

**TEMPORARY TRAFFIC CONTROL DEVICE MATERIALS – REMOTELY PROGRAMMABLE PORTABLE CHANGEABLE MESSAGE SIGNS.  
(REV 6-5-17) (7-18)**

SUBARTICLE 990-3.1 is expanded by the following:

SUBARTICLE 990-3.3.1, is expanded by the following:

6. For Remotely Programmable Portable Changeable Message Signs (RPPCMS), the matrix must utilize all light emitting diodes (LEDs). LEDs used must be amber (590nm dominate wavelength) and must meet the visibility requirements of the specification. LEDs must have a viewing angle no less than 30 degrees. LED intensity must not fall below 80 percent in three years.

SUBARTICLE 990-3.3.2, is expanded by the following:

8. Portable Changeable Message Signs (PCMS) must meet the requirements of NEMA TS4-2005, section 2.

9. For RPPCMS, provide web-based control interface capable of the following:

1. Must allow remote configuration.
2. Must include diagnostics to determine pixel and panel outages.
3. Must allow multiple user accounts.
4. Must provide battery charge level.