

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
FAX 608-267-3579
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Ms. Tinka Hyde, Director, Water Division
U.S. EPA, Region 5
77 W. Jackson
Chicago, IL 60604

Subject: Certification Statement for Approval of a Variance to Water Quality Standards
City of Warrens (WPDES Permit WI-0060259-09-1)

Dear Ms. Hyde:

The Wisconsin Department of Natural Resources has made a final decision under Wis. Stat. s. 283.15 (4) to approve a variance to the water quality standard for copper at the above-named facility. This decision is subject to judicial review pursuant to Wis. Stat. ss. 283.15(4)(d) and 227.52. Although the Department has issued a final decision on the copper variance, including the permit terms and conditions of the variance, the Department recognizes that the copper variance and related permit conditions may not be included in the final modified WPDES permit until EPA has approved the variance.

Pursuant to §§ 40 CFR Part 131.21 and 131.6, the Department must submit a certification statement to EPA for each variance approved in the state. The statement must certify that the variance to a water quality standard was approved in accordance with state law.

Accordingly, I hereby certify that the chloride variance for the City of Warrens was reviewed and approved by Department staff in accordance with procedures in Wis. Stats. §§ 283.15. The application for this variance was submitted on July 27, 2010 and the department public noticed its intent to reissue the permit and grant the variance on February 6, 2014 in accordance with Wis. Stats. §§ 283.15(3) and 283.39.

If you have any questions regarding the variance approval, please contact Angela Parkhurst at 715-839-3836.

Sincerely,

A handwritten signature in black ink that reads "Timothy A. Andryk".

Timothy A. Andryk
Chief Legal Counsel

DATED IN MADISON: April 10, 2014

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Ms. Tinka Hyde, Director, Water Division
U.S. EPA, Region 5
77 W. Jackson Boulevard
Chicago, IL 60604

Subject: Request for Approval of a Variance from Water Quality Standards for Copper
Receiving Stream: Apple Creek in the Beaver Creek/Juneau Watershed of the Lower Wisconsin River
Basin in Monroe County
Permittee: City of Warrens (WPDES Permit WI-0060259-09-1)

Dear Ms. Hyde:

In accordance with s. 283.15 of the Wisconsin Statutes and Title 40, Part 131 of the Code of Federal Regulations, the Department requests U.S. EPA, Region 5 to approve a water quality standards variance for the above-referenced discharge. The water quality criterion for which the permittee is seeking a variance is contained in chapter NR 105, Wisconsin Administrative Code.

To assist your staff during their review, relevant background information pertaining to this variance is attached to this letter. The draft permit and variance were publicly noticed on February 6, 2014. The comment period has now ended. No comments from the public have been received.

We are committed to working with the permittee during the term of this variance to find a solution that will lead to full compliance with the applicable water quality standard. Conditions on the variance, which are included in the WPDES permit, specify actions to be taken by the permittee and timetables for those actions. If the variance is approved by EPA, the Department will include the variance limitation and related conditions in the final WPDES permit.

We appreciate your consideration of this request. Should you have further questions regarding this matter, please contact Angela Parkhurst at 715-839-3836.

Sincerely,

Kenneth G. Johnson, Administrator
Water Division

DATED: 4/14/14

Attachment
e-cc

Susan Sylvester - WY/3
David Pfeifer - EPA, Region 5
Diane Figiel - WY/3

Julia Stephenson- WCR/LAX
Brian Weigel, Water Evaluation - WY/3
Robin Nyffeler - LS/8

BACKGROUND INFORMATION REGARDING WATER QUALITY STANDARDS VARIANCE

Receiving Stream and Classification: Apple Creek in the Beaver Creek/Juneau Watershed of the Lower Wisconsin River Basin in Monroe County, warm water sportfish, non-public water supply
 Criterion: 6.2 ug/L chronic toxicity criterion in ch. NR 105, Wis. Adm. Code

Water Quality Based Permit Limit: 18 ug/L daily max, 6.2 ug/L weekly average

Permit Limit Based on Proposed Variance: 30 ug/L daily max

Duration of Variance: From the effective date of the permit reissuance through the end of the permit term (March 31, 2017). The draft permit has an expiration date of March 31, 2017.

Department Rationale for Approving Variance:

Effluent monitoring data indicates that Warrens currently cannot meet effluent limitations in its permit for copper.

