

RESPONSE TO COMMENTS

Permittee: City of Cottonwood

Permit No.: ID-002184-9

Background: On August 16, 2001, EPA proposed to reissue the NPDES permit for the city of Cottonwood, Idaho. The public notice of the proposal initiated a 30-day comment period which expired on September 17, 2001. The only comments received on the draft permit were from the city of Cottonwood, the Idaho Department of Environmental Quality (IDEQ), and the National Marine Fisheries Service (NMFS). This document summarizes the comments and EPA's response to those comments.

Comment: The state believes, based on the evidence gathered and analyzed for the TMDL, that there is no reasonable evidence to indicate that the city's effluent will cause an exceedance of the state's ammonia standard for Cottonwood Creek and that all sampling requirements for total ammonia should be removed.

Response: EPA disagrees. Stream monitoring data from 2000 and 2001 indicate that ammonia levels are higher below the treatment plant during the winter months and that violations of the ammonia standard do occur. Effluent monitoring will establish what impact, if any, the city's discharge is having on the stream and will provide real data for use in the next permit cycle if it is determined that an ammonia limit is needed. In addition, effluent temperature monitoring has been added to the final permit. The need for this parameter was addressed in the Fact Sheet but was inadvertently left off the Effluent Limitations and Monitoring Requirements table in the permit.

Comment: Both the city and IDEQ requested that the limits and monitoring requirements for fecal coliform be removed from the permit for the following reasons. The state has recently established a new water quality requirement to protect public health based on e-coli rather than fecal coliform. Since both standards are protective of human health with regard to primary and secondary contact, either standard is appropriate and the use of both standards is redundant. Since e-coli is more sensitive to environmental effects than the fecal coliform group, sampling for e-coli would be more informative to the city, the state, and EPA regarding public health protection.

The use of fecal coliform sampling to determine disinfection effectiveness is redundant if sampling for e-coli is also required. Since e-coli is a subgroup of the fecal coliform group, and is more sensitive to environmental factors, sampling for e-coli would allow the city to better determine disinfection effectiveness than the previously used fecal coliform.

The sampling requirement would add from \$10,000 to \$15,000 to the annual sampling bill for the city. Such a sampling requirement would tax the existing facility and jeopardize the ability

of the city to ensure that public health is protected through proper sampling requirements as they exist today. The city would have to divert needed operation, maintenance and improvement funds to pay for sampling that has no impact on the protection of public health and the environment.

IDAPA 58.01.02.401.05 states that exceptions to treatment requirements can be granted on a case-by-case basis when it can be demonstrated that:

- i. Such exceptions will not seriously affect existing water quality and uses are adequately protected, and
- ii. The treatment requirement is economically prohibitive.

The massive increase to the requirement for fecal coliform testing is economically prohibitive to the city and will have no effect on existing water quality and uses.

Response: The state's water quality standards have been revised to delete the reference to fecal coliform in section 58.01.02.420.05. Therefore fecal coliform limits and monitoring requirements have been removed from the permit.

Comment: The IDEQ requested that the monitoring frequency for e.coli be reduced for the following reasons. The IDAPA at 58.01.02.080.03 states that a single monthly e.coli sample can be taken with the provision that if the monthly sample indicates a violation of the water quality standards, five additional samples shall be taken in accordance with IDAPA 58.01.02.251 to demonstrate a violation. Based on this reading, the required number of monthly samples for e.coli should be reduced to one or two with additional samples required if an exceedance is noted. EPA has approved this type of sampling regime for drinking water systems in the state of Idaho. The EPA has allowed a reduced number of monthly samples for total coliforms by drinking water systems unless the system exceeds the coliform limit, at which time the system is required to take five follow-up samples within a specified time period and five additional samples taken the following month.

The final 401 certification from IDEQ determined that an exemption is warranted and the sampling frequency of one sample/week will be sufficient to reasonably demonstrate compliance with the state's water quality standards. The exemption will not seriously affect existing water quality and will adequately protect the designated beneficial use of secondary contact recreation.

The city agreed with 5/month e.coli sampling IF fecal coliform sampling were deleted from the final permit.

Response: The final permit reflects an E.coli monitoring frequency of once per week.

Comment: The city requested relief from the BOD and TSS percent removal requirements during periods of high inflow and infiltration (I/I); the IDEQ opposed the 65% removal

requirement for TSS for the following reasons:

Most wastewater collection and treatment facilities in Idaho have problems controlling I/I. This can cause the TSS concentration in the influent to be very low and make achieving a 65% reduction for the system impossible. If the EPA is going to require a 65% reduction in TSS, this number should be based on the pounds of TSS entering and leaving the treatment facility, not on concentration.

