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Management Plan for Lead-in-Water

MAY 2018

IEA Project #201610694

Albany Area Schools Policy 815

Management Plan for Lead-in-Water

Adopted: June 2018

Table of Contents

Appendices

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Albany Area Schools* Annual Review Form *Management Plan for Lead-in-Water

Certification

I certify that I have reviewed the information provided and accept this written management plan. With assistance from our EHS consultant, the district will implement the policies and procedures noted within this plan. The written plan is a working document that will be reviewed and revised annually, or as needed.

Print Name	Signature	Date

Program reviews and follow-up of program-related issues are documented below.

Date	Actions/Comments	Reviewed by:

1.0 Purpose

Albany Area Schools is committed to providing a safe working and learning environment for employees and students. This Management Plan for Lead-in-Water was developed to reduce the potential for exposure to lead in water and to comply with Minnesota Statute 121A.335, as well as recommendations from the Environmental Protection Agency's (EPA's) *3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance* (2006) and the Lead Contamination Control Act (LCCA) of 1988, the Minnesota Department of Health (MDH) and the Minnesota Department of Education (MDE). Lead is a metal that usually enters drinking water through the distribution system, including pipes, solders, faucets, and valves. Lead levels in water may increase when the water is allowed to sit undisturbed in the system. Exposure to lead is a significant health concern.

Minnesota Statute 121A.335 requires public school buildings serving kindergarten through grade 12 to test for lead in water in potable water sources (water for consumption) every 5 years. The MDH and MDE have published *Reducing Lead in Drinking Water: A Technical Guidance and Model Plan for Minnesota's Public Schools*, which presents a model plan that school districts can choose to adopt as part of the requirement of Minnesota Statute 121A.335. The *EPA 3Ts* was created by the EPA to identify and reduce lead in drinking water in schools.

The *EPA 3Ts* has recommended that schools take remedial action to address lead-in-water exposure whenever lead levels exceed 20 parts per billion (ppb). The MDH and the MDE have jointly provided guidance that there is no safe level of lead and that districts should work to minimize the risk of lead and recommend remedial actions take place at 2 ppb. MDH and MDE recommended actions are described in section 4.0 of this plan.

2.0 Water Sampling Program Development

Identified potable water sources in district facilities, including sinks and drinking fountains in kitchens, staff lounges, classrooms, home economics classrooms, and hallways, will be sampled during the school year throughout the district at least once every five years.

Prior to sampling the following takes place:

- An inventory of potable water taps is taken and can be located in testing reports;
- All drinking fountains are checked to ensure the EPA has not identified them as having a lead lined tank under LCCA. This list can be found in Appendix A.
- Water outlets in: restrooms, custodial closets, science labs, art rooms, and other general-purpose workrooms must be sampled or have signage present, indicating the water is not for drinking.

Potable water sources are to be resampled at least once every five years, per MN Statute 121A.335, or when a fixture or water supply is repaired or replaced, or after construction activities that may impact the plumbing system. A testing schedule is included in Appendix B.

3.0 First Draw Tap Monitoring

Water sampling of the identified cold water taps is conducted as a "first draw" sample prior to usage on the day of sampling. Sampling begins at the taps closest to building entry point of water source to prevent accidental flushing of other sample locations in the building. Normal usage of building should occur the day before sampling; sampling should not take place on Mondays or after non-school days.

Taps included in the first draw sampling should not be used for 6-18 hours prior to sampling. If the district cannot ensure identified taps were used the day prior to sampling, flushing will occur according to EPA protocol (2-3 minutes, 8-18 hours prior to sampling). Water samples of 250 milliliters (ml) are analyzed by an accredited testing laboratory, using EPA approved analytical methods and quality control procedures (i.e. such as the ICP/MS EPA Method 200.8).

