NEBRASKA ADMINISTRATIVE CODE

Title 195 - CHEMIGATION REGULATIONS

Chapter 3 - EQUIPMENT; STANDARDS, INSTALLATION, MAINTENANCE

001 Equipment. Any irrigation distribution system, except an open discharge system, through which chemigation is performed is to be equipped with the mechanical devices specified in paragraphs 002 through 007 of this Chapter. The equipment is to be installed in accordance with the manufacturer's specifications and at the location specified. This will not be construed to prevent the use of portable chemigation equipment if such equipment meets the requirements of this chapter.

002 Irrigation pipeline check valve. The check valve is to be capable of preventing a mixture of water and chemical from draining or siphoning back into the irrigation water source. It is to be located in the pipeline between the irrigation pump and the point of chemical injection into the irrigation pipeline.

002.01 Existing irrigation distribution systems which, as of July 1, 1987 are equipped with a properly located check valve will be considered in compliance, until repaired or replaced, if the valve provides a watertight seal against reverse flow.

002.02 Irrigation distribution systems which are not equipped with a check valve or contain a check valve which after repair cannot meet the requirement in 002.01, are to be equipped with a check valve as specified in Chapter 3, 008.

002.03 For check valves manufactured or assembled after July 1, 1987, the manufacturer of the valve assembly is to provide verification to the director that the valve model has been tested and certified by an independent laboratory as meeting the criteria specified in Appendix I.

002.04 All check valves installed on an irrigation distribution system after January 1, 1988, are to be models certified to the director as specified in 002.03 above.

003 Vacuum relief valve. The vacuum relief valve is to be located on the pipeline between the irrigation pump and the irrigation pipeline check valve. It is to be capable of preventing the creation of a vacuum when the water flow stops. If the valve connection will also serve as the inspection port, the permitholder will ensure removal of the valve at the time of inspection.

004 Inspection port. The inspection port or other viewing device is to be located on the pipeline between the irrigation pump and the irrigation pipeline check valve.

004.01 The inspection port or viewing device is to be situated in such a manner that the inlet to the low pressure drain can be observed.

004.02 A minimum four-inch diameter orifice or viewing area is required for systems without an existing port or device after January 1, 1988.

005 Low-pressure drain. The low-pressure drain is to be located on the bottom of the horizontal pipe between the irrigation pump and the irrigation pipeline check valve. Its purpose is to drain any mixture of water and chemical away from the irrigation water source.

005.01 The drain is to be constructed of corrosion resistant material or otherwise coated or protected to prevent corrosion;

005.02 The drain is to have an orifice of at least three-quarter inch diameter and is not to extend into the horizontal pipe beyond the inside surface of the bottom of the pipe; and

005.03 When the pipeline water flow stops, the drain will automatically open. A tube, pipe or similar conduit is to be used to discharge the solution at least twenty feet from the irrigation water source.

006 Chemical injection line check valve. The chemical injection line check valve is to be located between the point of chemical injection into the irrigation pipeline and the chemical injection pump.

006.01 The valve is to be constructed of chemically resistant materials;

006.02 The valve is to be designed to prevent irrigation water under operating pressure from entering the chemical injection line; and

006.03 The valve is to be designed to have a minimum opening (cracking) pressure of ten psi. When the chemical injection pump is shut down, the valve must prevent any leakage from the chemical supply tank.

006.04 As an alternative to the minimum opening pressure requirement in 006.03 above, a vacuum relief valve may be placed in the injection line between the chemical injection line check valve and chemical injection pump. The vacuum relief valve is to be constructed of chemically resistant materials, is to open at atmospheric pressure, is to be at an elevation greater than the highest part of the chemical supply tank and is also to be the highest point in the injection line.

007 Simultaneous interlock device. The irrigation pumping plant and the chemical injection pump are to be interlocked so that if the pumping plant stops, the injection pump will also stop.

008 Replacement equipment is to meet the requirements of this Chapter, and in the case of irrigation pipeline check valves, will meet the following minimum requirements:

008.01 The valve body and all components will be constructed of corrosion resistant materials or otherwise coated or protected to prevent corrosion;

008.02 The valve will contain a sealing mechanism designed to close prior to or at the moment water ceases to flow in the downstream direction. This mechanism will be either

diaphragm-actuated by hydraulic line pressure, spring loaded or weight loaded to provide a watertight seal against reverse flow;

008.03 The valve will be designed to meet the leakage tests specified in Underwriters Laboratory, Inc., Standard UL 312, Chapter 16, Leakage Test, page 11, dated May 22, 1984. (Appendix I).

008.04 All moving components of the valve will be designed to prevent binding, distortion or misalignment during water flow; and

008.05 The valve will be designed to allow for easy repair and maintenance, including removal from the pipeline if required to perform such work.

009 Maintenance. The equipment required in these rules and regulations is to be maintained in working condition during all times of chemigation. When required, the equipment is to be repaired to its originally designed condition.

Enabling Legislation: Neb. Rev. Stat. §§ 46-1127, 46-1136