Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Construction Memorandum

To: District Construction Engineers

From: Matthew R. Strizich, P.E.
Materials Engineer

Date: July 26, 2007

Subject: Nuclear Gauge Storage and Seating Sand

This Construction Memo clarifies the requirements for nuclear gauge storage and the required use of seating sand when performing density testing with a nuclear guage.

Guidelines for Moisture/Density Meters in Vehicles

The Materials Bureau has been asked the question, "is it O.K. to store nuclear gauges in your vehicle at night?" The issue was discussed with field personnel and members of the Radiation Safety Committee and it was decided nuclear gauges should only be stored in a vehicle overnight in emergency or extenuating circumstances.

The majority of gauges stolen each year nationwide are out of vehicles. In many of these instances the gauges are not the target of the theft, but it doesn't make it any less of a problem. Listed below are guidelines for gauge storage that should be followed. Storing gauges in a vehicle on a regular basis is not acceptable.

When away from the main Lab storage site, nuclear gauges should be chained to a sturdy non-removable object in a lockable storage building or office when being stored overnight somewhere. This building should be locked whenever MDT personnel are not around to provide protection of the gauge. If keeping your gauge in your vehicle at night is the only option available then the guidelines below should be used.

1. Your vehicle should be parked in a fenced secure area such as the District, Area or Maintenance complex.

2. Secure the gauge to the vehicle by two or more of the following means:
   A. Locked to the vehicle preferably with the sturdy lock and cable provided by MDT.
   B. Bolted to the vehicle, preferably with the new tie-down plate available through any District Area Lab..
   C. Inside the vehicle with the doors locked as in a Suburban or van.

3. For all vehicles, especially open bed trucks, the ignition keys should be removed and the doors locked. This provides two means of security that prevent the vehicle with the gauge from being stolen.

Seating Sand

MT 212, Subsections 3.4.8 and 3.4.9 require the use of seating sand when measuring the moisture or density of in-place materials with a nuclear densometer. This is not an optional part of the test procedure! Foregoing the use of seating sand will result in inaccurate test results in most instances and need to be avoided.

Material that is too rocky to test and has significant voids (such as shot rock) is an example of a situation where the use of seating sand would not be required when checking for uniformity. Obtain approval of the Engineering Project Manager any time seating sand is not going to be used.

If you have any questions about either of these issues, email or call Rex Hoy at rhoy@mt.gov or (406)444-6270.

MS/ms

CC:

EPMs	District Office Engineers	CES Bureau
Kevin Christensen, PE	FHWA Operations Engineers	Loran Frazier, PE
Area Lab Supervisors	Scott Barnes, PE	DESS'
District Materials Supervisors	Lisa Durbin, PE	District Administrators