ADD AS 109.16

*I reviewed the spec and corrected references to Sec 310 for scales in 402, 403, and 404 I am submitting. There is one more reference in 1015.6 that will need to be updated as part of this move.*

**109.16. Vehicle Scales.** Vehicle scales shall be approved by the engineer and shall be in accordance with the requirements specified herein.

**109.16.1 Basis of Acceptance.** Scale acceptance will be based on one of the following:

(a) A valid certification or seal of approval by the Missouri Department of Agriculture, Division of Weights and Measures.

(b) A valid certification or seal of approval by a State of Missouri duly appointed Sealer of Weights and Measures in cities or counties of 75,000 population or more.

(c) Certification of calibration from a commercial scale service company showing that the scale meets the requirements of these specifications. The contractor shall furnish the certification of calibration to the engineer.

(d) Calibration from zero weight through the maximum load to be applied by the application of standard weights in the presence of the engineer by the contractor's personnel. In lieu of starting the calibration at zero weight, standard weights may be applied to an unloaded truck, the weight of which has been determined on a certified scale and the calibration continued through the maximum load to be applied.

Regardless of the form of acceptance, the calibration shall be within the accuracy requirements specified in Sec 109.16, and the scales shall meet all requirements of these specifications.

**109.16.2 Scale Calibration.** Scales shall have been calibrated within the 12-month period immediately prior to any material being delivered or any time the engineer has cause to question the accuracy of the scale. Scales shall be accurate to within 0.4 percent of the net load applied, regardless of the location of the load on the platform. The value of the smallest unit of graduation on a scale shall be no greater than 20 pounds. Sensitivity requirements of scales not equipped with balance indicators shall be twice the value of the minimum graduated interval on the weigh beam or 0.2 percent of the nominal capacity of the scale, whichever is less. For scales equipped with balance indicators, the sensitivity requirement shall be the value of the minimum graduated interval on the weigh beam.

**109.16.3 Verification.** Verification of a vehicle scale may be required by the engineer at any time. Weighing a hauling unit on another recently calibrated and certified scale is an acceptable method of verification.

**109.16.4 Long Vehicles.** If equipment to be weighed is of such length that all axles cannot be weighed simultaneously, a level area of concrete or bituminous pavement shall be provided permitting those axles not on the scale platform to be on the pavement during the weighing operation. The approach shall be at least as wide as the platform and of sufficient length to ensure the level positioning of vehicles during weight determinations. The weighing shall be performed with all brakes released. If equipment to be weighed is equipped with an air bag suspension unit on any axle, the equipment, including semi-trailers or pup trailers, shall be determined on vehicle scales of sufficient size to weigh all axles of the combination simultaneously.

**109.16.5 Certification.** All costs incurred in obtaining certification of calibration or verification shall be at the contractor’s expense.