

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 #: 1x.25B**QUALITY ASSURANCE -- NON-CONFORMANCE REPORT****Location:** W2 Cap Beam, SFOBB**Report No:** NCR-000187**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 27-Aug-2008**Submitting Contractor:** American Bridge/Fluor Enterprises, a JV**NCR #:** ABF-0005**Type of problem:**

Welding	Concrete	Other	
Welding	Curing	Procedural	Bridge No: 34-0006
Joint fit-up	Coating	Other	Component: W2 Cap Beam, #43 HRC Couplers
Procedural	Procedural	Descriptor:	

Reference Description: ABF and Regional Steel Quality Control (QC) turned over incomplete work to Caltrans/METS for sampling and testing

Description of Non-Conformance:

ABF and Regional Steel QC turned over incomplete work to Caltrans/METS for sampling and testing. For the W2 Cap Beam, Pour 3, top mat, the Contractor fabricated non-conforming male coupler heads for #43 transverse rebar HRC couplers at the job site, which were then tested as completed work. Each of four Quality Assurance (QA) samples failed QA testing for slip, the smallest margin of failure, 60%; the largest, approximately 300%. Evaluation of the samples found defective workmanship permitted to pass by QC, including ridges not ground and improperly formed "mushroom" heads; please see picture. The Contractor has stated that a large proportion of male heads are believed to have ridges not properly ground, which was also passed by QC. ABF-RFI-1494 states that because of these problems, the work is incomplete, and requests re-sampling and re-testing.

**Applicable reference:**

Caltrans Standard Specifications (CSS), 1999, Section 52-1.08C, "Mechanical Butt Splices," p. 392, para. 1: "Splicing procedures shall be in conformance with the manufacturer's recommendations..."

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CSS, 1999, Section 5-1.13, "Final Inspection", p. 28: "When the work has been completed, the Engineer will make the final inspection."

CSS, 1999, Section 5-1.08, p. 25, para. 2: "The inspection of material shall not relieve the Contractor...the work or materials have been previously inspected by the Engineer..."

Who discovered the problem: Regional Steel, ABF Subcontractor

Name of individual from Contractor notified: Jim Davidson

Time and method of notification: 1600 Wednesday, August 27, 2008; face-to-face meeting

Name of Caltrans Engineer notified: Gil Klebanov

Time and method of notification: 1400 Wednesday, August 27, 2008; face-to-face meeting

QC Inspector's Name: Unknown

Was QC Inspector aware of the problem: Yes No

Contractor's proposal to correct the problem:

Re-work coupler heads to bring them into conformance. METS understands that the Engineer will revoke relevant fabrication operator qualifications and work will proceed per METS response to ABF-RFI-1494, as previously agreed:

1. The Contractor shall disassemble all coupler heads and inspect, repair, and if necessary re-work all noncompliant heads.
2. The Contractor shall complete work with qualified and/or re-qualified operators.
3. The Contractor shall submit all standards for QC and QA sampling and testing in conformance with the contract requirements to inspect completed heads, including the relevant dimensions and drawings.
4. Couplers shall then be re-installed upon acceptance of re-worked heads and clearing of the to-be-issued Non-Conformance Reports (NCR).
5. Re-work is considered submission of new work to the Department, and will require both QA and QC testing.
6. Should either of the QC or QA tests fail, the Contractor shall remove and discard all the heads and re-do the work.
7. Written authorization from HRC is required to re-use the currently installed couplers. If such authorization is received, all coupler components shall be inspected by the Contractor for damage such as, but not limited to, gouges, bending, dents, etc.
8. Couplers may only be re-installed upon acceptance of the reworked heads and clearing of all NCRs.

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, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By: Petrina,Markian

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: 05.03.06-000168

Subject: NCR No. ABF-0005

Dated: 13-Oct-2008

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

Job Name: SAS Superstructure

Document No.: ABF-NPR-000168 Rev: 00

Contractor's Proposed Resolution:

Reference Resolution: CMC Regional Steel will try to avoid heading operations in the field unless absolutely necessary and only then with certified operators from their shop.

CMC-Regional Steel will try to avoid any further field fabrication of HRC buttonheads and will only do so if the situation dictates no other solution. If something on the jobsite does require this operation, we will send out certified operator from the shop to repair the problem. See attached scan of email.

