-16V on West Deviation Saddle W2E2 were not in accordance with Section 4.2.7 of AWS D1.5-2002

See NCR- JSW-0003 for further details.

Action Required and/or Action Taken:

The Contractor must insure that the specified minimum preheat has been obtained for a distance equal to the thickness of the parts being welded in all directions as required by Section 4.2.7 of AWS D1.5-2002.

The Contractor is to provide training to to ensure this requirement is understood.

Transmitted By: Warren Collins Assistant Structural Rep

Attachments: JSW-0003

cc: Rick Morrow, Brian Boal, Robert Kick, Karsten Baltzer

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 #: 70.25B

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

**Location:** Muroran Japan

**Report No:** NCR-000140

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

**Date:** 04-Jun-2008

**Submitting Contractor:** Japan Steel Works

**NCR #:** JSW-0003

### Type of problem:

**Welding**  **Concrete**  **Other**

**Welding**  **Curing**  **Procedural**  **Bridge No:** 34-0006

**Joint fit-up**  **Coating**  **Other**  **Component:** West Deviation Saddle W2E2

**Procedural**  **Procedural**  **Descriptor:**

**Reference Description:** Section 4.2.7 of AWS D 1.5, 2002

### Description of Non-Conformance:

On this date the Caltrans Quality Assurance (QA) inspector, Joe Lanz observed tack welding on grillage plates for weld joint identified as E2Y-16V of the West Deviation Saddle W2E2. During welding of the lower tack weld the preheat was measured on the opposite face of the stem plate and found to be less than the required preheat of 160° Celisus. The actual temperature observed at 100mm from the weld zone was 120° Celisus.

### Applicable reference:

AWS D1.5-2002 paragraph 4.2.7 "When the base metal is below the temperature listed for the welding process being used and the thickness of material being welded, it shall be preheated (except as otherwise provided) in such a manner that the steel on which weld metal is being deposited is at or above the specified minimum temperature for a distance equal to the thickness of the part being welded, but not less than 75 mm [3 in.] in all directions from the point of welding."

**Who discovered the problem:** QA inspector Joe Lanz

**Name of individual from Contractor notified:** Kazunori Sato

**Time and method of notification:** 17:30 by email and telephone

**Name of Caltrans Engineer notified:** Warren Collins

**Time and method of notification:** 17:30 by email

**QC Inspector's Name:** Chung-Fu Kuan

**Was QC Inspector aware of the problem:**  Yes  No

**Contractor's proposal to correct the problem:**

Not provided at this time.

### 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 Venkatesh Iyer, (510) 808-4542, who represents the Office of Structural Materials for your project.

---

---

## QUALITY ASSURANCE -- NON-CONFORMANCE REPORT

( Continued Page 2 of 2 )

---

---

---

**Inspected By:** Brasel,Ron

SMR

---

**Reviewed By:** Iyer,Venkatesh

SMR

---

## NCR PROPOSED RESOLUTION

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

**Attention:** Pursell, Gary  
Resident Engineer

**Ref:** 05.03.06-000115

**Subject:** NCR No. JSW-0003

**Dated:** 09-Jul-2008

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

**Job Name:** SAS Superstructure

**Document No.:** ABF-NPR-000039 Rev: 00

---

**Contractor's Proposed Resolution:**

**Reference Resolution:** JSW proposes the use of a flame burner or gas ring from opposite side to assist preheating of thick plate for proper heat treatment.

Please see attached response from JSW. ABFJV has reviewed and concurs with this response and considers this issue resolved.

**Submitted by:** Kanapicki, Charles

**Attachment(s):** ABF-NPR-000039R00;

---

**Caltrans' comments:**

**Status:** CLO

**Date:** 11-Nov-2008

The Contractor/QC must ensure that the specified WPS preheat is met, in accordance with AWS requirements for all welding of structural steel. The preheat procedure must be reviewed and possibly modified should cracking of tack welds re-occur.

The Department considers NCR #JSW-003 closed.

**Submitted by:** Collins, Warren

**Attachment(s):**

**Date:** 12-Nov-2008

# J S W

THE JAPAN STEEL WORKS, LTD.