Waste load allocations are based on the amount of a pollutant that a system can add to the stream, and not based on concentration of the waste stream. TSS restrictions in the NPDES permit should reflect the requirements of the TMDL and thus on limiting the pounds of TSS entering the stream, not on concentration or removal. By basing the discharge limits on pounds, concentration limits will automatically be adjusted for during periods of I/I and increases in the population will require the city to find ways of reducing their TSS loading to the stream.

The IDEQ believes, based on the information included above, that the TSS reduction requirement is excessive and should be removed from the permit. If the EPA believes that evidence exists that such a requirement is warranted to protect public health of water quality requirements for Cottonwood Creek, removal should be based on pounds per day and not on concentration.

Response: The waste load allocations in the TMDL are developed for water quality-based effluent limitations which are designed to protect human health and the water quality of Cottonwood Creek. The technology-based percent removal requirements are included in the EPA regulations at 40 CFR 133. The definition of percent removal is included in federal EPA regulations at 40 CFR 133.101(j), and defined as using concentration and not loading; therefore, the permit has not been changed.

There are only two situations where the removal rate for BOD and TSS for lagoons may be less than 65 percent. The first situation is where there is less concentrated influent for separate sewer systems and the second applies to less concentrated effluent for combined sewer systems. The City of Cottonwood facility is eligible for the exception under the first situation, according to 40 CFR § 133.103(d).

To be eligible for this exemption, the permittee must demonstrate satisfactorily that:

- i. the treatment works is consistently meeting its permit effluent concentration limits but its percent removal requirements cannot be met because of less concentrated influent wastewater;
- ii. to meet the percent removal requirements, the treatment works would have to achieve significantly more stringent limitations than would otherwise be required by the concentration-based standards, and
- iii. the less concentrated wastewater is not the result of excessive

inflow/infiltration (I/I).

DMR data from 1995 through mid-2000 demonstrate compliance with the concentration limitations for BOD and TSS. The same data demonstrate that the percent removal cannot consistently be achieved due to the dilute influent (average influent concentration is 63 mg/l for BOD).

In order to meet the percent removal requirements, the facility would have to consistently achieve a concentration of less than 25 mg/l which is significantly more stringent than the equivalent-to-secondary treatment requirement of 45 mg/l for BOD.

A cost-effective analysis for I/I was included in the Facilities Plan prepared when the Weippe wastewater treatment plant was upgraded in the late 1980s. That analysis concluded that it was more cost-effective to treat the I/I than to remove it.

EPA has determined that the Cottonwood facility meets the requirements of 40 CFR § 133.103(d) that state the percent removal requirements may be reduced or a mass loading limit may be substituted for the secondary treatment requirements at 40 CFR 105(a)(3) and (b)(3) that apply to this facility. EPA has data to support a less concentrated influent BOD which we conclude would also support a dilute influent TSS. The mass loading is determined using the following formula:

Design Population X 0.2 lbs/day/capita X expected % removal. For Cottonwood:

$$1,100 \times 0.2 \text{ lbs/day/capita} \times 0.29 = 64 \text{ lbs/day Average Monthly}$$

The allowable loading is then determined using the following formula:

Average Influent X Design Flow X Conversion Factor - Removal Amount. For Cottonwood:

$$63 \text{ mg/L} \times 0.275 \text{ mgd} \times 8.34 = 80 \text{ lbs/day average monthly}$$

The average weekly loading limitation is calculated at 1.5 times the average monthly limitation:

$$80 \times 1.5 = 120 \text{ lbs/day average weekly}$$

These loading limitations for BOD and TSS have been included in the final permit.

The minimum percent removal requirement for BOD and TSS has been replaced with these mass based loadings. However, percent removal for BOD and TSS must be reported on the

Discharge Monitoring Reports (DMRs). The monthly average percent removal must be calculated from the arithmetic mean of the influent values and the arithmetic mean of the effluent values for that month using the following formula:

$$\% \text{ removal} = \frac{(\text{average monthly influent concentration} - \text{average monthly effluent concentration})}{\text{average monthly influent concentration}}$$

Influent and effluent samples must be taken over approximately the same time period.