Submitted by: Kanapicki, Charles

Attachment(s): ABF-NPR-000168R00;

Caltrans' comments:

Status: CLO

Date: 16-Oct-2008

The Contractor's resolution is acceptable provided that the Department is informed of the issue as soon as it is realized.

Submitted by: Matin, Ron

Attachment(s):

Date: 16-Oct-2008

Charles Kanapicki

From: Thomas, Robert [Robert.Thomas@cmc.com]
Sent: Thursday, October 09, 2008 8:32 AM
To: ckanapicki@abfjv.com
Subject: HRC PROCEDURES IN FIELD

Chuck

Kanapicki,

As per our conversation- CMC-Regional Steel will try to avoid any further field fabrication of HRC buttonheads and will only do so if the situation dictates no other solution. If something on the jobsite does require this operation, we will send out certified operator from the shop to repair the problem.

Thanks, Bob Thomas Shop Manager CMC-Regional Steel

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: xx.25A**QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION****Location:** W2 Cap Beam, SFOBB**Report No:** NCS-000102**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**Date:** 03-Oct-2008**Submitting Contractor:** American Bridge/Fluor Enterprises, a JV**NCR #:** ABF-0005**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: 27-Aug-2008**Description of Non-Conformance:**

ABF and Regional Steel QC turned over incomplete work to Caltrans/METS for sampling and testing. For the W2 Cap Beam, Pour 3, top mat, the Contractor fabricated non-conforming male coupler heads for #43 transverse rebar HRC couplers at the job site, which were then tested as completed work. Each of four Quality Assurance (QA) samples failed QA testing for slip, the smallest margin of failure, 60%; the largest, approximately 300%. Evaluation of the samples found defective workmanship permitted to pass by QC, including ridges not ground and improperly formed "mushroom" heads; please see picture. The Contractor has stated that a large proportion of male heads are believed to have ridges not properly ground, which was also passed by QC. ABF-RFI-1494 states that because of these problems, the work is incomplete, and requests re-sampling and re-testing.

Contractor's proposal to correct the problem:

Re-work coupler heads to bring them into conformance. METS understands that the Engineer will revoke relevant fabrication operator qualifications and work will proceed per METS response to ABF-RFI-1494, as previously agreed:

1. The Contractor shall disassemble all coupler heads and inspect, repair, and if necessary re-work all noncompliant heads.
2. The Contractor shall complete work with qualified and/or re-qualified operators.
3. The Contractor shall submit all standards for QC and QA sampling and testing in conformance with the contract requirements to inspect completed heads, including the relevant dimensions and drawings.
4. Couplers shall then be re-installed upon acceptance of re-worked heads and clearing of the to-be-issued Non-Conformance Reports (NCR).
5. Re-work is considered submission of new work to the Department, and will require both QA and QC testing.
6. Should either of the QC or QA tests fail, the Contractor shall remove and discard all the heads and re-do the work.
7. Written authorization from HRC is required to re-use the currently installed couplers. If such authorization is

QUALITY ASSURANCE -- NON-CONFORMANCE RESOLUTION

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received, all coupler components shall be inspected by the Contractor for damage such as, but not limited to, gouges, bending, dents, etc.

8. Couplers may only be re-installed upon acceptance of the reworked heads and clearing of all NCRs.

Corrective action taken:

This NCR specifically dealt with Contractor QC not showing proper due diligence, allowing release of incomplete material to the Department. Regional Steel re-worked coupler heads by grinding. Regional also stated that in the future, such fabrication in the field will be avoided. The Contractor submitted new qualifications for operators, and provided a manual with inspection standards. Judging from the Contractor's actions to resolve this matter, and given the extensive remedial action required to do so, METS is confident that the Contractor understands the nature of the nonconformance and is unlikely to repeat it.

Did corrective action require Engineer's approval? **Yes** **No**

If so, name of Engineer providing approval: Gil Klebanov

Date: 29-Aug-2008

Is Engineer's approval attached? **Yes** **No**

Comments:

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Inspected By: Petrina,Markian

Quality Assurance Inspector

Reviewed By: Iyer,Venkatesh

QA Reviewer