Treatment for copper at the treatment facility is not economically feasible and source reduction is the logical course of action to lower discharge levels. Installation and operation and maintenance costs of RO for copper removal would increase the total annual per household cost of pollution control (current treatment costs plus RO treatment) from \$300 currently to \$10,800 per year for existing treatment plus RO treatment. As a percentage of median household income (MHI is \$38,000 for Warrens), current pollution control costs are less 0.8% of MHI while the total cost of pollution control including RO would be 28 % of MHI. This analysis shows that implementation of RO is cost prohibitive. Currently, Warrens have taken several steps to reduce copper which include the following:

- Warren's water supply is treated with chemicals to prevent corrosion.
- Warrens has testing on a regular basis to get a good feel for what effluent limits their plant can meet.
- Warrens has made sure their testing is accurate.
- Warrens has looked for sources of copper to their collection system and done what they can to eliminate those sources. Warrens has approached source identification scientifically by doing influent and collection system monitoring.
- Warrens has investigated dissolved metals limits and that option either resulted in no relief or not enough to allow them to meet those limits either.
- Warrens has investigated industrial or commercial sources of copper and can demonstrate that there are no significant non-domestic contributions.

Going forward with this permit reissuance the following are recommended actions to continue addressing copper issues:

- The variance limit of 30 µg/L, as a daily maximum, will be effective upon permit modification and will replace the calculated water quality based limits.
- The expiration of the variance shall coincide with permit expiration.
- Warrens shall conduct monitoring for total recoverable copper in the effluent twice weekly for one week each month, and monthly in the influent.
- Warrens shall develop and implement a source reduction plan and investigate other technologies or changes that may result in compliance with the water quality based effluent limitation for copper.
- During the calendar years 2015 and 2016, Warrens shall perform once annual low-level metals monitoring on the plant effluent and on Apple Creek downstream of the discharge location.
- Warrens shall submit annual reports of these investigations, including monitoring results and evaluation of efforts to optimize water supply treatment aimed at minimizing levels discharged from the wastewater treatment plant. These reports shall be submitted on June 30 of each year with the first report due June 30, 2015.

Considering that the recommended actions will take the City time to implement and there is no guarantee of success, we propose that a variance be granted that will allow the discharge of copper at the current level of 30 µg/L, weekly average. This concentration corresponds to the 99th percentile value from available data.

As conditions of the variance, we propose continued influent and effluent monitoring, and a plan of investigations of treatment, other control technologies, and other means of meeting water quality standards. The plan of investigations should include strengthened efforts to identify and eliminate industrial and commercial sources of copper. These conditions are aimed at the discharge meeting water quality based effluent limitations for copper in the future.

Conditions to be Included in WPDES Permit Reissuance: **See Draft Permit being sent to EPA in Electronic Format.**

Attachments:

Facility Specific Standard Variance Data Sheet
Certification from DNR Chief Legal Counsel

Village of Warrens Variance Data Sheet

Directions: Please complete this form electronically. Record information in the space provided. Select checkboxes by double clicking on them. Do not delete or alter any fields. For citations, include page number and section if applicable. Please ensure that all data requested are included and as complete as possible. Attach additional sheets if needed.

Section I: General Information

A. Name of Permittee: Village of Warrens
B. Facility Name: Village of Warrens
C. Submitted by: Wisconsin Department of Natural Resources
D. State: Wisconsin **Substance:** Copper **Date completed:** January 23, 2014
E. Permit #: WI-0060259 **WQSTS #:** (EPA USE ONLY)
F. Duration of Variance **Start Date:** July 1, 2014 **End Date:** March 31, 2017
G. Date of Variance Application: July 27, 2010
H. Is this permit a: First time submittal for variance
 Renewal of a previous submittal for variance (Complete Section IX)

I. Description of proposed variance: Set limit at 30 ug/L daily maximum for copper. Permit would include source reduction measures to reduce copper discharges.