4.0 Maintenance Procedures

Albany Area Schools chose the action level that includes the action limit utilized by public works city departments of 15 ppb. When lead content exceeds 15 ppb, fixtures should be taken out of service until the lead content can be reduced to 15 ppb or lower. Potable water outlets found to have greater than this concentration are repaired, replaced, or flushed.

MDH and MDE recommend actions be taken to determine the source of lead and reduce lead levels in fixtures when sampling reveals lead content between 2 and 20 ppb. A lead-in-water concentration of or less than 20 ppb (maximum) is considered acceptable by the EPA.

In addition, the MDH and MDE model plan recommends routine maintenance take place to prevent and help reduce elevated lead levels in drinking water. This includes: cleaning faucet aerators where lead-containing materials may accumulate on a quarterly basis and following manufacturer's recommendations for water softener settings to ensure an appropriate level of hardness. The following maintenance procedures are based on MDH/MDE recommended Lead Hazard Reduction Options.

Flushing

Flushing may be used as an alternative to repair or replacement, this section applies to taps that are not remediated and are flushed to decrease the lead content. For any location with an elevated lead level, conduct flush sampling to determine if a longer flush will reduce lead levels to an acceptable level. If results indicate that flushing will reduce lead to acceptable levels, implement a flushing program which includes documentation of daily flushing and periodic program review.

Individual Tap Flushing

MDE and MDH suggest running each tap for 2 to 3 minutes in the morning before children arrive, and 2 to 3 minutes midday if the tap has been unused for the morning period. Periodic testing may be done prior to and after the midday flushing to ensure the lead concentrations have remained low throughout the morning hours. If they have not, the flushing time should be increased, or another option implemented.

Main Pipe Flushing

The MDH and MDE model plan explains that Main Pipe Flushing can be used if lead levels are found to be high throughout the entire school or are confined to a certain area of the school. Flushing should be completed each day school is in session. Begin by flushing the tap furthest away from the water source for at least ten minutes; then flush the tap the second furthest away and continue until all taps have been flushed. Periodic testing may be done to ensure the lead concentrations have remained low and that the flushing protocol is effective.

In addition, it is recommended to flush potable water outlets following any two-week vacancy or prior to the beginning of school in the fall, regardless of the lead levels found in the most recent sampling. As long as the fixtures are used regularly, lead levels should remain acceptable. The fixtures should be flushed when the building has been at low occupancy, for example, following school breaks.

Repair and Replace Options

Recommendations of one of the following treatment options for fixtures with lead levels approaching or exceeding the EPA action level may be considered for implementation:

- Install a National Sanitation Foundation (NSF) certified filter for lead reduction.
  - The filter selected should work by size exclusion of lead particles as opposed to lead adsorption. Filters should have tight pores (1-micron or less). NSF lists many such filters on its website.
  - Following replacement, retest the first-draw lead level after flushing the line 8-18 hours prior to testing to confirm that filter is successful in reducing lead levels.

- ✦ Note: Point-of-Use (POU) Treatment Device systems may be subject to Department of Labor and Industry (DLI) or local administrative authority plan review and approval prior to installation. Contact DLI at 651-284-5063 for more information.

- Investigate further to determine the source of the lead responsible for an elevated lead level. Collecting multiple samples in a row can assist in determining the location of the lead-containing component (e.g. fittings for cold water supply lines). Samples should be collected upstream of the cold supply lines. Once the source is identified, remove, replace with lead-free component, and retest.
- If sampling indicates that fixture is the source of the elevated lead level, replace fixture with a "lead-free" fixture certified to NSF/ANSI 372 or NSF/ANSI 61-G. The *Reduction of Lead in Drinking Water Act* redefines "lead-free" as "not more than a weighted average of 0.25% lead when used with respect to wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures." Effective January 4, 2014, drinking water system components sold or installed must adhere to this new requirement. A list of EPA Lead Free Certification Marks can be found here: **http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100GRDZ.txt**
- Remove fixture from service by disconnecting it from the water supply and/or clearly mark water fixtures that are not for drinking or cooking.

