



Colorado Discharge Permit System (CDPS)
 Fact Sheet for Modification 1
 Permit Number CO0048143
 MESA WATER AND SANITATION DISTRICT WWTF, MESA COUNTY

Tristan Acob
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I. TYPE OF PERMIT

- A. Type of Modification: Modification 1 - Minor Amendment
- B. Discharge To: Surface Water

II. FACILITY INFORMATION

- A. SIC Code: 4952 Sewerage Systems
- B. Facility Location: 11533 Highway 65
 Mesa, CO 81643
 Latitude: 39.173000° North
 Longitude: 108.139400° West

III. SCOPE OF MODIFICATION REQUEST

On June 7, 2016, the Division received a permit modification request from the facility with two requests.

The first requests the confirmation that the waiver from 85% CBOD removal has been brought forward from previous permits. The District noted that influent CBOD reporting should be removed from the permit as percent removal should not be necessary. Furthermore, influent BOD concentration (in mg/l and pounds per day) should remain to assess loading as a percent of organic capacity.

The second request is to extend the completion date for installation of continuous effluent flow monitoring equipment to allow the District time to finalize funding arrangements for capital improvements required by the Permit. The District is requesting the requirement for installation of continuous flow monitoring equipment be extended to August 31, 2017 to coincide with the completion date for the installation of continuous flow monitoring equipment in Mesa Creek.





IV. CHANGES MADE AS A RESULTS OF THE MODIFICATION

The requirement for installation of continuous flow monitoring equipment was extended to August 31, 2017, as requested.

The renewal permit did not include 85 percent removal requirements for TSS or CBOD. However Table A-13 in the WQA indicates that the 85 percent removal requirements for both TSS and CBOD are applicable to this facility. Therefore the division is clarifying the applicability of the 85 percent removal requirements with this permit modification.

Consistent with the requirements of Regulation 62.5(3) where adjusted TSS limitations are applied for lagoon systems, the 85 percent removal requirement for TSS is waived. Therefore the TSS 85 percent removal requirement is waived and no changes are needed to the permit.

The facility has requested a waiver of the 85 percent removal requirement for CBOD5 in accordance with WQCC Regulation 62.5(2)(a). In order to qualify for the waiver the facility must be unable to meet the 85 percent removal requirement for CBOD5. A summary of DMR data is displayed below. Note that CBOD5 percent removal data were only available from February 2004 to December 2010 from DMR data submitted in accordance to certifications COG583001 (February 2004 to April 2009) and COG589096 (May 2009 to December 2010).

Table with 2 columns: Date, Percentage Removal. Rows from 02/29/2004 to 12/31/2005.

Table with 2 columns: Date, Percentage Removal. Rows from 02/28/2006 to 12/31/2007.

Table with 2 columns: Date, Percentage Removal. Rows from 02/29/2008 to 01/31/2010.

Table with 2 columns: Date, Percentage Removal. Rows from 03/31/2010 to 12/31/2010.





01/31/2006	77%	01/31/2008	96%	02/28/2010	92%
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The facility was not required to submit influent CBOD₅ results during the last permit term; however, the facility submitted data from January 2011 to December 2014. The data is displayed below and was also used to determine the applicability of the CBOD₅ waiver.

Percent Removals from 2011 to 2014				
Month	2011	2012	2013	2014
January	93.2%	95.5%	86.7%	
February	93.8%	80.0%	90.7%	93.3%
March	91.1%	94.9%	94.5%	95.5%
April	97.9%	90.0%	88.2%	92.2%
May	93.4%	79.3%	96.7%	
June	87.4%	89.7%	95.8%	94.0%
July	98.3%	88.4%	95.8%	93.3%
August	92.3%	95.2%	92.1%	93.3%
September	97.1%	94.4%	97.8%	82.4%
October	97.6%	86.3%	97.2%	96.8%
November	95.1%	95.1%	95.5%	95.2%
December	94.0%	89.3%		90.4%

Note that from February 2004 to December 2014, the facility was unable to meet the 85 percent requirement 18 times.

