

Missouri Clean Water Commission Meeting
Department of Natural Resources
Lewis and Clark State Office Building
LaCharrette/Nightingale Creek Conference Rooms
1101 Riverside Drive
Jefferson City, Missouri

January 12, 2011

**Resolution of Environmental Protection Agency's Objection to the
Lake Tishomingo Permit**

Issue: In response to a U.S. Environmental Protection Agency (EPA) objection, the Missouri Department of Natural Resources will include short-term bacteria limits in operating permits for discharges to waters that are designated for whole body contact A and B, and secondary contact recreational.

Background: On April 26, 2010, EPA issued an interim objection to a draft state operating permit for discharges from the Lake Tishomingo Wastewater Treatment Facility (Permit MO-0136298). EPA objected on the basis that the permit did not contain average weekly limits as required by federal regulation (40 CFR 122.45(d)). Missouri's water quality standards for Bacteria are expressed only as a seasonal average, and there currently is no short-term water quality standard for *E. coli*.

The original bacteria limit applied in the draft operating permit for Lake Tishomingo was 206 colonies per 100 milliliters (cfu/100 ml). The draft permit required weekly monitoring for *E. coli*, with compliance to be determined each month of the recreation season (April 1, through October 31) by calculating the geometric mean of all of the samples collected during each calendar month. This approach follows the requirements of 10 CSR 20-7.015 *Effluent Regulations* which was adopted by the Missouri Clean Water Commission on March 3, 2010, becoming effective on June 20, 2010.

The Department examined a number of technical approaches to develop short-term bacteria limits that would be protective of the seasonal standard. The statistical methods require data concerning the variability of disinfected discharges. The Department worked with EPA and some regulated entities to evaluate different approaches and statistical assumptions, but in the end, an acceptable statistical approach was not recommended because the data needed for these calculations is not available for facilities located in Missouri.

As an interim measure, the Department has applied short-term limits that are five times the seasonal standard. This ratio is identical to the ratio previously applied under the fecal coliform standard. For waters designated as whole body contact A, the Department will include a short-term limit of 630cfu/100 ml, and for waters designated as whole body contact B, the Department will include a short-term limit of 1030 cfu/100 ml.

In addition, EPA was informed that the Department intends to initiate an effort to replace this interim approach. Once an approach is decided, a rulemaking effort will be undertaken to amend 10 CSR 20-7.015.

On December 3, 2010 the Department was notified by letter that EPA withdrew the interim objection.

Recommended Action: Information only.

Suggested Motion Language: None

List of Attachments:

- Interim Objection for Lake Tishomingo Waste Water Treatment Facility Draft Permit from William A. Spratlin (Director of Water, Wetlands and Pesticides Division, EPA) to Mark Templeton (Director, Missouri Department of Natural Resources) dated April 26, 2010
- Letter in response to objection from Leanne Tippett Mosby (Director, Division of Environmental Quality) to Art Spratlin (Director of Water, Wetlands and Pesticides Division, EPA) dated November 26, 2010
- Withdrawal of Interim Objection for Lake Tishomingo Wastewater Treatment Facility Draft Permit from William A Spratlin (Director of Water, Wetlands and Pesticides Division, EPA) to Kip A. Stetzler (Acting Director, Missouri Department of Natural Resources)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

R 2133

APR 26 2010

Mr. Mark Templeton, Director
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Re: Interim Objection for Lake Tishomingo Waste Water Treatment Facility Draft Permit

Dear Mr. Templeton:

On March 26, 2010, the Environmental Protection Agency (EPA), Region 7, received a draft National Pollutant Discharge Elimination System (NPDES) permit for the Lake Tishomingo wastewater treatment facility (permit number MO0136298). This permit was public noticed by the Missouri Department of Natural Resources (MDNR) on the same day. 40 CFR § 123.44(i) and the Memorandum of Agreement (MOA) between EPA and MDNR allows EPA to provide comments or objections to draft permits during the thirty (30) day period following EPA receipt of the draft permit.

Interim Objection

In order to better understand MDNR's basis for the terms of this permit, EPA is requesting the information specified below. Please understand that this request constitutes an interim objection according to 40 CFR § 123.44(d), and that once EPA requests information on a draft permit, the period for EPA's review and additional comment on the draft permit is not recommenced until after EPA receives the requested information.

Please provide documentation that the permit meets the conditions of 40 CFR § 122.45 (d) which requires:

"Continuous discharges. For continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:

(1) Maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works; and

(2) Average weekly and average monthly discharge limitations for POTWs."

Pursuant to 40 CFR § 123.29, the Lake Tishomingo wastewater treatment facility permit may not be issued by MDNR until the information requested by this letter has been provided to



EPA and the additional opportunity for review provided by the MOA and 40 CFR § 123.44(d) has been completed. If you have questions, please contact Glenn Curtis, Chief, Wastewater and Infrastructure Management Branch, at 913-551-7726.