Comment: The city commented that the permit requires an average monthly and average weekly chlorine limit that is not quantifiable with EPA-approved analytical methods. It is impossible to meet the requirement identified in the permit. The permit does stipulate that EPA will use 100 µg/L (the minimum detection level) as the compliance evaluation for this parameter. The limits in the permit should reflect the limit required for compliance, not a limit that is not quantifiable. The permit further requires that a mass loading of residual chlorine be reported. The average monthly limit is 0.1 lbs/day. At the design flow of 0.275 mgd, and a quantifiable level of residual chlorine of 0.1 mg/L, the mass loading would be 0.231 lbs/day. This exceeds the mass loading limitation and demonstrates that the limitations on mass loading are unreasonable. Cottonwood's discharge from the lagoons typically exceeds the design flow in the spring months. This would further impair the city's ability to comply with the permit's mass loading requirements. Therefore, the city requests that mass loading for chlorine be removed from the permit.

Response: EPA regulations require that actual water-quality-based limits be included in the permit. For compliance purposes, water-quality-based loadings would be based on the quantifiable level X design flow (0.1 mg/L X 0.275 mgd X 8.34 = 0.23 lbs/day). For further clarification, a minimum method detection level requirement has been included in the final permit. The mass loadings for residual chlorine have been removed from the final permit.

Comment: The city commented that there does not seem to be any benefit to sampling for effluent phosphorus as the wastewater treatment plant does not discharge to Cottonwood Creek during the growing season. The city's current land application permit does have requirements for phosphorus testing. Therefore, the city requests that phosphorus sampling be removed from the final permit.

Response: The TMDL evaluated nutrients for the May-October growing season. Since the city does not discharge during this period, limitations and monitoring requirements have been removed from the final permit.

Comment: The city commented that the surface water monitoring requirement is an unfunded mandate and would provide a financial hardship. It should not be the city's responsibility to collect water quality data on Cottonwood Creek and bear the financial responsibility for such. That being said, if surface water monitoring is required, the testing frequency for ammonia should be reduced to once per month.

Response: The surface water monitoring requirement is not an unfunded mandate. The Unfunded Mandate Reform Act of 1995 is inapplicable to NPDES permit decisions. Facility-specific NPDES permits such as the one held by the city are not regulations, but instead are licenses. The Unfunded Mandate Reform Act applies only to regulations. (Order Denying Petition for Review, In re: City of Blackfoot WWTF, NPDES Appeal No. 00-32).

The information is being required in support of TMDL development and to gather information necessary for future water-quality-based effluent limitation assessments. In order to make reasonable potential evaluations based on actual data, rather than statistical calculations accounting for limited data, EPA believes that at least ten data points need to be collected. For surface water monitoring, a sufficient database is needed to establish background concentrations. This information is used in developing TMDLs and establishing wasteload allocations for point sources and load allocations for nonpoint sources.

EPA has re-evaluated the monitoring frequency necessary to provide adequate information and has reduced the frequency of monitoring to once per month. In addition the final permit has been revised to only require ambient monitoring from November through April for a three-year period.

Comment: The Quality Assurance Requirements are an unfunded mandate that will place a financial burden on the city to produce this document within the time frame established due to budget limitations and budget cycles. If implemented, the city requests 180 days to complete this requirement.

Response: The Quality Assurance Plan requirement is not an unfunded mandate. The Unfunded Mandate Reform Act of 1995 is inapplicable to NPDES permit decisions. Facility-specific NPDES permits such as the one held by the city are not regulations, but instead are licenses. The Unfunded Mandate Reform Act applies only to regulations. (Order Denying Petition for Review, In re: City of Blackfoot WWTF, NPDES Appeal No. 00-32). Based on the information provided by the city, EPA believes the request is reasonable. The permit has been revised to allow 180 days for development of the Quality Assurance Plan.

Comment: The city indicated that monitoring for stream flow would require the installation of a new weir in Cottonwood Creek.

Response: There are a variety of techniques available to monitor stream flow without constructing a weir in Cottonwood Creek.

Comment: The city objects to the number of samples required and the cost implications of requiring this number of samples. As the draft permit is written, the city could expect to pay approximately \$4,500 in sampling costs, not including shipping costs. This is up from approximately \$630 the city currently pays for sampling as required by the NPDES permit. There would also be a considerable increase in the amount of time city staff would have to devote to

sampling and record keeping, which would make the cost increase that much higher.

Response: The EPA has re-evaluated the monitoring frequency necessary to provide adequate information and has reduced the surface water monitoring frequency to once per month. Ambient monitoring has been reduced from 12 months per year to 6 months per year (i.e., the period when the city is allowed to discharge) for a three-year period. Fecal coliform monitoring has been deleted from the permit, and E.coli monitoring has been reduced to once per week.

It has come to our attention that discharges from the old effluent line have occurred since the construction of the agroforest wetland site. In order to prevent discharges from this line, a requirement has been added to the final permit requiring removal, sealing, or valving of the old line. This action is to be completed by December 31, 2002. The EPA and the IDEQ must be notified when this action is completed.