J. List of all who assisted in the compilation of data for this form

Name	Email	Phone	Contribution
Angela Parkhurst	Angela.parkhurst@wisconsin.gov	715-839-3836	Permit reissuance documents
Julia Stephenson	Julia.stephenson@wisconsin.gov	608-785-9981	Justification
Patrick Oldenburg	Patrick.oldenburg@wisconsin.gov	715-831-3262	WQBELS
Jim Schmidt	Jamesw.schmidt@wisconsin.gov	608-267-7658	Environmental Analysis portions of datasheet
Lynn Singletary	Lynn.singletary@wisconsin.gov	608-267-7610	Remaining Variance Documentation

Section II: Criteria and Variance Information

A. Water Quality Standard from which variance is sought: 18 ug/L acute and 6.2 ug/L chronic toxicity criteria

B. List other criteria likely to be affected by variance: None

C. Source of Substance: DNR believes the source is corrosion of copper plumbing, with 99.5% of the residents on public water supply

D. Ambient Substance Concentration: 0 ug/L in tributary above outfall location Measured Estimated
1.89 ug/L in Lemonweir R. @ Tomah Default Unknown

E. If measured or estimated, what was the basis? Include citation. 7Q10 of stream is 0 cfs, there is no dilution under low flow conditions.

F. Average effluent discharge rate: 0.211 MGD **Maximum effluent discharge rate:** 0.298 MGD

G. Effluent Substance Concentration: 1-day P99 = 36 ug/L Measured Estimated
4-day P99 = 24 ug/L Default Unknown

H. If measured or estimated, what was the basis? Include Citation. Discharge monitoring report form data, used to establish reasonable potential for exceedence of water quality standard, period of record June 2012 through March 2013 (n=27).

I. Level currently achievable (LCA): Daily max = 36 ug/L; **Variance Limit:** 30 ug/L daily maximum weekly avg = 24 ug/L

J. What data were used to calculate the LCA, and how was the LCA derived? (Immediate compliance with LCA is required.)
See Dissolved-Based Copper Effluent Limitations, dated June 25, 2013 by Pat Oldenburg for a review of recent copper data.

K. Explain the basis used to determine the variance limit (which must be \leq LCA). Include citation.
 A value of 30 ug/L was chosen based on data collected since the permit was reissued in June 2012 (n= 27), this value was exceeded only once during the permit term.

L. Select all factors applicable as the basis for the variance provided 1 2 3 4 5 6 **under 40 CFR 131.10(g). Summarize justification below:**
 After the reissuance of its permit, Warrens submitted an application for a copper variance. Upon review of that application, the Department determined that Warrens demonstrated the need for a copper variance based on the findings in ch. 283.15(4)(f) Wis. Stats., that "The standard, as applied to the permittee, will cause substantial and widespread adverse social and economic impacts in the area where the permittee is located."

Section III: Location Information

A. Counties in which water quality is potentially impacted: Monroe

B. Receiving waterbody at discharge point: Apple Creek

C. Flows into which stream/river? Whiskey Creek **How many miles downstream?** 1 1/4 mi

D. Coordinates of discharge point (UTM or Lat/Long): UTM 15N: 700303, 4889869

E. What are the designated uses associated with this waterbody?
Warmwater Sport Fish

F. What is the distance from the point of discharge to the point downstream where the concentration of the substance falls to less than or equal to the chronic criterion of the substance for aquatic life protection?
5 miles

G. Provide the equation used to calculate that distance (Include definitions of all variables, identify the values used for the clarification, and include citation):
 Dilution of the effluent at 0.211 MGD (0.33 cfs) and 30 ug/L with streamflow at 1.89 ug/L (assumed based on Lemonweir River ambient conc.) is needed to meet a chronic criterion of 6.2 ug/L. Assuming 100% mixing with streamflow at a distant downstream location results in 1.8 cfs of dilution required for 7Q10. Using drainage area-discharge information provided by USGS for ungaged streams in the southwest part of the Central Wisconsin River basin, the drainage area needed to provide 1.8 cfs 7Q10 is approximately 10 square miles. Since a portion of the basin in which Warrens is located has a 7Q10 of zero, it is estimated that the necessary drainage area occurs in Sand Creek below the mouth of Lowry Creek (drainage area at that point is around 18 square miles). Apple Creek (Warrens' receiving water) flows into Whiskey Creek 1 1/4 miles below the outfall. About 2 miles below that, Whiskey Creek flows into Sand Creek, and 2 miles below that is the mouth of Lowry Creek, for a total of just over five miles below the outfall.

