Backflow Prevention Devices
PES-05-09

New York State Department of Environmental Conservation

DEC Program Policy

Issuing Authority: Carl Johnson	**Title:** Deputy Commissioner
Date Issued:	**Latest Date Revised:**

This Program Policy was formerly identified as TAGM PES-98-09.

I. Summary:

This policy identifies and provides a brief description of two specific types of backflow prevention devices and one air gap separation method, which can be used to comply with the requirement in the Regulations Relating to the Application of Pesticides in Title 6 of the New York State Official Compilation of Codes, Rules and Regulations (6 NYCRR) Part 325.2(c). Installation of the devices or the air-gap separation at the pesticide applicator's place of business, or at another location, where equipment containing pesticides is being filled with water is also described.

II. Policy:

To preserve and protect the waters of New York State and to comply with 6 NYCRR Part 325.2 (c), anti-siphon devices are to be used when drawing water from a water source during pesticide use. Use of this device is required to prevent pesticide contamination of water, which can occur when a loss of pressure in the main water line creates a backflow of contaminated water into the water supply system.

The Department has determined that an "effective anti-siphon device," referred to in 6 NYCRR Part 325.2 (c), will be limited to the backflow prevention assemblies approved by the New York State Department of Health (DOH), Bureau of Public Water Supply Protection, and the air-gap separation described in this policy. Four types of such assemblies, known as backflow prevention devices, which are listed in DOH Technical Reference - PWS-14 (dated 9/1/04, entitled "Approved Backflow Prevention Assemblies") are approved under PWS-14 for "containing potential contamination." The DOH, Bureau of Public Water Supply Protection, has determined that, due to hazards associated with pesticides, only two of the four assemblies named in PWS-14, as well as an air-gap separation, are acceptable for use with pesticides, specifically: reduced pressure principle assemblies (RPZ) and reduced pressure detector assemblies (RPDA).

Two potential locations for installation of these backflow prevention devices or the air-gap separation are at the pesticide applicator's place of business or when tanks are being filled on the road, as described in Section V of this policy ("Procedure").

III. Purpose and Background:

The purpose of this policy is to provide Department staff, the regulated community and the public with information on how to comply with the requirement in 6 NYCRR Part 325.2(c), which states:

"*All equipment containing pesticides and drawing water from any water source shall have an effective anti-siphon device to prevent backflow.*" To facilitate compliance with this regulatory requirement, this policy provides information on approved anti-siphon devices and the air-gap separation.

IV. Responsibility:

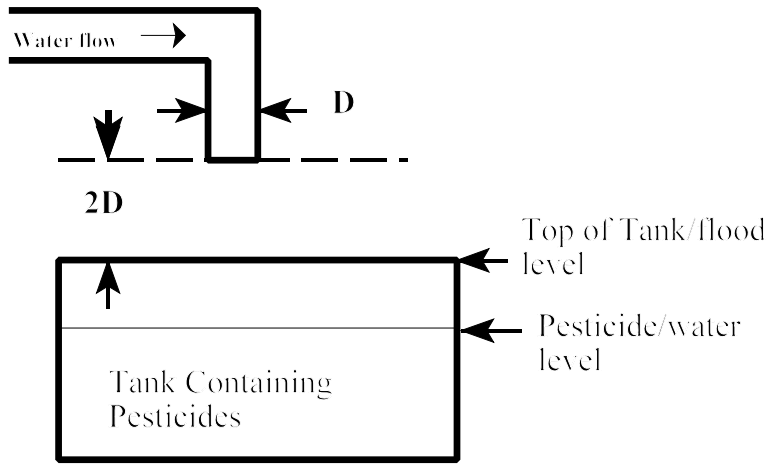
The NYSDEC Division of Solid & Hazardous Materials, Bureau of Pesticides Management, is responsible for interpreting, implementing, maintaining, and updating this policy and for the pesticide program involved in this policy. The DOH maintains Technical Reference - PWS-14, containing information on backflow prevention assemblies.