**Muroran Plant**  
4, Chatsu-Machi,  
Muroran, Hokkaido, 051-8505,  
JAPAN  
PHONE : 81-143-22-0104  
FAX : 81-143-22-1439

DATE : 03 July, 2008  
JSW Letter Ref. No. : BG-TR-08-003  
PROJECT : SAS Bridge  
CONTRACT No. : 04-0120F4  
PRODUCT : Saddles  
PURCHASE ORDER No. : 660110-SA-005

**ATTENTION:** American Bridge/Fluor Enterprises Inc., A Joint Venture

**SUBJECT:** JSW's response for NCR-003

## Back ground

According to NCR-003 issued on June 04, 2008, Caltrans representatives and JSW had the meeting for the preheating of the tack weld of the west Deviation Saddle W2E2 at JSW Muroran Plant on June 05, 2008.

JSW explained the preheat temperature 160°C for tack weld could not be kept in wide area and whole thickness of the heavy plate because the large expansion of the material by preheat would disturb securing the tolerance limits of dimension of the structure.

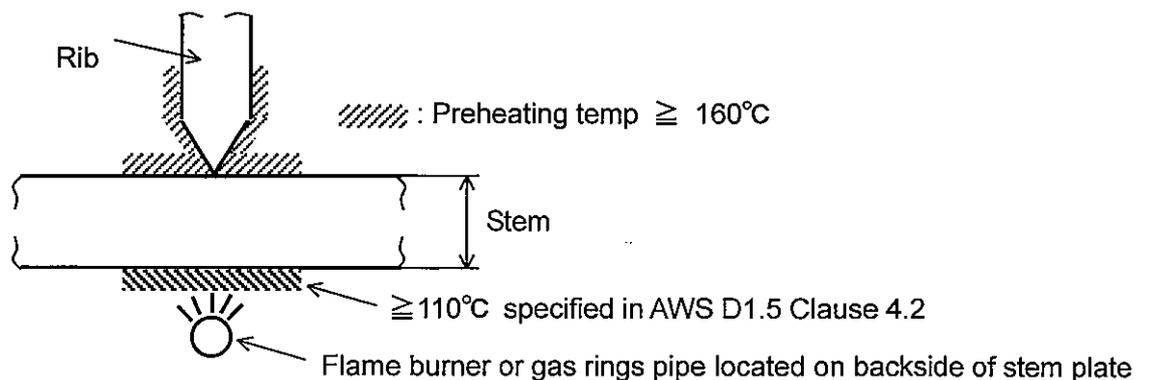
It was the reason why the preheating was done only from the welded side when the Rib was tack welded to the Stem.

JSW obtained no objection from Caltrans representatives to proceed with the tack welding of W2E2 in the manner described above with the great care by CWI.

## Proposal

For tack welding of the Deviation Saddle W2E3, we would like to take following countermeasure. The temperature of opposite side of the Stem during tack weld should be higher than 110°C which is specified as minimum preheat temperature for A709 Gr.485W described in Clause 4.2 "Preheat and Interpass Temperature Requirement" of AWS D1.5.

When the temperature is not enough for tack weld by one side heating, preheat using a flame burner or gas rings set up partially from opposite side will assist. (Refer to the Sketch)



These are submitted as checked below :

For Approval

For Your Review and comment

For Your Signature

As requested

Other

  
Kazunori Sato

Bridge Group, Muroran Plant

The Japan Steel Works, Ltd.

**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:** Muroan Japan**Report No:** NCS-000197**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:****Submitting Contractor:** Japan Steel Works**NCR #:** JSW-0003**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>Description:</b> |                           |

**Date the Non-Conformance Report was written:** 04-Jun-2008**Description of Non-Conformance:**

On this date the Caltrans Quality Assurance (QA) inspector, Joe Lanz observed tack welding on grillage plates for weld joint identified as E2Y-16V of the West Deviation Saddle W2E2. During welding of the lower tack weld the preheat was measured on the opposite face of the stem plate and found to be less than the required preheat of 160° Celisus. The actual temperature observed at 100mm from the weld zone was 120° Celisus.

**Contractor's proposal to correct the problem:**

Contractor Quality Control Management will closely monitor preheat temperatures to avoid future issues during welding operations.

**Corrective action taken:**

None at this time.

**Did corrective action require Engineer's approval?** Yes No**If so, name of Engineer providing approval:** N/A **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 Nina Choy, (510) 385-5910, who represents the Office of Structural Materials for your project.

**Inspected By:** Choy, Nina Quality Assurance Inspector**Reviewed By:** Choy, Nina QA Reviewer