H. Identify all other variance permittees for the same substance which discharge to the same stream, river, or waterbody in a location where the effects of the combined variances would have an additive effect on the waterbody: None

I. Please attach a map, photographs, or a simple schematic showing the location of the discharge point as well as all variances for the substance currently draining to this waterbody on a separate sheet. Drafter

J. Is the receiving waterbody on the CWA 303(d) list? If yes, please list Yes No Unknown **the impairments below.**

Section IV: Public Notice

A. Has a public notice been given for this proposed variance? Yes No

B. If yes, was a public hearing held as well? Yes No N/A

C. What type of notice was given? Notice of variance included in notice for permit Separate notice of variance

D. Date of public notice: February 6, 2014 **Date of hearing:** Not applicable.

E. Were comments received from the public in regards to this notice or hearing? (If yes, please attach on a separate sheet) Yes No

Section V: Human Health

A. Is the receiving water designated as a Public Water Supply? Yes No

B. Applicable criteria affected by variance: 18 ug/L daily maximum

C. Identify any expected impacts that the variance may have upon human health, and include any citations:

None, water quality criteria for copper are only available based on acute and chronic toxicity to aquatic life

Section VI: Aquatic Life and Environmental Impact

A. Aquatic life use designation of receiving water: Warmwater sport fish community

B. Applicable criteria affected by variance: 18 ug/L daily maximum

C. Identify any environmental impacts to aquatic life expected to occur with this variance, and include any citations: Genera with toxicity values potentially exceeded by the 30 ug/L variance limit at reference hardness of 55.4 PPM] Acute = Ceriodaphnia (11 ug/L), Daphnia (16 ug/L), Gammarus (24 ug/L). Chronic = Ceriodaphnia (3.8 ug/L), Daphnia (5.6 ug/L), Gammarus (8.5 ug/L), Plumatella and Lophopodella (14.3 ug/L for each), Physa (15.2 ug/L), Morone (20.2 ug/L), Limnodrilus (20.5 ug/L), Gyraulus (21.7 ug/L), Ictalurus (27.0 ug/L). Total exceedances of the 37 genera in the copper toxicity database for warmwater sport fish communities due to the variance limit = 3 for Acute, 10 for Chronic. Total exceedances in the same database due to the water quality criteria = 1 for Acute, 1 for Chronic.

D. List any Endangered or Threatened species known or likely to occur within the affected area, and include any citations: None, there are no fish species with toxicity levels below the calculated acute and chronic criteria. The criteria would not be tightened to protect any endangered species because that adjustment would have already been made when the criteria were codified.

Citation: U.S. Fish & Wildlife Service – Environmental Conservation Online System (<http://www.fws.gov/endangered/>) and National Heritage Index (<http://dnr.wi.gov/topic/nhi/>)

Section VII: Economic Impact and Feasibility

A. What modifications would be necessary to comply with the current limits? Include any citations.
See "Variance Municipal Cost RO" spreadsheet for a detailed cost estimate of the annualized capital and operation and maintenance costs of implementing Reverse Osmosis (RO) to remove copper from Warrens' effluent. Installation and operation and maintenance costs of RO for copper removal would increase the total annual per household cost of pollution control (current treatment costs plus RO treatment) from \$300 currently to \$10,800 per year for existing treatment plus RO treatment. As a percentage of median household income (MHI is \$38,000 for Warrens), current pollution control costs are less 0.8% of MHI while the total cost of pollution control including RO would be 28 % of MHI. This analysis shows that implementation of RO is cost prohibitive.

B. How long would it take to implement these changes?
Three or more years would be required for Warrens to conduct facility planning, prepare plans and specifications, construct additional space and install and integrate RO with existing treatment processes.

C. Estimate the capital cost (Citation): \$3,120,000

D. Estimate additional O & M cost (Citation): \$3,562,752

E. Estimate the impact of treatment on the effluent substance concentration, and include any citations:
Reverse Osmosis could eliminate virtually all of the copper from Warrens' effluent; however, the most cost effective approach would be to use RO to remove enough copper from a portion of the effluent that when blended with untreated effluent would keep the overall copper effluent concentrations below the weekly average QBEL limit of 6.2 mg/L.