V. Procedure:

The DOH-approved backflow prevention devices (RPZ and RPDA) and the air-gap method are briefly described in this section of the policy. (NOTE: For more specific information on manufacturers of the devices, see DOH Technical Reference - PWS-14, which reflects "...currently [DOH] approved assemblies as of the date of printing..." and "...a partial list of typical manufacturers abbreviations that may appear with approved model/series designation." See the "Related References" section of this policy for information on how to obtain PSW-14.)

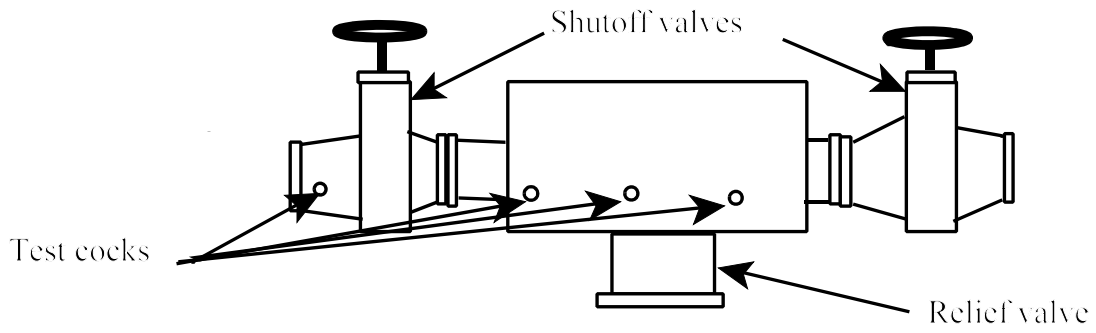
Air-Gap: An air-gap separation is an unobstructed physical separation through the free atmosphere, between the lowest opening from any pipe or faucet supplying water to a tank, plumbing fixture, or other device and the flood level rim of the receptacle. The differential distance shall be at least double the inside diameter (D) of the supply pipe. In no case shall the air-gap be less than one inch. See Figure A below, for a diagram of an air-gap separation.

FIGURE A - AIR-GAP



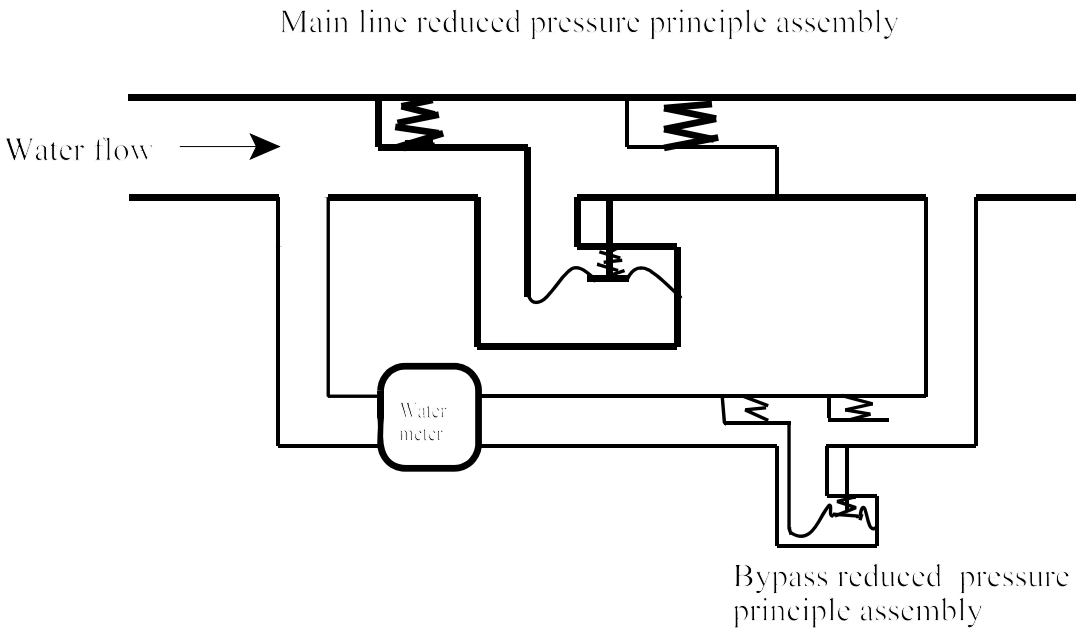
Reduced Pressure Principle (RPZ): An acceptable RPZ device contains a minimum of two independently-acting check valves, with an automatically-operated pressure differential relief valve located between the two check valves. During normal flow and at the cessation of normal flow, the pressure between these two check valves shall be less than the upstream (supply) pressure. In case of leakage of either check valve, the differential relief valve, by discharging to the atmosphere, will operate to maintain the pressure between the check valves at less than the supply pressure. The unit must include tightly closing shutoff valves located at each end of the device. Each device must also be fitted with properly located test cocks. See Figure B below, for a diagram of an RPZ.

