

## ORINATION FORM

**THE INFORMATION BELOW IS TO BE PROVIDED BY THE ORIGINATOR** (The person who receives or originates the issue and needs to forward the issue for action.)

**Specification:** 320

**Subject:** Hot Bituminous Mixtures - Plant, Methods, and Equipment

**Origination date:** November 13, 2009

**Originator:** Greg Sholar

**Office/Phone:** State Materials Office / 352.955.2920

**Problem statement:** Confusion exists as to the exact tonnage weights required on the delivery tickets.

**Proposed solution:** Add wording to clearly state the two different tonnages required on the delivery ticket; 1) the tonnage per truck, and 2) the accumulated tonnage for that day, not for the project, for a particular mix design.

**Information source:** SMO staff. District staff.

**Recommended Usage Note:** All asphalt projects.

**Estimated fiscal impact, if implemented:** None.

**Implementation of these changes, if and when approved, will begin with the July 2010 letting.**

### For State Specifications Office Use Only

Begin date:

File Number:

Scheduled completion date:

Implementation date:

Implementation team member:

Usage Note:

Notes:



## *Florida Department of Transportation*

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### MEMORANDUM

**DATE:** December 9, 2009

**TO:** Specification Review Distribution List

**FROM:** Rudy Powell, Jr., P.E., State Specifications Engineer

**SUBJECT: Proposed Specification: 3200202 Hot Bituminous Mixtures – Plant, Methods, and Equipment – Electronic Weigh Systems**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Greg Sholar of the State Materials Office to clarify the exact tonnage weights required on delivery tickets for all plant-mixed hot bituminous mixtures.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or to my attention via e-mail at ST986RP or rudy.powell@dot.state.fl.us. Comments received after **January 6, 2010** may not be considered. Your input is encouraged.

RP/dt  
Attachment

## **HOT BITUMINOUS MIXTURES – PLANT, METHODS, AND EQUIPMENT – ELECTRONIC WEIGH SYSTEMS.**

**(REV 11-13-09)**

SUBARTICLE 320-2.2 (Pages 241 – 244) is deleted and the following substituted:

**320-2.2 Electronic Weigh Systems:** Equip the asphalt plant with an electronic weigh system that: has an automatic printout, is certified every six months by an approved certified scale technician, and meets weekly comparison checks with certified truck scales as specified in 320-2.2.4. Weigh all plant produced hot mix asphalt on the electronic weigh system, regardless of the method of measurement for payment.

Include, as a minimum, the following information on the printed delivery ticket:

- (a) Sequential load number.
- (b) Project number.
- (c) Date.
- (d) Name and location of plant.
- (e) Mix design number.
- (f) Place for hand-recording mix temperature.
- (g) Truck number.
- (h) Gross, tare, and net ~~weights~~ *tonnage per truck* (as applicable).
- ~~(i) Accumulated total of mix.~~
- (j) Daily total tonnage of mix for the mix design. Tons.*

Print the delivery ticket with an original and at least one copy. Furnish the original to the Engineer at the plant and one copy to the Engineer at the paving site.

Utilize any one of the following three electronic weigh systems:

**320-2.2.1 Electronic Weigh System on the Truck Scales:** Provide an electronic weigh system on all truck scales, which is equipped with an automatic recordation system that is approved by the Engineer. Use scales of the type that directly indicate the total weight of the loaded truck. Use scales meeting the requirements for accuracy, condition, etc., of the Bureau of Weights and Measures of the Florida Department of Agriculture, and re-certify such fact every six months, either by the Bureau of Weights and Measures or by a registered scale technician.

**320-2.2.2 Electronic Weigh System on Hopper Beneath a Surge or Storage Bin:** Provide an electronic weigh system on the hopper (hopper scales or load cells) beneath the surge or storage bin, which is equipped with an automatic recordation system approved by the Engineer.