F. Identify any expected environmental impacts that would result from further treatment, and include any citations:
Reverse osmosis is the technology that could be used to meet the copper effluent limit. However, end-of-pipe RO wastewater treatment technology for chloride produces concentrated brine that can be as much or more of an environmental liability than the untreated effluent. Since the concentrated brine cannot be further treated, the only recourse for the disposal of the brine is transfer to another community, which is often not feasible. There would be some impacts based on disposal of brine from RO. These include air pollution impacts from trucking brine and increased copper impacts at the point where brine is discharged.

G. Is it technically and economically feasible for this permittee to modify the treatment process to reduce the level of the substance in the discharge? (Provide the basis for this conclusion, including citations. If treatment is technically infeasible, provide an analysis of the factors that demonstrates technical infeasibility. If treatment is economically infeasible, provide an analysis of the economic cost to ratepayers that demonstrate economic infeasibility. Attach additional sheets if necessary.)

Reverse Osmosis treatment of Warrens' effluent to meet the QBEL is technically feasible. However, it is not

economically feasible.

See DNR and screening tool for costs of reverse osmosis. Use of reverse osmosis was evaluated. The resulting total cost for sewer user rates was estimated to result in an average cost to households that would be over 28% of the MHI. An increase of this magnitude may cause substantial and wide spread adverse social and economic impacts the area where the discharge is located.

Citation: See the "Variance Municipal Cost RO" spreadsheet for detailed calculations used to estimate the cost of the RO.

H. If treatment is possible, is it possible to comply with the limits on the substance? Yes No Unknown

I. If yes, what prevents this from being done? Include any citations.

The cost of adding RO to the existing treatment plant's treatment train would cause substantial and widespread adverse social and economic impacts in the area where the discharge is located. Implementations of the source reduction measures (SRM) in the proposed permit are preferable economically to installing RO.

J. List any alternatives to current practices that have been considered, and why they have been rejected as a course of action, including any citations:

The cost of adding RO to the existing treatment plant's treatment train may cause substantial and widespread adverse social and economic impacts in the area where the discharge is located.

Section VIII: Compliance with Water Quality Standards

A. Describe all activities that have been, and are being, conducted to reduce the discharge of the substance into the receiving stream. This may include existing treatments and controls, consumer education, promising centralized or remote treatment technologies, planned research, etc. Include any citations.

Warren's water supply is treated with chemicals to prevent corrosion.

Warrens has testing on a regular basis to get a good feel for what effluent limits their plant can meet.

Warrens has made sure their testing is accurate.

Warrens has looked for sources of copper to their collection system and done what they can to eliminate those sources. Warrens has approached source identification scientifically by doing influent and collection system monitoring.

Warrens has investigated dissolved metals limits and that option either resulted in no relief or not enough to allow them to meet those limits either.

Warrens has investigated industrial or commercial sources of copper and can demonstrate that there are no significant non-domestic contributions.

B. Describe all actions that the permit requires the permittee to complete during the variance period to ensure reasonable progress towards attainment of the water quality standard. Include any citations.

1. That the variance limit of 30 µg/L, as a daily maximum, will be effective upon permit modification and will replace the calculated water quality based limits.

2. That the expiration of the variance shall coincide with permit expiration.

3. That, during the term of the permit, Warrens shall conduct monitoring for total recoverable copper in the effluent twice weekly for one week each month, and monthly in the influent.

4. That Warrens shall develop and implement a source reduction plan and investigate other technologies or changes that may result in compliance with the water quality based effluent limitation for copper as required in the permit compliance schedule

5. During the calendar years 2015 and 2016, Warrens shall perform once annual low-level metals monitoring on the plant effluent in addition to the copper monitoring required in section 2.2.1 of the permit and on Apple Creek downstream of the discharge location.

6. That Warrens shall submit annual reports of these investigations, including monitoring results and evaluation of efforts to optimize water supply treatment aimed at minimizing levels discharged from the wastewater treatment plant. These reports shall be submitted on June 30 of each year with the first report due June 30, 2015.

Given that this is Warren's 1st request for a copper variance, the above actions were based on DNR staff experience with facilities facing similar challenges with copper.

