

DEPARTMENT OF TRANSPORTATION - District 4 Toll Bridge Program

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March 11, 2008

Contract No. 04-0120F4
04-SF-80-13.2 / 13.9
Self-Anchored Suspension Bridge
Letter No. 05.03.01-001506

Michael Flowers
Project Executive
American Bridge /Fluor Enterprises, a JV
375 Burma Road
Oakland, CA 94607

Dear Michael Flowers,

Deck Panel Fabrication - Welding of Closed Ribs to Box Shell Plate

This letter is issued in response to ABF-CAL-LTR-000453, "Start of OBG Deck Panel Fabrication and Production Monitoring Tests," dated February 21, 2008. We would also like to express our concern regarding the current deck panel fabrication efforts and lack of agreement on acceptable criteria for the required Production Monitoring Tests (PMT).

As you are aware, the Special Provisions state that production welding shall not begin until the range of welding parameters and joint geometry tolerances are approved by the Engineer. The Department deferred this approval in State Letter 05.03.01-001136, dated January 14, 2008, agreeing that production welding should proceed. As a result, it was expected that ABF and ZPMC would be able to demonstrate in production continuing weld quality improvement to a point where there would be consistent and acceptable welds, as stated in ABF-CAL-LTR-000400 and 415. In turn, this would enable the Department to approve the weld parameters and joint geometry tolerances. State Letter 05.03.01-001136 was issued with the understanding that the six (6) issues outlined would be addressed in a timely manner. The Contractor's response, ABF-CAL-LTR-000453, specifically mentions the need to agree on two (2) of these issues –visual test (VT) criteria and the criteria for the review of the PMT. To date, though agreements have been reached between the Department and ABF, these agreements may not have been shared with nor agreed to by ZPMC, a situation that the Department was not made aware of until recently.

There are several issues regarding the PMT that require discussion. Among these issues is the proposed ABF course of action, the excessive amount of time being taken to prepare the macro-etch samples and the lack of QC information and determinations on the acceptability of the PMT.

The ABF course of action, as summarized in ABF-CAL-LTR-000453, is "*to proceed with PMT testing using Macro Testing and Ultrasonic Testing as the primary means of accepting the PMT panels...*" To date, ABF (ZPMC) has not produced the macro-etchings in a timely manner for the Department's review. Furthermore, the Fabricator has not provided the necessary QC documentation to support that the deck panels produced to date meet the specifications. As a result, the work performed to date cannot be accepted.

More troubling, however, is the apparent unwillingness of ABF to follow through on the commitments included in ABF-CAL-LTR-000415, dated January 14, 2008. In that letter, ABF states that they feel the rib to deck weld in the mock up is acceptable with a total length of defects of 2.72% and that this defect would have been only 0.77% but for one mechanical malfunction. ABF should therefore be utilizing this standard to check that the PMT provides "*quality similar to those originally developed and accepted.*" The Special Provisions further state that:

"In the event that the monitoring test specimens do not provide quality similar to those originally developed and accepted, fabrication shall cease. The welding parameters shall then be adjusted and production of qualified welds verified through two consecutive successful additional specimen trials approved by the Engineer before fabrication of deck panels is allowed to continue with the welding machine and operator being monitored."

PMTs completed to date do not meet the 0.77% or the 2.72% defect standard. Neither ABF nor ZPMC have taken steps to cease fabrication or to adjust welding parameters and perform additional specimen trials as required by the specifications. To the contrary, on occasion production panels of unknown quality and/or inconsistent with the results of the mockup have followed failed PMT tests, which subjects fabrication work to being suspended and/or work completed being subject to rejection.

ABF's letter goes on to state that a reason for the lack of agreed visual acceptance criteria is that there is no agreement between ABF, ZPMC and the Department on how to measure defects such as overlap. It is our understanding that while we are close to attaining such agreement on the shop floor, agreement between ABF and the Department was achieved in November 2007, but that this information was not shared with ZPMC until recently.

While the Department desires to continue to assist in moving production forward, the lack of QC documentation, cooperation, timely communication, and willingness to reach agreement is hampering our efforts. We remain ready to meet and work toward resolving these and other outstanding issues.

Sincerely,



GARY PURSELL
Resident Engineer

cc: Rick Morrow, Brian Boal, Mark Woods, Gary Lai
file: 05.03.01