Sincerely,



William A. Spratlin
Director
Water, Wetlands and Pesticides Division

cc: Refaat Mefrakis, MDNR

Public Water Supply District #13 of Jefferson County, 5699 Lake Tishomingo Road,
Hillsboro, MO 63050



Jeremiah W. (Jay) Nixon, Governor • Kip A. Stetler, Acting Director

DEPARTMENT OF NATURAL RESOURCES

www.dnr.mo.gov

NOV 26 2010

Mr. Art Spratlin
U.S. Environmental Protection Agency, Region 7
Mail Code: WWPDIO
901 North Fifth St.
Kansas City, KS 66101

Dear Mr. Spratlin:

The Missouri Department of Natural Resources (Department) reviewed your letter dated April 26, 2010, presenting an interim objection to the draft state operating permit for discharges from the Lake Tishomingo Wastewater Treatment Facility (Permit MO-0136298). In its interim objection, the U.S. Environmental Protection Agency (EPA) finds that the draft permit does not contain an average weekly limit for bacteria. EPA's basis for its interim objection was the following quote from regulation 40 CFR 122.45(d):

“Continuous discharges. For continuous discharges, all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as:

- (1) Maximum daily and average monthly discharge limitation for all dischargers other than publicly owned treatment works; and
- (2) **Average weekly** (emphasis added) and average monthly discharge limitations for POTWs.”

Missouri's water quality standard for *E. coli* is 126 colonies per 100 milliliters for waters designated as Whole Body Contact A, 206 for Whole Body Contact B, and 1134 for Secondary Contact Recreational. Each of these standards is expressed in the form of the geometric mean over the entire recreation season, and they were largely based on the EPA 1986 bacteria criteria document which relied on epidemiological studies based on 30-day geometric means of at least five samples.

Missouri does not currently have a short-term water quality standard for *E. coli*. This situation presented the problem of how to develop short-term limits that are protective of long-term standards. In response to Missouri's request for help EPA hired a contractor, Tetra Tech, Inc. to develop a method to express seasonal limits on a short-term basis. The method developed requires a statistical analysis of the variability of effluent concentrations, but this data does not exist for facilities in Missouri.



Art Spratlin
Page Two

The previous water quality standard for bacteria was fecal coliform. This standard was also based on the geometric mean over the entire recreation season (200 colonies per 100 ml). Under this standard Missouri's effluent rule required average monthly permit limits of 400 fecal coliform colonies per one hundred milliliters and a daily maximum of 1,000 fecal coliform colonies per one hundred milliliters. The daily maximum limit for fecal coliform was 5 times the geometric mean standard.

As an interim measure to address EPA's concerns, Missouri intends to apply this same ratio (5) to calculate short-term *E. coli* limits. For waters designated as whole body contact A, the Department will include a limit of 630 cfu/100 ml. For whole body contact B, the limit will be 1030 cfu/100ml. Over the course of the next year the Department will initiate an effort to replace this approach. This effort would involve working with EPA and stakeholders to apply the Tetra Tech method or perhaps to develop a different scientifically-based method to derive short-term *E. coli* limits. Once an approach is decided, the Department intends to initiate a rulemaking to formally adopt this approach.

In conclusion, we intend to add a short-term daily maximum *E. Coli* limit of 1030 cfu/100 ml to Lake Tishomingo's operating permit (Permit MO-0136298), and intend to apply similar short-term limits as appropriate in all permits. Thank you for your assistance on this issue. If you have any questions, please contact Mr. Refaat Mefrakis of my staff by phone at (573) 751-6825, by e-mail at refaat.mefrakis@dnr.mo.gov, or by mail at the Missouri Department of Natural Resources, Water Protection Program, P.O. Box 176, Jefferson City, MO 65102-0176.

Sincerely,

DIVISION OF ENVIRONMENTAL QUALITY



Leanne Tippet Mosby
Director

LTM:jrs



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 7
901 NORTH 5TH STREET
KANSAS CITY, KANSAS 66101

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Kip A. Stetzler, Acting Director
Missouri Department of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Re: Withdrawal of Interim Objection for Lake Tishomingo Wastewater Treatment Facility Draft Permit

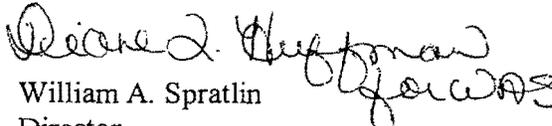
Dear Mr. Stetzler:

On April 26, 2010, the Environmental Protection Agency (EPA), Region 7, sent the Missouri Department of Natural Resources (MDNR) an interim objection on the draft National Pollutant Discharge Elimination System (NPDES) permit for the Lake Tishomingo Wastewater Treatment Facility (permit number, MO-0136298). This interim objection was based on the permit not meeting the conditions of 40 CFR § 122.45(d) which requires that continuous discharges contain (1) maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works (POTWs); and (2) average weekly and average monthly discharge limitations for POTWs.

On November 26, 2010, MDNR responded to the interim objection by establishing a daily maximum *E.coli* limit of 1030 cfu/100 ml to Lake Tishomingo's operating permit. Adding the daily maximum limit of 1030 cfu/100 ml for *E. coli* to Lake Tishomingo's permit satisfies EPA's interim objection, and therefore EPA withdraws the objection provided that the final permit contains the agreed upon language.

If you have questions, please contact Glenn Curtis, Chief, Wastewater and Infrastructure Management Branch, at 913-551-7726.

Sincerely,


William A. Spratlin
Director
Water, Wetlands and Pesticides Division

