National Transportation Product Evaluation Program (NTPEP)

Administrative Guide for Pavement Marking Materials

Forward
The purpose of this guide is to provide specific information for Pavement Marking Material (PMM) that is not addressed by the NTPEP Information and Operations Guide. This document will outline the roles and responsibilities of technical committee members, new product application procedure and material/laboratory testing schedule. It is the intent that this guide be reviewed at least annually and updated as determined by the Technical Committee.

Technical Committee
The PMM Technical Committee officers will be comprised of a Committee Chair, Vice Chair and Secretary. The PMM Technical Committee membership will follow the NTPEP Operation Guide.

Significance and Use
The PMM field testing will utilize two (2) to six (6) test sites to evaluate the degradation of traffic marking materials under varying climatic conditions. Sites will consist of a northeast site to simulate a cold humid climate; a southeast site to simulate a hot humid climate; a northwest site to simulate a cold dry climate; and a southwest site to simulate a hot dry climate. Other sites may be included in the Central part of the country.

At a minimum installations will alternate between snowplow (northern state) and non-snowplow (southern state) sites on a three year cycle in accordance with the Administrative Guide for Pavement Marking Materials.

Evaluation data will be compiled and made available to all participating states and testing companies through the AASHTO/NTPEP DataMine. This report will include data only. No judgment as to a product’s acceptability will be made in this report. End user participants will establish individual criteria for product acceptability.

In addition to field testing, each product will be sampled and submitted to a participating state and/or private laboratory for “fingerprint” testing in accordance with Laboratory Practices section of this work plan. This information will be used to assist in future comparisons of tested materials to purchased materials.

All data shall be rounded and reported according to the procedures found in AASHTO R 11.

Type and Location of Test Site
Test decks will be located on both Portland cement and bituminous concrete surfaces. Sites shall be selected where traffic is heavy (minimum ADT 5,000); free rolling with no or slight grades, no or slight curves, no intersections or access points near enough to cause excessive braking or turning movements, and where wear is fairly uniform and has full exposure to the sun. Selected surfaces shall be representative of the pavements upon which the materials will later be placed for actual use. Tests sections shall be applied to surfaces that have been open to traffic for a minimum of two (2) years.

Host State Responsibility
The host state is the state the test deck is located in. A primary contact will be established early in planning of the test deck and will be the person contacted by AASHTO and TC officers during all phases of the test deck. Through coordination with AASHTO and the TC, the host state will be
responsible for the test deck application schedule, testing schedule, testing personnel, data management and data uploading to datamine. Costs associated with test deck activities will contracted with AASHTO for each test deck as each States financial structure can vary. Below is a flow chart of how this information should flow.

**NTPEP – PAVEMENT MARKING DATA FLOW**

**Product Evaluation Application**
Each year AASHTO will send out notifications to Pavement Marking vendors requesting products submissions for application on the years test deck. Typically these notifications are sent in the first or second month of the calendar year and are required to be returned prior to the annual meeting. This will allow the technical committee time to review the product submissions and discuss any testing issues at the annual meeting in May. In the case of a non-plowable test site, alternate deadlines can be established while still providing a similar ‘lead time’ for testing notification and product submittal. These notifications will contain evaluation fee schedules, preliminary deck information and a deadline for product consideration. See Appendix X for a sample notification. Once the number of products has been determined the host state will begin to schedule vendors for application beginning in early summer.

**Product Name Changes**
Pavement Marking Material (PMM) numbers that are assigned to a Manufacturer’s product will not change for the life of the test. The Product Name that the manufacturer gives the product at the time of application will be allowed to change until the first monthly report is issued to the vendors for review. Once this report is submitted to the vendor for review no changes to the product name will be allowed.
If a manufacturer decides to make a product name change it will be the manufacturer’s responsibility to notify the host state of such request. The host state will make the required record changes and also notify the lab(s) of the product name change.

New Product Application
In the case of a product that does not fit into the work plan, the following process shall be:

After being approached by industry, the TC panel will determine if there is an interest of the member states to see such a product evaluated through NTPEP.

If not, there will be no further consideration of the new product.
If so, the following will apply:

TC Panel and industry determine whether the new product would necessitate a change in the work plan in order to be evaluated.

If not, the new product would be incorporated into the existing work plan.
If so; The industry would be required to submit proposed work plan changes to address the intent of the new product. The industry would need to coordinate to submit changes to the work plan to accommodate that category of new product before submission. This would prevent the States from having to review product specific proposed work plan changes on a product specific basis for each new product.

Once the proposed work plan changes are received by the industry, the panel will review and comment.

Proposed changes will be balloted by all member States on the TC panel.

Annual Average Daily Traffic (AADT)
The average number of vehicles that pass by a counter during a 24-hour period in a certain year, specific to one lane of a limited access, divided highway.

Third Party Independent Laboratory Testing
In the event that laboratory materials testing can’t be conducted by a DOT participant, a third party private laboratory can be contracted to conduct the remaining testing.

The testing lab shall have AMRL or other NTPEP approved laboratory accreditation. All equipment is to be calibrated, verified or checked according to the lab quality system manual and ASTM, AASHTO or lab test methods. The testing lab shall have applicable standards available to technicians testing pavement markings for the NTPEP program and shall verify that the correct versions of applicable standards are being used per the appropriate NTPEP Pavement Marking Material standard practice.

Technicians conducting pavement marking testing shall undergo a training program on methods, procedures and practices detailed in this standard practice. Training shall be conducted by a technician with a minimum of a Bachelors of Science degree and five years of pavement marking materials testing experience. Proficiency of technicians shall be determined using ASTM or DOT sponsored round robin testing program. Training records shall be documented per the lab Quality Systems Manual (QSM).

Pavement Marking samples shall be tested according to referenced standards. Where applicable, replicate tests shall all fall within limits established by the standards precision and bias statement (P&B). If a test fails to meet the P&B, the test will be repeated until the P&B is met

Temporary Tape installations
Due to the unique and short-term conditions for temporary tape evaluations, all vendors with these materials shall install their products on the same day for field installation. Any conflict by any vendor
about road conditions, pending weather, etc. is cause to suspend installation until agreement is reached by all manufacturers participating in the evaluation. Retesting of premature failures will be at the discretion of the host state, lead state, technical committee and AASHTO NTPEP.

Reports

Multiple reports shall be generated and distributed through the NTPEP Data Mine. The first report shall be an initial report and shall include installation information and initial field data. This will be available online within 2-3 months after installation. Subsequent reports shall be uploaded at monthly intervals for review and public use on the AASHTO/NTPEP DataMine. Typically reporting will continue for the three year evaluation cycle, however this time could be less depending on the predetermined evaluation cycle for that material type.

The following minimum information shall be included:

- Site location, including ADT, type, age and special treatment of the surface material.
- Company information, including name, code, class of material, binder, color, primer (if needed), VOC content and indication if material contains lead, cadmium, chromium and other heavy metals.
- Application information, including application equipment description, thickness, temperature of material, relative humidity, air temperature, pavement temperature, no track time, and type and rate of application of beads.
- Retroreflectance (wet/dry) by data table
- Durability by data table
- Color (daytime/night time) by data table
- Information on snowplow type/use and damage, amount of salt, amount of anti-skid, and salt/anti-skid by the ton, used on the test deck. Also, include specific winter wear conditions such as studded or chained tires.