

# High Hazard Cross-Connections

## SIGNIFICANT DEFICIENCIES

In response to the federal Safe Drinking Water Act Ground Water Rule (GWR) and documented incidents in Minnesota, the Minnesota Department of Health (MDH) classified high-hazard cross-connections that are not adequately protected as a Significant Deficiency (SD) for all Community Public Water Systems (CPWSs). When an SD is found during a sanitary survey the community public water system purveyor must correct it within 120 days.

MDH defines high-hazard cross-connections as those that would require a Reduced Pressure Zone (RPZ) backflow preventer or an air gap. However, CPWSs are strongly encouraged to adopt a more comprehensive approach by addressing all cross-connections through a cross-connection control program.

In addition, the Department of Labor and Industry (DLI) has adopted a new Minnesota Plumbing Code, which went into effect January 23, 2016. As a result of the revised plumbing code, all testable backflow devices installed on or after this date, which includes RPZs, pressure type vacuum breakers, spill-proof vacuum breakers, and double check valve assemblies, must be tested and inspected annually. Also, notifications of the installation and testing of these backflow devices need to be provided to the community public water system purveyor. More information on testing and maintenance of testable backflow devices is available on-line: [Fact Sheet: Backflow Devices](http://www.dli.mn.gov/sites/default/files/pdf/fs_backflow.pdf) ([http://www.dli.mn.gov/sites/default/files/pdf/fs\\_backflow.pdf](http://www.dli.mn.gov/sites/default/files/pdf/fs_backflow.pdf)). It is not the responsibility of the purveyor to ensure compliance with the reporting requirement, but the requirement does support an effective cross-connection control program.

In response to this, MDH is requiring CPWSs to continue to require SD compliance for high-hazard cross-connections but also recommend

low-hazard cross-connections (those that would require pressure type vacuum breakers, spill-proof vacuum breakers, and double check valve assemblies but not RPZs) be addressed.

MDH is working to propose a rule revision in the near future requiring CPWSs meet the five standard elements of a cross-connection control program: local authority, public education and awareness, trained/certified staff, written records, and enforcement. An effective cross-connection control program is designed to be self-supportive, and the specific details associated with each element would be left to the discretion of the CPWS to meet their unique needs.

During sanitary surveys, MDH's approach to discovering inadequately protected high-hazard cross-connections involves the District Engineer asking the CPWS if they know of any, and if the answer is "Yes", the CPWS must identify the location(s) and submit a Corrective Action plan within 120 days to address the cross-connection(s). Below are examples of Corrective Action plans:

### Example A

Initiate development of a cross-connection control program that includes:

- Authority to implement and enforce the program, i.e. city ordinance
- Certification of backflow assembly testers
- Reporting and recordkeeping
- Public notification of backflow events

### Example B

Adopt local enforcement authority for plumbing code within 90 days of receiving SD notification.

- Notify owner of plumbing code violation within 30 days of adopting local authority;

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- Require owner address cross-connection within 30 days of being notified of plumbing code violation; and
- Confirm cross-connection has been addressed within 30 days of owner notification.

### Example C

Inform the building owner that they are in violation of the new Minnesota Plumbing Code.

- Meet with the owner within 30 days of receiving SD notification;
- Request owner address cross-connection within 30 days of meeting; and
- Confirm cross-connection has been addressed within 60 days of meeting.

### Example D

Notify responsible licensing authority for business with suspected or known inadequately protected high-hazard cross-connection, i.e.

MDH for Food, Beverage, or Lodging Establishments and Health Care Facilities and providers; MDA for In-Store Delis, Grocery Stores, Butcher Stores, Bakeries, Convenience Stores; USDA for Food Processing Facilities.

- Notify responsible licensing authority within 30 days of receiving SD notification;
- Confirm cross-connection has been addressed within 90 days of notifying responsible licensing authority.

If the answer is “No,” the CPWS must document what specific actions were taken to come to that conclusion, i.e. talked to local plumbers, talked to the local plumbing authority, met with owners of possible high-hazard cross-connections, and/or tracked RPZ backflow preventer installation and maintenance records.

If the answer is “I’m not sure,” the CPWS must take action to locate any suspect or known inadequately protected high-hazard cross-connections prior to the next Sanitary Survey (within 18 months).

### Additional Resources

- [American Backflow Prevention Association](https://abpa.org) (https://abpa.org)
- [League of Minnesota Cities](https://www.lmc.org) (https://www.lmc.org) (ordinances)
- [Minnesota American Water Works Association](https://www.mnawwa.org) (https://www.mnawwa.org)
- [Minnesota Rural Water Association](http://www.mrwa.com) (http://www.mrwa.com) (templates and helpful hints for implementing cross-connection control programs)
- [MDH Drinking Water Protection](http://health.mn.gov/water) (http://health.mn.gov/water) (grant opportunities and fact sheets)
- [Minnesota Department of Labor and Industry](http://www.dli.state.mn.us) (http://www.dli.state.mn.us)

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