FIGURE B - RPZ



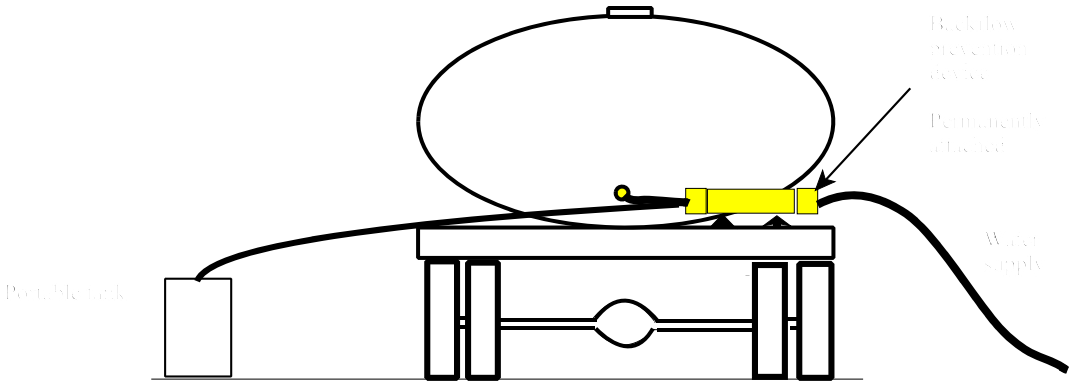
Reduced Pressure Detector Assembly (RPDA): An acceptable (RPDA) shall be composed of a line-size approved reduced pressure principle backflow prevention assembly with a bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly. The meter shall register accurately for only very low rates. See Figure C below, for a diagram of an RPDA.

FIGURE C - RPDA



Installation: A backflow prevention device is installed between the water source and the mixing tank. The backflow prevention device may be permanently installed at the pesticide applicator's place of business or installed at another location where equipment is being filled with pesticides. In the case of installation at the applicator's place of business, the backflow prevention device must be installed between the incoming water main and the outlet pipe or valve used to fill the pesticide equipment. (See Figure D below.)

FIGURE D - INSTALLATION SEQUENCE



In the case of equipment being filled in a location other than the place of business, a backflow prevention device must still be used. The best place to install the device in another location is on the vehicle. With this type of installation, a hose is run from the water source to the backflow prevention device and then another hose would run from the backflow prevention device to the mixing tank, whether it is a vehicle tank or a portable hand tank.

FIGURE E - INSTALLATION SEQUENCE

Related References:

NYSDEC program policies are in effect until revised or rescinded. To ensure a policy is the most recent version, access our website through: http://www.dec.ny.gov/chemical/8527.html.

DOH Technical Reference - PWS-14, which is available online at: http://www.health.state.ny.us/nysdoh/water/cross/docs/pws14.pdf, may be periodically updated. As stated in PWS-14, it reflects "...currently [DOH] approved assemblies as of the date of printing" and "...a partial list of typical manufacturers abbreviations that may appear with approved model/series designation." For a copy of Technical Reference PWS-14 or to ensure you have the latest version of it, or for assistance with any backflow prevention device questions, please contact the DOH, Bureau of Public Water Supply Protection, at 518-402-7650.

If you have any questions, please contact:

Bureau of Pesticides Management
Division of Solid & Hazardous Materials
518-402-8781