

Special Experimental Project No. 14 (SEP-14)

Utah Department of Transportation

Quality Bid Factor Work Plan

November 2015

Introduction

The Utah Department of Transportation submits this work plan for review and approval as a pilot under the provisions of the Special Experimental Projects No. 14 (SEP-14).

The proposed pilot is to apply a Quality Bid Factor (QBF) that will adjust a proposer's bid amount for a specific bid item based on historic quality performance data related to that bid item.

The application of a QBF under this work plan will be to asphalt pavement bid items and will determine applicability to other bid items based on the results of this initial pilot.

Background: Incentives and disincentives have been incorporated into UDOT Standard Specifications for asphalt bid items. One purpose of disincentives is to allow UDOT to capture the value of nonconforming product placed rather than requiring removal and replacement of materials that only fall slightly short of requirements. However, data from previous testing has shown the trend for some suppliers to consistently provide product that is in disincentive. This trend is undesired because it represents product that doesn't meet requirements and reduced pay for the supplier.

Increasing disincentives to motivate suppliers towards receiving incentives provides unnecessary consequences for localized issues. That is, it unfairly treats a project (or lot by lot) issue, which may or may not be program-related. UDOT is interested in rewarding suppliers with good quality programs without being overly punitive to anomalies.

Purpose

The purpose of a QBF is to motivate suppliers towards receiving incentive (on average) by giving bidding consideration based on past performance. The purpose of this SEP-14 application is to determine feasibility of including a QBF on a larger scale.

Scope

The scope of work for this pilot will include applying a QBF to the Stone Matrix Aggregate (SMA) bid item on the following two UDOT Region 4 projects:

1. PIN 13355, SR-18, MP 6.3 to MP 9.26, 1.5" mill/fill SMA, \$2.24M
2. PIN 12510, US-6, MP 290.5 to 300.4, profile LL/1.5" SMA overlay, \$5.47M

The QBF will be developed for each bidding asphalt supplier, based on testing data from the previous 3 years data. The QBF is based on an asphalt supplier's percent-within-limits for gradation, asphalt binder, and in-place density. This data is combined in a way that is consistent with the combination technique for individual lots; except using average values. (See attached Special Provision Specification for additional information)

The results of these two projects will be analyzed to determine feasibility for greater trial. If it is deemed appropriate to continue this approach on a larger scale of projects. A separate SEP-14 application will be prepared.

Schedule

PIN 13355, SR-18, MP 6.3 to MP 9.26 is currently planned to be advertised in December 2015. PIN 12510, US-6, MP 290.5 to 300.4 is currently planned to be advertised in February 2016. Both projects are currently planned to be awarded in early 2016 and constructed in the 2016 season.

Measures

The purpose of these experimental projects is to analyze feasibility of including a QBF on a larger scale of projects. Therefore, measures will center on the performance of the process in selection of a contractor, as well as the results of contractor selection. The expectation is contractors will either reduce their bid to account for supplier quality (for suppliers with a negative history), or win the bid with a slightly higher price (for suppliers with a positive history). The bidding process will be analyzed to determine how much extra effort is needed to include this factor.

The QBF should not affect the construction of the project. However, the average results of the percent-within-limits factors will be compared statistically to the historical results to see if the process resulted in improved performance.

Reporting

There will be an initial report following the selection of contractors to communicate the results of the bidding process, and a final report after substantial completion of the projects to summarize ultimate results and lessons learned.

SPECIAL PROVISION

PROJECT #

PIN #

SECTION 00222S

ASPHALT QUALITY FACTOR

Add Section 00222

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Procedures for bidding utilizing the Asphalt Quality Factor.
 - 1. This factor will be used to adjust Stone Matrix Asphalt (SMA) material unit prices for award consideration only, depending on the rating of the material supplier.
 - 2. This factor is being implemented to encourage supplier compliance to contractual requirements and increase the quality of SMA materials placed in Utah Department of Transportation projects.

- B. Description of how the Asphalt Quality Factor affects SMA material pricing for award consideration only.
 - 1. Refer to Section 00515M for information regarding determination of the low bidder.
 - 2. This factor affects asphalt material bid item prices and is used for evaluation of the low bidder.

1.2 RELATED SECTIONS

- A. Section 00515M: Contract Award and Execution
- B. Section 00555: Prosecution and Progress
- C. Section 00250S: Prebid Conference
 - 1. Inclusion of Section 00222S requires a mandatory Prebid Conference.
- D. Section 02744S: Stone Matrix Asphalt (SMA)

1.3 REFERENCES *Not Used*

1.4 DEFINITIONS *Not Used*

1.5 SUBMITTALS *Not Used*

1.6 ASPHALT QUALITY FACTOR

- A. The Department will determine the Asphalt Quality Factor as follows.
 - 1. The Asphalt Quality Factor is an average of a material supplier's past performance determined by quality testing over the last three years.
 - 2. The suppliers PTs for gradation, binder, and core, as determined from Section 02744, for the period of 9/30/2012 to 9/30/2015 were utilized to determine a weighted average by tonnage produced.
 - 3. The weighted average for a supplier is then utilized as per Section 02744 to determine a PT(average) for use in award consideration only.
- B. Based on the factor assigned, the unit price for asphalt materials for award consideration is then adjusted.

1. A PT(average) that is historically in disincentive will have a corresponding disincentive for award purposes. This equates to an amount in dollars added to the unit price of the SMA material item according to Table 1.
2. A PT(average) that is historically in incentive will have a corresponding incentive for award purposes. This equates to an amount in dollars added to the unit price of the SMA material item according to Table 1.
3. A PT(average) that has historically met requirements (i.e. no incentive or disincentive) or a supplier that does not have previous history of placing SMA with the Department will have a null factor . This null factor will equate to an amount in dollars (\$5.00) added to the unit price of the SMA material item according to Table 1.

- C. The Asphalt Quality Factor will be assessed to the per ton price, for award purposes only, for the quantities of SMA according to Table 1.

Table 1

Asphalt Quality Factor	
PT(average)	For Bid
>99	\$ -
96-99	\$ 1.67
92-95	\$ 3.00
88-91 (Null)	\$ 5.00
84-87	\$ 5.57
80-83	\$ 6.32
76-79	\$ 7.05
72-75	\$ 7.80
68-71	\$ 8.52
64-67	\$ 9.25
60-63	\$ 10.00
<60	\$ 10.00

- D. The SMA supplier list with associated quality factors will be given out at the prebid conference.
1. Between the prebid conference and the bid opening is the only time disputes of the factors will be accepted.

PART 2 PRODUCTS Not Used

PART 3 EXECUTION Not Used

END OF SECTION