**320-2.2.3 Automatic Batch Plant with Printout:** For batch plants, provide an approved automatic printer system which will print the individual or cumulative weights of aggregate and liquid asphalt delivered to the pugmill and the total net weight of the asphalt mix measured by hopper scales or load cell type scales. Use the automatic printer system only in conjunction with automatic batching and mixing control systems that have been approved by the Engineer.

**320-2.2.4 Weekly Electronic Weigh System Comparison Checks:** Check the accuracy of the electronic weighing system at the commencement of production and thereafter at least once a week during production by one of the following two methods:

**320-2.2.4.1. Electronic Weigh Systems on Truck Scales:**

(a) The Engineer will randomly select a loaded truck of asphalt mix and record the truck number and gross weight from the Contractor's delivery ticket.

(b) Weigh the selected truck on a certified truck scale, which is not owned by the Contractor and record the gross weight for the comparison check. If another certified truck scale is not available, the Engineer may permit another set of certified truck scales owned by the Contractor to be used. The Engineer may elect to witness the scale check.

(c) The gross weight of the loaded truck as shown on the Contractor's delivery ticket will be compared to the gross weight of the loaded truck from the other certified truck scale. The maximum permissible deviation is 8 pounds per ton of load, based on the certified truck scale weight.

(d) If the distance from the asphalt plant to the nearest certified truck scale is enough for fuel consumption to affect the accuracy of the comparison checks, a fuel adjustment may be calculated by using the truck odometer readings for the distance measurement, and 6.1 miles per gallon for the fuel consumption rate, and 115 ounces per gallon for fuel weight.

(e) During production, when an additional certified truck scale is not available for comparison checks, the Engineer may permit the Contractor to weigh the truck on his certified scales used during production and then weigh it on another certified truck scale, as soon the other scale is available for the comparison checks.

In addition to the periodic checks as specified above, check the scales at any time the accuracy of the scales becomes questionable. When such inaccuracy does not appear to be sufficient to seriously affect the weighing operations, the Engineer will allow a period of two calendar days for the Contractor to effect the required scales check. However, in the event the indicated inaccuracy is sufficient to seriously affect the mixture, the Engineer may require immediate shut-down until the accuracy of the scales has been checked and necessary corrections have been made. Include the cost of all scale checks in the bid price for asphalt concrete, at no additional cost to the Department.

**320-2.2.4.2. For Electronic Weigh Systems on Hoppers Beneath a Surge or Storage Bins and Automatic Batch Plants with Printout:**

(a) The Engineer will randomly select a loaded truck of asphalt mix and record the truck number, and the net weight of the asphalt mix from the Contractor's delivery ticket.

(b) Weigh the selected truck on a certified truck scale, which is not owned by the Contractor and record the gross weight for the comparison check. If another certified truck scale is not available, the Engineer may permit another set of certified truck scales owned by the Contractor to be used. The Engineer may elect to witness the scale check.

(c) Deliver the asphalt mix to the project, then weigh the selected empty truck on the same certified truck scales. Record the tare weight of the truck.

(d) Compare the net weight of the asphalt mix from the delivery ticket to the calculated net weight of the asphalt mix as determined by the certified truck scale weights. The maximum permissible deviation is 8 pounds per ton of load, based on the certified truck scale weight.

(e) Use the fuel adjustment as specified in 320-2.2.4.1(d), when the distance from the asphalt plant to the nearest certified truck scale is enough for fuel consumption to affect the accuracy of the comparison checks.

(f) During production, when an additional certified truck scale is not available for comparison checks, the Engineer may permit the Contractor to load a truck with aggregate from the pugmill, surge or storage bin, and follow the above procedures to conduct the comparison checks as soon as certified truck scale is available.

If the check shows a greater difference than the tolerance specified above, then recheck on a second set of certified scales. If the check and recheck indicate that the printed weight is out of tolerance, have a certified scale technician check the electronic weigh system and certify the accuracy of the printer. While the system is out of tolerance and before its adjustment, the Engineer may allow the Contractor to continue production only if provisions are made to use a set of certified truck scales to determine the truck weights.