



U.S. Department
of Transportation

**Federal Highway
Administration**

Memorandum

SP-94-019-RR

Subject Use of Metric Units in
All Correspondence

From Director, Office of Program
Management Support

To OMC Office Directors
Division Chiefs
Regional Directors
State Directors
Officers-In-Charge

Date December 6, 1994

Reply to
Attn of HPS-10

This memorandum is to request that, effective January 1, 1995, metric units of measurement followed by their English equivalent in parenthesis should be used in all reports and correspondence to the maximum extent practical. In accordance with the Federal Highway Administration's metric conversion plan, conversion of the Agency's procurement, grants, and other business-related activities to the metric system is scheduled to be completed by September 30, 1996. This effort will assist all of us in becoming familiar with and knowledgeable about the metric system prior to the September 30 deadline.

The attached briefing provides a detailed explanation of how to arrive at metric equivalent measurements and summarizes how conversion to the metric system will impact our motor carrier programs and activities.

Thank you for your cooperation in this endeavor. Please direct any questions concerning the application of metric units to Mr. Jeff Secrist at (202)366-2963.


Michael F. Trentacoste

Attachment

MOTOR CARRIER PROGRAMS AND METRIC CONVERSION

Reports, Correspondence and Contracts

Effective January 1, 1995, metric units of measurement followed by their English equivalent in parenthesis should be used in all reports and correspondence to the maximum extent practical. In addition, metric measurements should be used in contracts and other agreements with our partners.

We will use the conversion factors listed in the table below to arrive at metric equivalent measurements for our most commonly used measurements. Additional factors can be found in the American Society for Testing and Materials E380, "Standard Practice for Use of the SI International System of Units."

WEIGHT (MASS)	LENGTH
1 ounce (oz) = 28.35 grams (g)	1 mile = 1.609 kilometers
1 pound (lb) = 0.4536 kilograms (kg)	1 inch = 25.4 millimeters
2,205 pounds = 1 metric ton (t)	1 foot = 0.3048 meters
1 metric ton = 1,000 kilograms	
VOLUME	AREA
1 gallon (gal) = 3.785 liters (l)	1 square inch (in ²) = 6.894 square millimeters (mm ²)
	1 square foot (ft ²) = 0.09 square meters (m ²)

To convert pounds (lbs) to kilograms (kg), round the metric equivalent up or down to the nearest whole number of kilograms evenly divisible by 10. For example, the maximum weight for a tandem axle, 34,000 pounds, converts to 15,422.4 kilograms. Its metric equivalent would be 15,420 kilograms.

We will use the following guidelines for converting lengths to metric. To convert miles (mi) to kilometers (km), round the metric equivalent to the nearest whole number of kilometers divisible by 10. Fifty-five miles equals 88.495 kilometers and the resulting metric equivalent would convert to 90 kilometers. To convert inches (in) to millimeters (mm), round the metric equivalent to the nearest whole number. Three inches equals 76.2 millimeters which will convert to 76 millimeters. To convert feet (ft) to meters (m), round the metric equivalent to the nearest one-hundredth of a meter. A 48-foot trailer would equal 14.63 meters.

To convert volume and area measurements, round the metric equivalent to the nearest whole number. For example, 5 gallons (gal) equals 18.925 liters, which would convert to 19 liters.

Size and Weight

The FHWA published a Notice of Interpretation on "Truck Size and Weight-- Vehicle Size and Weight Limits" in Metric Units in the Federal Register on October 6, 1994. It converts the most commonly used commercial motor vehicle size and weight limits, which are set by law and specified in English values, to their metric equivalents and provides guidance to the public in making similar conversions. The comment period on the interpretation closes on January 4, 1995.

For enforcing Federal weight law, the FHWA has decided to allow the rounding of weight values up or down to the nearest whole number of kilograms evenly divisible by 10. This gives a margin of error of about 5 kilograms. Likewise, the FHWA also will allow the measurement of dimensional values to the nearest one-hundredth of a meter since all metric devices of measuring length are calibrated in hundredths of a meter. The FHWA has determined that the rounding methods described in this notice are consistent with the requirements of Federal law and will reduce the difficulties inherent in switching from English to metric units. We anticipate that implementation of this conversion standard will have no effect on current loading and enforcement practices, as no change in current size and weight regulations is intended.

At this time, we do not plan to require that States actually weigh commercial vehicles in metric units or use metric units on citations. Federal statutes and our regulations require that States weigh commercial vehicles to monitor compliance with State and Federal size and weight laws. The manner in which actual enforcement is accomplished will continue to be a State prerogative. However, any reports that a State submits to the FHWA regarding size and weight matters should include metric units of measurement, followed in parenthesis by the standard English unit.

Motor Carrier Safety Assistance Program (MCSAP)

The FHWA will encourage States to incorporate metric units, followed in parenthesis by the standard English unit, in their State Enforcement Plans (SEPs) beginning with the FY 1996 report. Under the MCSAP, each State submits an SEP which describes how it will use MCSAP funding; what types of activities (including inspections, compliance reviews, and other special projects) the State will undertake; the number and type of personnel to be used for commercial vehicle safety efforts.

We will use metric measurements in the out-of-service (OOS) criteria which States enforce in MCSAP-funded vehicle inspections. We have converted all English measurements in the OOS criteria to their metric equivalents. We will expect States to use metric values when performing vehicle inspections beginning October 1, 1996.

Federal Motor Carrier Safety Regulations (FMCSRs)

We are incorporating metric units into the FMCSRs as we prepare notices for publication in the Federal Register. The final rule on "Parts and Accessories Necessary for Safe Operation – Protection Against Shifting or Falling Cargo," published on July 6, 1994, marked the first use of metric units in Part 393. We will later establish metric equivalents for all English units in Part 393. We will continue to include metric measurements, followed in parenthesis by the standard English unit, in new and amended rules.

Some changes in the lighting and brake standards may be delayed since those standards are cross-referenced with regulations that are developed by the National Highway Traffic Safety Administration. We will use the metric measurements for these standards as they are decided upon by the NHTSA.

The Research and Special Programs Administration promulgates hazardous materials regulations. The FHWA enforces the hazardous materials regulations applicable to motor carriers, including the requirements for vehicle registration, marking, and placarding. We will use metric measurements for these standards as they are defined by the RSPA.

Information Systems/Data Reporting

Motor carriers are required to submit to the FHWA a Motor Carrier Identification Report form to obtain a U.S. Department of Transportation Identification number. A question on this form refers to mileage. These forms will be modified to include kilometers by the end of FY 1996. Conversion of English values to their metric equivalents will be done during report generation from the Motor Carrier Management Information System.

States upload accident information to the FHWA directly from police reports. The accident data elements that are reported include the Gross Vehicle Weight Rating (GVWR) of the vehicle. We will convert the GVWR to its metric equivalent through the SAFETYNET accident module. As vehicle manufacturers include the GVWR in metric units on the vehicle, we will ask police officers to record this information.

Commercial Driver's License Program

Conversion to the metric system is not expected to impact the CDL program. As States include metric measurements on the actual driver's license, changes to the CDL will be incorporated.

Registration and Taxation Agreements

The FHWA will encourage States to convert the size and weight information that is collected from motor carriers for registration and taxation purposes to metric units using the guidelines defined under "Reports, Correspondence, and Contracts." We believe that the States are in the best position to convert this data once a carrier reports the size and weight information to the State. As the public becomes more familiar with the metric system, we anticipate that carriers would report this information in metric units.