



FILE COPY

June 9, 2016

Illinois Environmental Protection Agency
Bureau of Water, CAS #19
P.O. Box 19276
Springfield, Illinois 62794-9276

Attn: Mr. Paul Connelly

Re: City of Rochelle, Illinois
Violation Notice #W-2016-00015
Facility I.D.: IL1410500

Dear Mr. Connelly:

We are formally responding to the Violation Notice #W-2016-00015. The violation detailed in Attachment A of the notice indicated the combined radium exceeded the maximum contaminant level of 5 pCi/L for the annual average of the last four (4) quarter samples for sample point TAP 10 (Well #11). The current annual average for combined radium at TAP 10 is 6 pCi/L.

FINDINGS

The combined radium testing results from Well #11 are summarized in the table below. The City has seen the combined radium concentration increase significantly in the last year, however, the 2nd Quarter combined radium test for 2016 was 4.37 pCi/L which is below the MCL. The 2nd Quarter combined radium test report from PDC Laboratories is enclosed.

Well #11 (TAP 10) Combined Radium Test Results

	Combined Radium (pCi/L)
July 20, 2005	2.84
October 19, 2005	2.82
January 18, 2006	2.23
April 12, 2006	2.37
July 5, 2012	5.01
Sept. 1, 2015	6.46
October 21, 2015	10.52
January 20, 2016	14.05
April 20, 2016	4.37

333 Lincoln Highway
Rochelle, IL 61068
www.rmu.net



Well #11 (TAP 10) was constructed in 2003 and was drilled to a depth of 893 feet. The upper 566 feet of the well is cased off with an 18" diameter casing pipe and the open hole below the casing is 17" diameter, as detailed on the enclosed well log and well profile. The well is cased through the St. Peter Sandstone formation, and water is obtained from the Ironton-Galesville sandstone formation.

The Ironton-Galesville sandstone formation is the main water producing formation in Well #11. The limestone formation above the sandstone is not fractured enough to produce a significant amount of water. Well testing could be performed to log the water rate entering the well and obtain water samples to determine the combined radium concentration at various levels of the open hole in the well. This well testing could be done to determine if there is an elevated combined radium concentration coming from a certain part of the well. However, it could be difficult to seal off an elevated combined radium zone in the well since the sandstone formation is hydraulically connected.

VIOLATION RESPONSE

The City has taken Well #11 off-line until the combined radium levels in Well #11 are below the MCL and in compliance with the drinking water standards or if there is an emergency which requires the well to be used for a short period of time.

The City proposes two (2) alternatives to get Well #11 into compliance. Alternative No.1 is to continue with combined radium quarterly testing. The City will pump the well to waste to obtain the test sample. If the average combined radium concentration of the 2nd, 3rd and 4th Quarter samples of 2016 and 1st Quarter of 2017 is below the MCL, the City would be in compliance and would put Well #11 back into service.

While the quarterly combined radium testing is being performed, the City will proceed with Alternative No. 2 which is the planning and design of a water treatment plant to reduce the combined radium concentration below the MCL. The City proposes to evaluate water treatment options to reduce the combined radium in Well #11 below the MCL limit of 5 pCi/l and then prepare an IEPA Public Water Supplies Project Plan report to become eligible for an IEPA loan to fund the project. Once a water treatment process is selected, a pilot study will be performed by a manufacturer of the equipment to verify the effectiveness of the water treatment, determine the estimated run time between backwash cycles or media replacement and the pre-chemical feed rates. If Alternative No. 1 is not successful in reducing the combined radium concentration below the MCL, the City will proceed with the bidding and award, obtaining the IEPA loan agreement and construct the water treatment plant.



The City is willing to enter into a Compliance Commitment Agreement and proposes a schedule outlined below:

Compliance Schedule

Event	Date
Complete Project Plan Report	July 1, 2016
Complete Pilot Study	September 1, 2016
Obtain IEPA Approval of Project Plan Report	December 1, 2016
Complete Design and Submit IEPA Construction Permit Application	January 1, 2017
Complete Quarterly Combined Radium Testing For Alternative No. 1	March 15, 2017
Obtain IEPA Construction Permit	April 1, 2017
Complete Bidding and Award (If Necessary)	May 1, 2017
Obtain IEPA Loan Agreement (If Necessary)	June 1, 2017
Pre-Construction Meeting (If Necessary)	June 15, 2017
Complete Construction and Obtain IEPA Operating Permit (If Necessary)	February 1, 2018
Complete Four (4) Quarters of Combined Radium Compliance Testing (If Necessary)	March 1, 2019



We hope that this letter meets with your approval. Please feel free to call if you have any questions or comments.

Sincerely,

CITY OF ROCHELLE, ILLINOIS

BY *David S. Plyman*
David Plyman, City Manager

CITY OF ROCHELLE, ILLINOIS

BY *Adam Lanning*
Adam Lanning, Water/WRP Superintendent

AL:mh

Encl.

cc: Matt Hansen, WHA
Alan Cooper, City Attorney
File