5.0 Communication of Results and Follow-up Actions

Per Minnesota Statute 121A.335, a school district that has tested its buildings for the presence of lead shall make the results of the testing available to the public for review and must notify parents of the availability of the information. It is recommended that a copy of the district's Lead-in-Drinking Water Testing reports be made available to staff and the public through the district's administrative offices and district website.

Notification is accomplished by publishing a statement that is available to staff, student, parents and the public. For example notifications, see the MDE and MDH *Education and Communication Toolkit: Reducing Lead in Drinking Water, A Technical Guidance and Model Plan for Minnesota's Public Schools*, located on the MDH website. Copies of notifications can be made available through the District Office.

The MDE and MDH guidance document states in their Model Plan that district's shall include the following in their notification:

- Assign a designated person to be the contact;
- Notify affected individuals about the availability of the testing results within a reasonable time. School employees, students and parents should be informed and involved in the communication process. Results of initial and any follow-up testing should be easily accessible along with documentation of lead hazard reduction options. Posting the information on a website is preferred, but the information should also be available to those without easily accessible internet access. Examples of other information venues are: meetings, open houses, and public notices; and
- Identify and share specific activities pursued to correct any lead problems. Local health officials can assist in understanding potential health risks, technical assistance and communication strategies.

6.0 Recordkeeping

Lead-in-water testing reports are located and available for review in the Maintenance Office. See Appendix C for the sampling locations and results.

Lead-in-water records are maintained for a minimum of five years.

Appendix A

EPA Factsheet: Lead in Drinking Water Coolers

United States
Environmental Protection Agency | Office of Water 4601 | EPA 810/F-90-021
February 1990

EPA FACT SHEET: LEAD IN DRINKING WATER COOLERS

Protecting the nation's children from exposure to lead from school drinking water coolers is the primary goal of the Lead Contamination Control Act (LCCA), which was signed into law on October 31, 1988. EPA recommends that drinking water outlets--especially water coolers--in schools be tested to ensure that lead levels in the water are below 20 parts per billion.

This fact sheet will help school administrators address the problem of school water coolers that contain lead. It reflects current information as of February 1990. The information on the accompanying list will be updated periodically.

How To Identify Problems

First, identify which water coolers contain lead components; follow these steps as a minimum protocol.

- Inventory each cooler and note its brand, model, serial number, and year.
- Check the accompanying list to identify any coolers that are not lead free.
- Sample water from all outlets where lead contamination is most likely, especially coolers that are not lead free and those with lead-lined tanks. However, even coolers that are "lead free" may have high lead levels in their water due to other sources in the plumbing system and should be tested. Follow the sampling and testing protocols in the EPA booklet *Lead in Schools Drinking Water*. (See the box below, right.)
- Contact your State agency responsible for the LCCA program (see box below, right) for information and assistance on testing your water samples. Water samples should be sent only to certified laboratories that use the EPA-approved Graphite Furnace Atomic Absorption (AA) method. In some cases, the local water supplier, local or State department of health or environment, or the lab will collect and analyze the samples. In most cases, the lab will provide containers and instructions for collection. The charge for lab tests ranges from $7 to $30 per sample. In some States or localities, there may be funding available for testing.

What To Do If Problems Are Found

If the lead level of any fountain or outlet exceeds 20 parts per billion (ppb), take immediate action to reduce the level of contamination. Flushing outlets on a daily basis before school begins may sufficiently reduce exposures, especially if the problem is localized to a few outlets in a building. However, daily flushing may not be practical for water coolers.

