



Florida Department of Transportation

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September 1, 2010

MATERIALS BULLETIN NO. 04-10

DCE MEMORANDUM NO. 13-10

DME MEMORANDUM NO. 03-10

(FHWA Approved: 9/2/10)

**TO: DISTRICT MATERIALS RESEARCH ENGINEERS
DISTRICT CONSTRUCTION ENGINEERS
DISTRICT MAINTENANCE ENGINEERS**

FROM: Thomas O. Malerk, P.E. Director, Office of Materials
David A. Sadler, P.E. Director, Office of Construction
Tim Lattner, P.E. Director, Office of Maintenance

COPIES: Ghulam Mujtaba, Chris Richter (FHWA), Abraham Scott (FHWA)

SUBJECT: FIELD WELDING

During recent inspections performed throughout the State on bascule bridge rehabilitation projects the following welding related contract requirements were found to be in non-compliance:

1. Lack of approved Welding Procedure Specification as per Florida Department of Transportation (FDOT) Section 460 and Materials Manual (MM) 11.2.
2. Lack of welding inspectors or unqualified inspectors as per FDOT Sections 105, 460, and D1.5 Bridge Welding Code (D1.5) Clause 6 Inspection Part A.
3. The company performing welding was found to be not qualified as per FDOT Sections 105, 460, and D1.5 Clause 1 General Provisions.
4. There were improper welding procedure submittals for actual work being performed in the field - FDOT Sections 5 and 460.
5. No welder continuity logs were maintained - D1.5 Clause 5 Qualification Part B Subsection 2.21.4.
6. There were no calibration stickers on welding equipment or documentation that equipment is calibrated - FDOT Sections 105, 460, and D1.5 Clause 4 Technique, Part G, Subsection 4.26.1 Calibration of Equipment.
7. Welding of fracture critical members as identified on contract documents was performed without a Fracture Control Plan as per FDOT Sections 460 and D1.5 Clause 12 AASHTO/AWS Fracture Control Plan (FCP) for Non-redundant Member.

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The following are the requirements for field welding performed on FDOT maintenance and construction projects:

1. Field weld only if it is specified in the contract documents or with the prior approval of the Engineer.
2. Prior to the beginning of any welding a Weld Procedure Specification (WPS) and supporting Procedure Qualification Record (PQR) shall be submitted for review and approval by the Department, if required by the code for the welding being performed.
3. Welding shall not be done without an FDOT approved WPS.
4. All welding shall be performed by qualified welders that comply with the appropriate code, material, and position.
5. All welding shall be visually inspected by an American Welding Society (AWS) Certified Welding Inspector (CWI). A report shall be issued by the inspector that is stamped and dated stating that all welding has been completed in compliance with the contract documents and the appropriate code.
6. If non-destructive testing other than visual is required, qualified technicians shall perform the work as specified by the appropriate AWS code.
7. The PQR, WPS, and Welder Qualifications will be reviewed by the State Materials Office.

All questions concerning this matter should be directed to Steve Duke, State Materials Office, 352-955-6682 or Steve.Duke@dot.state.fl.us.

TOM/DAS/TL/sd