



MINNESOTA DEPARTMENT OF TRANSPORTATION

Engineering Services Division

Technical Memorandum No. 06-03-C-01

January 4, 2006

To: Distribution 57, 612, 618, 650

From: Richard Stehr
Director, Engineering Services Division

Subject: Guideline for Vehicle Safety Lighting

Expiration

This Technical Memorandum supercedes Technical Memorandum No. 04-04-C-01. This memorandum expires December 31, 2011, unless superceded or extended prior to that date.

Implementation

This policy and its instructions are effective immediately.

Introduction

Mn/DOT safety studies over the last few years have resulted in upgraded vehicle safety lighting on Department vehicles. One group issued a report in November 1995 citing the need for more uniform and effective safety lighting on survey vehicles. Another group of mostly Metro Division personnel issued a March 1997 report again citing the need for more effective and uniform lighting on construction vehicles. A committee consisting of representatives from the Metro Division, Districts 3 and 7, Central Shop, Central Office, and State Aid met in 2002 to consolidate the work of previous committees, and to recommend an effective and uniform safety lighting policy for Mn/DOT vehicles. Research and field studies continue to explore new technologies, such as LED, and improvements to existing technologies. A committee is scheduled to meet in January 2006 to review LED state-of-the-art for possible inclusion into the Approved Products List.

Purpose

This memorandum provides vehicle safety lighting guidance to managers, procurement officials, and installers of vehicle safety lighting. It establishes a standard for effective and uniform vehicle safety lighting for Mn/DOT vehicles. It also provides guidance relating to the treatment of off-road vehicles.

Guidelines

All Mn/DOT vehicles performing official duties on the Trunk Highway System are required to display vehicle warning lights of a type and model specified in the "List of Approved Warning Lights" posted on the Mn/DOT website at:

http://www.dot.state.mn.us/const/wzs/veh_saf_list.pdf

Lights shall be mounted so they are visible at all times to an observer walking in a 60-foot (18 meter) radius round the vehicle. In some cases a mix of the number and type of lights may be necessary for effective 360-degree visibility around the vehicle.

Newly purchased Mn/DOT vehicles/mobile equipment shall be equipped with a minimum of one double-rotator light unit, with side mirrors, from the Approved List mentioned above.

These guidelines have the following exceptions:

Staff cars and vans may be equipped with an approved single magnetic-mount light in lieu of the double rotator unit.

Snowplows shall be equipped with the standard snowplow strobe package.

Off-road motor vehicles of less than 4,000 lbs.(1,800kg) GVW shall be equipped with an approved, single rotating or strobe light.

Recommendations For Additional Safety Lighting

Certain situations warrant additional lighting, such as:

- survey operations often take place in isolated locations without benefit of a lane closure. Light bars (group of lights in a single enclosure) provide increased safety.
- inspector and maintenance pick-ups are often isolated and in vulnerable positions. Light bars provide increased safety in these cases.

Directional light sticks may be used on left-handed snowplows in addition to required lighting. Maintenance pickups may also use light sticks as additional lighting to provide supplementary traffic guidance in emergency situations.

Note: Directional light sticks may not be used as a substitute for a flashing arrow panel in a lane closure operation.

Questions

For information on the technical contents of this memorandum, please contact Gregory Johnson at (651) 296-3126 in the Office of Construction & Innovative Contracting. Any questions regarding the publication and distribution of this Technical Memorandum should be referred to Sophia Wicklund, Design Standards Unit at 651-296-3190, or Mohammad Dehdashti, Design Standards Engineer at 651-296-4859. All active Memoranda and a list of historical Technical Memoranda can be viewed at <http://www.dot.state.mn.us/tecsup/tmemo/index.html>