Take follow-up samples from any outlet with lead levels above 20 ppb to pinpoint the source of the problem. Make sure to follow the instructions in the EPA booklet *Lead In School Drinking Water*. If you find a cooler to be the source of the lead, contact the distributor or manufacturer to determine how the problem may be corrected. If a cooler that is not lead free is responsible for high lead levels, removal may be necessary. The Consumer Product Safety Commission (CPSC) has the responsibility to issue an order to require manufacturers and importers to repair, replace or recall water coolers identified by EPA has having lead-lined tanks. Contact the CPSC Hotline (800/638-2772) to determine the status of their actions.

For More Information

Contact the State office listed below for information on identifying and correcting lead in drinking water problems. Contact the EPA Safe Drinking Water Hotline at 800/426-4791 for other information and for the booklet *Lead In Schools Drinking Water*.

Water Coolers With Lead-Lined Tanks

The following list of model numbers represents all of the drinking water coolers with lead-lined tanks that have been identified to date. The models listed here were selected because one or more of the units in that model series have been tested and found to have lead-lined tanks. These six models are made by the Halsey Taylor Company.

WM 8A	GC 10ACR	GC 5A
WT 8A	GC 10A	RWM 13A

Other Water Coolers Containing Lead

EBCO Manufacturing Company

EBCO has identified all pressure bubbler water coolers with shipping dates from 1962 through 1977 as having a bubbler valve containing lead, as defined by the LCCA. The units contain a single 50-50 tin-lead solder joint on the bubbler valve. Model numbers for those coolers in this category were not available.

The following EBCO models of pressure bubbler coolers produced from 1978 through 1981 contain one 50-50 tin-lead solder joint each:

CP3	DP7SM	DPM8H
CP10-50	DP10F	DP16M
DP20-50	CP3H	DP7S
DP13A	13P	DP7WM
DP7M	DP3RH	EP10F
DP13M-60	DP14A-50/60	CP10
CP5M	DP12N	DP20
DP14S	DPM8	DP8AH
DP5F	DP15M	C10E
CP3-50	DP5S	DP5M
7P	DP13SM	DP13M
DP3R	EP5F	CP3M
DP13A-50	CP5	DP13S
PX-10	13PL	DP7WMD
DP7MH	DP8A	WTC10
DP14M	DP10X	
DP15MW	DP15W	

Pressure bubbler water coolers manufactured by EBCO and marketed under the "Oasis" and "Kelvinator" brand names with the identified model numbers have been distributed in the U.S. In addition, EBCO indicated that "Aquarius" pressure bubbler water coolers are manufactured for distribution in foreign countries, including Canada. Although unlikely, it is conceivable that an "Aquarius" cooler with one of the model numbers listed above could have been transported into the U.S.

Halsey Taylor Company

Halsey Taylor reports using lead solder in these models of water cooler manufactured between 1978 and the last week of 1987.

WMA-I	SCWT/SCWT-A
SWA-I	DC/DHC-1
S3/5/10 D	BFC-4F/7F/4FS/7FS
S300/500/1000D	

In addition to these Halsey Taylor models, Halsey Taylor indicates that the following Haws brand coolers manufactured for Haws by Halsey Taylor from November 1984 through December 18, 1987, are not lead free because they contain two tin-lead solder joints. The model designations for these coolers are:

HC8WT	HC14W	HCBF7D
HC8WTH	HC4F	HCBF7HO
HC14WT	HC4FH	HWC7
HC14WTH	HC8F	HWC7D
HC14WL	HC8FH	HC2F
HC16WT	HC14F	HC2FH
HC4W	HC14FH	HC5F
HC6W	HC14FL	HC10F
HC8W	HCBF7	

Note: A number of water coolers have been deleted from the proposed list identifying them as not lead free. For information about these water coolers and others, refer to the January 18, 1990 Federal Register notice.

Appendix B

Testing Schedule

Appendix B

Lead-in-Water Sampling Schedule

Albany Area Schools

Buildings Included	Sampling Schedule
Albany High/Middle School Avon Elementary School Albany Elementary School	March 2017 Next Scheduled Sampling: March 2022

Appendix C

Lead-in-Water Testing Results and Locations