



# STATE OF IOWA

TERRY E. BRANSTAD, GOVERNOR  
KIM REYNOLDS, LT. GOVERNOR

DEPARTMENT OF NATURAL RESOURCES  
CHUCK GIPP, DIRECTOR

July 6, 2016

Bryan Hunger  
Jefferson County Health Center  
2000 S. Main  
Fairfield, IA 52556

RE: Phosphate Addition for Corrosion Control (Complaint #22594)

Dear Mr. Hunger:

This letter serves as a follow-up to a meeting on June 14, 2016 between the Jefferson County Health Center (JCHC) and Iowa Department of Natural Resources (DNR). The meeting was requested by the department in response to a complaint regarding JCHC's use of a phosphate in their potable water system to control corrosion.

As was conveyed during the meeting, the department is concerned about the excessive corrosion that the hospital's potable water system has experienced since opening in 2009 and the associated addition of a chemical for corrosion control, in this case a zinc orthophosphate. The addition of any chemical to a potable water system poses a certain liability upon the hospital and can become a public health issue if not properly operated and maintained.

During the meeting on June 14, 2016, two 7-year old fittings that were recently replaced were presented by JCHC and it appeared that these fittings had experienced significant scaling and corrosion, making them no longer useful. It was also observed on June 14, 2016 that a bathroom sink faucet at a nearby restaurant had significant scaling.

At this time, the department feels that it would be advantageous for the JCHC to identify the cause of the excessive corrosion and work towards a permanent resolve. In lieu of obtaining a public water supply operations permit, the department is recommending that JCHC seek the services of an independent engineer specializing in corrosion control in drinking water systems to conduct a thorough evaluation of the corrosion issue. Since JCHC obtains its water from the city of Fairfield, it is highly recommended that JCHC work collaboratively with the City during this process. A detailed report is requested to be submitted to the department by March 1, 2017.

In the interim, the department understands JCHC's urgency to place the phosphate feed system back into operation to combat corrosion. The department highly recommends that JCHC solve what is causing the corrosion issue, before opting to placing the phosphate feed system back into operation. Should JCHC

decide to continue using chemical addition, the department is requesting monthly submittal of operational data. Operational data parameters requested are: daily water usage, amount of chemical fed in pounds or gallons, daily phosphate residual as PO<sub>4</sub>, and daily total chlorine residuals. Please work with Field Office #6 on a plan for data submittal prior to placing any chemical feed system back into operation.

If JCHC opts to resume feeding of phosphate, JCHC will also be expected to maintain a maximum dose of total phosphate below 10 mg/L, utilized a day tank holding no more than a 30 hour supply of chemical, maintain chlorine residuals above 1.5 mg/L total chlorine, and keep any stock phosphate disinfected by carrying 10 mg/L free chlorine residual.

Depending on the outcome of the report and/or monitoring results, the department may require JCHC to be classified as Public Water Supply System in the future or take additional steps to ensure public safety.

We look forward to working with JCHC on this issue. If you have further questions please direct them to Aaron Pickens, Environmental Specialist Sr., IDNR Field Office #6, Ph: 319-653-2135, email [Aaron.Pickens@dnr.iowa.gov](mailto:Aaron.Pickens@dnr.iowa.gov).

Sincerely,



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