3460301 PORTLAND CEMENT CONCRETE

COMMENTS/RESPONSES FROM FHWA (AFTER SUBMITTAL)

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Comments: **(1-26-10 – FROM FHWA -AFTER SUBMITTAL)**

FHWA reviewed the subject proposed specification and offer the following comments (in bold blue italic) for your consideration.

1.

346-4.2.2 Certification: If any chloride test data exceeds the limits in Table 4, identify the exception on the Construction Compliance with Specifications and Plans form.

Why was the frequency of chloride test requirement removed from the specification? Since this test will play critical role for corrosion protection, it is essential that we require the contractor to perform this test as we needed for his certification.

Response: The Producer is required to test the chlorides. This information is in Materials Manual in 9.2 Volume II. MM 9.2 VII is required through Section105. The Producer must provide the data to the Contractor on the delivery ticket. This change alleviates the Contractor from having to submit the data to the Department a second time.

2.

346-6.4 Plastic Property Tolerances: Do not place concrete with a slump more than plus or minus 1.5 inches from the target slump value specified in Table 2.

This requirement may override or conflict with the slump range allowed by the footnotes in Table 2. Clarify and revise the sentence accordingly.

Response: The intent is that value in the footnotes should be the target value. The footnotes should be corrected as follows:

(b) The Engineer may allow higher target slump, ~~not to exceed~~ *the maximum allowable target slump value* of up to *7* inches, when a Type F, G, I or II admixture is used.

(e) When the precast elements of the following type; three-sided culverts, box culverts, endwalls, inlets, manholes or junction boxes, require a Class III concrete, the minimum cementitious materials will be 470 lb/yd^3. The air content range and target slump will not apply. The maximum allowable *target* slump *value* shall be 6 inches.

3.

346-6.4 Plastic Property Tolerances: Do not place concrete with a slump more than plus or minus 1.5 inches from the target slump value specified in Table 2. Reject concrete with slump or air content that does not fall within the specified tolerances and

immediately notify the concrete production facility that an adjustment of the concrete mixture is required so that it will fall within specified tolerances. *If a load does not fall within the tolerances, test each subsequent load until a load falls within the tolerances and the first adjusted load. If failing concrete is not rejected or adjustments are not implemented, the Engineer may reject the concrete and terminate further production until the corrections are implemented.*

Since the proposed sentences do not flow well with the previous sentences, I recommend revising the highlighted sentence in red to read as follows:

Test the first adjusted truck, if the load does not fall within the tolerance, reject and test each subsequent load until a load falls within the tolerances. If failing concrete is not rejected or adjustments are not implemented, the Engineer may terminate further production until the corrections are implemented.

Response: The intent is to test the trucks between the failing truck and the adjusted load plus the adjusted load. The suggested language does not take into account the loads between the failure and the adjusted load. The following language focuses on the situation requiring for rejection. Other parts of 346 already explain what to do to reinitiate the lot. This should clarify the intent. The sentence should be corrected as follows:

If a load does not fall within the tolerances, test each subsequent load and the first adjusted load. If failing concrete is not rejected or adjustments are not implemented, the Engineer may reject the concrete and terminate further production until the corrections are implemented.

4.

- **346-7.7 Adding Water to Concrete at the Placement Site:** Perform an initial slump test before the addition of water at the jobsite. If the slump, as delivered, is outside the tolerance range, reject the load. If the slump is within the tolerance range, that load may be adjusted by adding water provided the addition of water does not exceed the water to cementitious materials ratio as defined by the mix design. After adjusting the slump, perform a slump test to confirm the concrete is within the slump tolerance range. Perform a slump test on the next load to ensure the concrete is within the slump tolerance range. ~~Maintain the slump within the tolerance range on successive loads.~~ Do not place concrete represented by slump test results outside of the tolerance range. *The highlighted sentence may not be needed since the specification requires slump to be within the tolerance range on all loads.*

Response: Agree. Strike this sentence.

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