

LIA Water Committee Report – September 2022

Below is a summary of ERH and LIA water committee activity over the past several months.

LIA Water Committee

- Met at the LIA water plant to review the treatment process in place and reviewed water quality and reports for LIA treated water prior to entering the distribution system
- Committee plotted data from Facebook and other correspondence on a map indicating where most of the water complaints have occurred
- Committee developed a survey that was sent to members asking for responses about frequency and seriousness of water issues they were experiencing
- Survey Monkey held data hostage and committee had to re-issue the water quality survey to residents using Google Forms
- Reviewed LIA map with location of the fire hydrants, flush, hydrant, and valves
- Spoke with ERH about the lack of hydrants in order to adequately flush the water mains in some locations that are dead ends
- Consensus of committee is that the likely cause of issues is due to sediment and build up in the water mains being broke free after treatment which seems to correspond with the increase in chlorine content required by IEPA
- Discussed the option of utilizing poly-phosphate to coat the inside of the water lines in an effort to bind any sediment to eventually over time prevent it from entering the water in the future
- Suggested the use of an independent testing facility to confirm the ERH water test results
- Discussion with ERH about what was different between LIA and other community water system not having this issue
- Suggested that ERH perform testing for multiple other potential contaminants so they could be ruled out and results shown to the membership
- Requested ERH to check iron levels coming out of the water tower to ensure there was no increase in iron levels as a result of storage in the tower
- Reviewed the Illinois EPA Pubic Water Supply Evaluation Report – noncompliance advisory and recommended improvements but no violation notices
- Reviewed and offered suggestions to the LIA/ERH response to the IEPA report
- Committee believes the issues are not being caused by residue in water heaters, but believes that the heating of the water accelerates the chemical reaction that would occur regardless
- Asked ERH to suspend treatment of water with hydrogen peroxide and return to the Potassium Permanganate treatment for iron removal due to an increase and complaints and multiple incidents of water discoloration when chlorine bleach products are introduced to the water
- Recommends ERH move forward with installing a temporary air system and tank for the removal of iron from the water to see if this will have a positive effect on the issues before making a large investment into permanent equipment to be installed at the water plant

ERH Enterprises

- ERH has two new fire hydrants ordered (6-8 weeks) to place at the end of Arapaho and Comanche to allow those areas to be flushed more effectively in order to alleviate possible buildup in the mains.

- ERH advised that other plants also had to increase chlorine content and also have older infrastructure but have not experienced this problem
- The only process used at LIA that is not used at other plants is the removal of iron by using potassium permanganate
- At the recommendation of Davis Chemical who manufactures the Potassium Permanganate, ERH increased the levels of potassium permanganate in an effort to reduce iron in the water mains and lines, but this resulted in residential water having a pink tint in some areas where it passed through to residences and did not improve the issues
- ERH spoke with Alliance of Indiana Rural Water who was unaware of any plants experiencing similar issues and suggested residents flush their water heaters to address the problem
- Continue to flush hydrants in the area when issues occur
- Tried to collect samples from homes experiencing issues and has advised that the iron content is still low in those samples
- Drained and flushed the detention tank at the water treatment facility
- ERH spoke with Illinois Rural Water Association which advised them to have residents flush their water heaters
- ERH spoke with instructors at the EIU Environmental Resource Training Center. They were unsure of what could be causing the issue but after having a meeting amongst themselves, they came back and told ERH to have people flush their water heaters to see if that resolved the issue
- Sent several water samples to PACE labs for additional analysis and noticed there was a higher (but not unsafe) level of manganese in the homes than what leaves the water plant
- Based upon the higher level of manganese and the potassium permanganate treatment that does not exist at other water plants, ERH tired changing to hydrogen peroxide to remove the iron. The peroxide should help to precipitate out the manganese in the water distribution. Illinois EPA was advised of the temporary change implemented on Monday, August 29 but this resulted in more issues and complaints. In responding to complaints ERH asked many residents to flush their water heaters to eliminate them as a source of the issue but ERH does not believe the water heaters are causing the problem.
- ERH found reference to cast iron pipes in the plans for the water mains which could be contributing factor
- ERH will use a low voltage electrical current tester hooked to each fire hydrant to help determine if water mains around the hydrants are cast iron (conductors) or plastic
- ERH spoke with Tonka, the water plant manufacturer who advised they had no idea what could be causing the problem or how to correct the issue
- ERH spoke with Engineer Larry Johnson who has a lot of experience with water and sewer plants and he advised he has never seen this issue before.
- ERH arranged for Tony Malone from Hawkins Inc. to collect samples on Friday, September 9 from multiple residences at LIA and points along the water distribution system. These samples will be tested for multiple metals, pH, water hardness, and other minerals or possible contaminants.
- ERH is attempting to buy a stainless-steel tank on a sale which can be utilized with their portable air system to test the use or air for iron removal at the water plant