Section IX: Compliance with Previous Permit (Variance Reissuances Only)

A. Date of previous submittal: _____ Date of EPA Approval: _____
B. Previous Permit #: _____ Previous WQSTS #: _____ (EPA USE ONLY)

C. Effluent substance concentration: _____ Variance Limit: _____	
D. Target Value(s): _____ Achieved? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Partial	
For renewals, list previous steps that were to be completed. Show whether these steps have been completed in compliance with the terms of the previous variance permit. Attach additional sheets if necessary.	
Condition of Previous Variance	Compliance
There was not a previous variance in place.	<input type="checkbox"/> Yes <input type="checkbox"/> No

4 Schedules

4.1 Phosphorus (Stringent Effluent Limit - Municipal Facility)

Required Action	Due Date
Phosphorus removal optimization study: During the permit term, the permittee shall evaluate collected effluent data, possible source reduction measures, operational improvements or other minor facility modifications to optimize the amount of phosphorus removed by the facility. The first step in this process is development of an optimization study plan including a schedule for investigating and implementing operational alternatives.	06/01/2013
Facilities Planning Status Report: Submit a Facilities Planning Status Report. This report shall provide an update on the permittee's progress in evaluating feasible alternatives for meeting the final phosphorus limit which may include: facility upgrading, consolidation with other sewerage systems, alternative effluent discharge locations, the Watershed Adaptive Management Option, Water Quality Trading plan or a water quality standards variance.	06/01/2014
Preliminary Facilities Plan: Submit a preliminary Facilities Plan for upgrading the treatment facility (if upgrading is the identified alternative) which includes an implementation schedule that also specifies a final construction date during the next permit term. The Facilities Plan shall also include an evaluation of alternatives for meeting the final WQBEL for phosphorus.	06/01/2015
Final Facilities Plan: Refine and submit the final Facilities Plan for approval. If the approved plan is for Adaptive Management or Water Quality Trading, the implementation of the plan shall commence upon Department approval.	06/01/2016
Construction Plans and Specifications: Submit construction plans and specifications for approval if the approved Facilities Plan concludes that facility upgrading is necessary.	01/01/2017
FOR INFORMATIONAL PURPOSES ONLY: The following required actions are included in this permit for informational purposes only and do not take effect until the next permit reissuance. These required actions and dates may be modified at the next permit reissuance based on additional data or new information.	
Progress Report (For Informational Purposes Only): Submit construction progress report.	06/01/2018
Progress Report (For Informational Purposes Only): Submit construction progress report.	06/01/2019
Progress Report (For Informational Purposes Only): Submit construction progress report.	06/01/2020
Complete Construction (For Informational Purposes Only): Complete construction and comply with final phosphorus limits of 0.075 mg/L Annual Average and 0.225 mg/L Monthly Average. Date Due: This is a range from 7-9 years after permit issuance because of new information that can be acquired before the next permit issuance.	

4.2 Copper Source Reduction Measures

Required Action	Due Date
Report on Effluent Discharges: Submit a report on effluent discharges of copper with conclusions regarding compliance.	09/01/2014

WPDES Permit No. WI-0060259-09-1
Warrens (Village of)

<p>Source Reduction Plan: Warrens shall develop, submit, and implement a source reduction plan and investigate other technologies or changes that may result in compliance with the water quality based effluent limitation for copper. This will include annual low level metals monitoring of Apple Creek in 2015 and 2016 along with hardness monitoring. Warrens will also ensure adequate QA/QC parameters are in place. During the term of the permit, Warrens shall conduct monitoring for total recoverable copper in the effluent twice weekly for one week each month, and monthly in the influent. Warrens will also investigate water supply corrosion by adjusting pH at the well house.</p>	<p>12/01/2014</p>
<p>Initiate Actions of Source Reduction Plan: Initiate actions identified in the plan.</p>	<p>04/01/2015</p>
<p>Annual Report: Warrens shall submit annual reports containing results of implementation of their Source Reduction Measures, including monitoring results and evaluation of efforts to optimize water supply treatment aimed at minimizing levels discharged from the wastewater treatment plant. These reports shall be submitted on June 30 of each year with the first report due June 30, 2015. Warrens has a domestic water supply. Past actions by Warrens include looking for sources of copper to their collection system and doing what they can to eliminate those sources. Warrens has approached source identification scientifically by doing influent and collection system monitoring. Warrens has also investigated dissolved metals limits and that option either resulted in no relief or not enough to allow them to meet those limits either. Warrens has also investigated industrial or commercial sources of copper and can demonstrate that there are no significant non-domestic contributions.</p>	<p>06/30/2015</p>
<p>Annual Report: Submit progress report.</p>	<p>06/30/2016</p>

