

## APPENDIX M

### TANK VEHICLE TO TANK VEHICLE FUEL TRANSFER AT AIRPORTS

*The provisions contained in this appendix are adopted by the State of Oregon.*

Blue text denotes existing Oregon Amendments

#### SECTION M 101 GENERAL

**M 101.1 Scope.** The scope of this appendix is for category IV and V public use and private use airports as published by the Oregon Department of Aviation that do not have a fixed fueling facility.

**M 101.2 Purpose.** The purpose of the appendix is to provide minimum safety standards when transferring flammable and combustible liquids from distributor tank vehicle into tanks of tank vehicles at airport sites. Personnel, equipment and sites shall be approved for this activity.

#### SECTION M 102 DEFINITIONS

**M 102.1 Definitions.** For the purpose of Appendix M, certain terms are defined as follows:

**QUALIFIED PERSONNEL.** Those who have been thoroughly trained in the operation of fuel transfer when utilizing vehicles or equipment within their responsibility.

#### SECTION M 103 SITE REQUIREMENTS

**M 103.1 Approval.** Sites shall be approved, permanent locations that meet the intent of this appendix.

**M 103.2 Separation requirements.** There shall be separations from the nearest important building and from property or lease lines of not less than 100 feet (30 480 mm) when transferring fuel from tank vehicle to tank vehicle.

**Exception:** The distance may be reduced to not less than 50 feet (15 240 mm) when the

fuel transfer is accomplished through sealed vapor, hose tight connections such as bottom loading.

**M 103.3 Fire extinguishing equipment.** A minimum rating of 40 B:C fire protection equipment shall be provided during fuel transfer.

**M 103.4 Spill and drainage control.** Flammable and combustible liquids shall not be discharged onto the surface/grade. In locations where fuel is transferred, spill and drainage control shall be provided with impounding, slopes of at least 1% or other approved methods to prevent unauthorized discharges from reaching sidewalks, streets, highways, drainage canals, ditches, storm drains, sewers, flood-control channels, lakes, rivers or tidal water-ways.

**M 103.5 Ignition sources.** Smoking or other ignition sources shall not be permitted within 50 feet (15 240 mm) of fuel transfer operations.

**M 103.6 Tank vehicle separation.** A minimum separation of 10 feet (3048 mm) shall be provided between tank vehicles.

## **SECTION M 104 PERSONNEL REQUIREMENTS**

**M 104.1 Personnel.** Qualified personnel shall be in attendance of fuel transfer operation.

**M 104.2 Qualifications.** Personnel shall be trained in the methods of proper use and operation and shall be qualified in the use of fuel transfer equipment. The minimum level of training shall include:

1. All aspects of the tank vehicle relating to the movement or placement of the vehicle for the purpose of transferring fuel.
2. The operating features associated with transferring fuel.
3. The use of emergency equipment or devices.
4. Safety aspects of the fuel products being transferred.

**M 104.3 Records.** Records shall be maintained to verify current qualifications of fuel transfer personnel.

**M 104.4 Personnel location.** Personnel shall be assigned to each vehicle and shall be stationed at the control valves during fuel transfer. Personnel shall not be located at the dome areas during fuel transfer.

## **SECTION M 105 VEHICLE AND EQUIPMENT REQUIREMENTS**

**M 105.1 Approvals.** Vehicles and equipment used for fuel transfer shall be approved in accordance with recognized standards and this appendix.

**M 105.2 Maintenance.** Tank vehicles shall be maintained in proper repair and free of accumulations of grease, oil or other combustible material.

**M 105.3 Fuel transfer.** Tank vehicles shall be maintained a minimum of 10 feet (3048 mm) apart while transferring fuel.

**M 105.4 Transfer equipment.** Equipment used to transfer shall be approved and shall include the following minimum safety equipment.

1. High level shut off devices shall be tested during start up.
2. A positive means shall be provided for loading a predetermined quantity of liquid, together with a minimum of two approved control devices that will shut down the flow of fuel. The devices shall consist of:

- 2.1. An automatic secondary shut off device, and**
- 2.2. A primary valve located ahead of the hose connection.**
- 3. Approved bonding devices shall be provided in accordance with nationally recognized standards. The bonding device shall be attached to create an electrical connection between the tank vehicles prior to making any hose connections and shall be maintained until all hoses are disconnected.**
- 4. Only certified transfer hose in accordance with nationally recognized standards shall be used for fuel transfer.**
- 5. Vapor recovery equipment shall be used when required.**
- 6. Transport pressure systems shall have a pressure gauge.**
- 7. Flow rates shall not exceed 200 gallons (757 L) per minute for 3 inch (76.2 mm) hose and 100 gallons (378.5 L) per minute for 2 inch (50.8 mm) hose.**

**M 105.5 Connections. Dry-break connections (single point or equivalent) shall be provided for bottom loading.**

**M 105.6 Top filling. Existing top filling operations may be permitted to continue when approved by the authority having jurisdiction and when in compliance with the following:**

- 1. Approved downspouts are provided and extend to within 6 inches (152 mm) of the bottom of the tank.**
- 2. Top filling operations shall be in accordance with this appendix.**