

Frequently Asked Questions (FAQs) on using Statistical Pay Factor (SPF) Pilot Specifications

Updated February 5, 2020

- 1) **Question:** The new Statistical Pay Factor Non-Standard Special Provisions issued for inclusion as a Special Provision in pilot projects adds Section 39-2.09 “Type A Hot Mix Asphalt Using Statistical Pay Factors” and Section 39-2.10 “RHMA-G Using Statistical Pay Factors”. These new sections seem to be missing sections, for example, the “Aggregate Testing Frequencies” table covered by Sections 39-2.02A(4)(b)(ii), “Aggregates,” and Section 39-2.03A(4)(b)(ii) for RHMA-G of the “*Standard Specifications*”. Is this an error?

Answer: No. Please note that Section 39-2.09 “Type A Hot Mix Asphalt Using Statistical Pay Factors” states that “Type A HMA Using Statistical Pay Factors’ must comply with section 39-2.02 unless specified in this section 39-2.09,” and Section 39-2.10, “RHMA-G Using Statistical Pay Factors” states that “ ‘RHMA-G Using Statistical Pay Factors’ must comply with section 39-2.03 unless specified in this Section 39-2.10.”.

- 2) **Question:** When a core sample test location is randomly selected and the random position is in an area that is not representative of the surrounding area, is it acceptable to move the position to a location that better represents the surface texture of the mat? As an example, if a randomly located position is in area that has visual segregation, may it be relocated to a position that is more representative of the general mat texture?

Answer: No. The location of the core test was randomly determined. If randomly located position is moved, its position is no longer randomly determined.

- 3) **Question:** Can core size be increased from a 4 inch to a 6 inch diameter?

Answer: Yes, the specification allows the contractor to use either a 4-inch or 6-inch core.

- 4) **Question:** Are two consecutive failures of a non-pay factor test result by either the contractor’s or the engineer’s testing subject to rejection or a monetary penalty?

Answer: No. under the SPF specifications, only pay factor quality characteristics can be used to determine acceptance. Under the SPF specifications, two consecutive failures from two consecutive sublots (or three in a single day) of a non-pay factor quality characteristic can only be used to stop production.

When the engineer samples for non-pay factor quality characteristics, samples are pulled independently of the contractor’s quality control samples, and Caltrans guidance requires the engineer to pull two samples from two of the contractor’s consecutive sublots. The engineer’s samples are split into four parts. If the engineer’s testing of first sample fails, the engineer immediately notifies the contractor and the independent third party, and in accordance with the specification, all three parties test their splits of the engineer’s second of the two consecutive samples. If two of the three samples from the split of the engineers second of two consecutive

samples fail, it is considered as two consecutive failures and requires stopping production. The contractor must take corrective action and demonstrate compliance before continuing production and placement of material in the lot. If production is stopped longer than 30 days, it is considered the start of a new lot.

These new SPF specifications include an optional method for having an independent third party involved in testing a portion of the engineer's first of two consecutive samples of a non-pay factor quality characteristic. Either party can employ this option, but it requires a request by either party at the time of sampling, or in no case later than when the engineer reports the results of the first of the two consecutive samples. If the contractor or engineer request independent third-party testing involvement in the first of the two consecutive samples, the requesting party pays for the cost of testing, regardless of the results of the test. When it is requested, all three test results are used to make the determination of whether the sample fails. If two of the three fail, the first sample is considered as failed.

- 5) **Question:** Since the contractor is sampling every subplot, may we use splits of the contractor samples for verification purposes, and randomly select portions of those splits?

Answer: No, the engineer's samples must always be pulled independently of the contractor's samples.

- 6) **Question:** Is it expected that the engineer sample every subplot, then randomly determine which of those samples will be tested while meeting the minimum frequency of 1 verification test to five contractor quality control tests and in all cases at least 3 verification tests per subplot?

Answer: No. The engineer is not required to pull a sample from every subplot. The verification samples cannot be splits of the contractor quality control samples. Also, new policy requires the engineer to develop a "stratified random sampling plan" before beginning the lot. The term "stratified random sampling" means to break the lot into predefined equal size parts, randomly predetermine a sample location from within each part.

The engineer must have at least three verification tests per lot, and at least one verification test per five contractor quality control tests.

Example 1) A lot with twenty sublots will have twenty contractor quality control tests, but only ten air voids at Ndesign. The engineer will need at least four verification tests, except only three for air voids.

Example 2) A lot that ends with ten sublots will have ten contractor quality control tests, but only five air voids at Ndesign. The engineer will need at three verification tests, including three for air voids at Ndesign.