As demonstrated by the review of DMR data for percent removal as well as the data from 2011 to 2014 submitted by the permittee, the facility is unable to meet the 85 percent removal requirement for CBOD₅. WQCC Regulation 62.5(2)(a) allows for a waiver of the 85 percent removal requirement for CBOD₅ for domestic sources. Regulation 62.5(2)(a) states: "for domestic sources, where the permittee has demonstrated that the treatment facility is unable to meet the 85 percent removal requirement for a parameter and the inability to meet the requirement is not caused by excessive infiltration, as defined in 40-CFR 35.2005(b)(16), a lower percent removal requirement or a mass loading limit may be substituted provided that the permittee can demonstrate that the provisions of 40 CFR 133.103(d) can be met."

In order to grant the waiver the inability to meet the percent removal requirement must not be caused by excessive infiltration.

Excessive infiltration is defined in 40 CFR 35.2005(b)(16) as,

(16) Excessive infiltration/inflow. The quantities of infiltration/inflow which can be economically eliminated from a sewer system as determined in a cost-effectiveness analysis that compares the costs for correcting the infiltration/inflow conditions to the total costs for transportation and treatment of the infiltration/inflow. (See §§ 35.2005(b) (28) and (29) and 35.2120.)

40 CFR 35.2005(b) (28) and (29) states:

(28) Nonexcessive infiltration. The quantity of flow which is less than 120 gallons per capita per day (domestic base flow and infiltration) or the quantity of infiltration which cannot be economically and effectively eliminated from a sewer system as determined in a cost-effectiveness analysis. (See §§





35.2005(b)(16) and 35.2120.)

(29) Nonexcessive inflow. The maximum total flow rate during storm events which does not result in chronic operational problems related to hydraulic overloading of the treatment works or which does not result in a total flow of more than 275 gallons per capita per day (domestic base flow plus infiltration plus inflow). Chronic operational problems may include surcharging, backups, bypasses, and overflows. (See §§ 35.2005(b)(16) and 35.2120.)

Based on the fact sheet developed for the current permit, it was determined that the flow is less than 120 gallons per capita per day; therefore, the facility is not considered to have excessive infiltration.

Once I/I is not considered excessive the division may grant the waiver and substitute a mass loading limit, given that the provisions of 40 CFR 133.103(d) are met. 40 CFR 133.103(d) states:

Less concentrated influent wastewater for separate sewers. The Regional Administrator or, if appropriate, State Director is authorized to substitute either a lower percent removal requirement or a mass loading limit for the percent removal requirements set forth in §§ 133.102(a)(3), 133.102(a)(4)(iii), 133.102(b)(3), 102.105(a)(3), 133.105(b)(3) and 133.105(e)(1)(iii) provided that the permittee satisfactorily demonstrates that: (1) The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits but its percent removal requirements cannot be met due to less concentrated influent wastewater, (2) 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 (3) the less concentrated influent wastewater is not the result of excessive I/I. The determination of whether the less concentrated wastewater is the result of excessive I/I will use the definition of excessive I/I in 40 CFR 35.2005(b)(16) plus the additional criterion that inflow is nonexcessive if the total flow to the POTW (i.e., wastewater plus inflow plus infiltration) is less than 275 gallons per capita per day.

This provision requires a three part test to grant the waiver:

1. The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits but its percent removal requirements cannot be met due to less concentrated influent wastewater.

DMR data, as displayed in the fact sheet for the current permit, indicate two excursions of effluent limitations (one for ammonia and one for CBOD₅) during the last permit term. They were deemed to be isolated events and do not seem to represent trends indicating future excursions. For this reason, this facility has meets this provision.

2. 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.

For the DMR data collected under certification COG583001, DMR data indicate that for months when percent removal was below 85%, the facility would need to treat effluent data to as low as 2.7 mg/l and as high as 15.3 mg/l. Because they would have to treat the effluent to a value much lower than 25 mg/l, the facility meets this provision.

3. The less concentrated influent wastewater is not the result of excessive I/I. The determination of whether the less concentrated wastewater is the result of excessive I/I will use the definition of excessive I/I in 40 CFR 35.2005(b)(16) plus the additional criterion that inflow is nonexcessive if the





total flow to the POTW (i.e., wastewater plus inflow plus infiltration) is less than 275 gallons per capita per day.

As stated above, the facility meets the provision according to calculations in the fact sheet of the current permit.

The compliance schedule for upstream flow monitoring has been modified as requested. However, CBOD₅ influent monitoring was not removed and a reporting requirement has been added for percent removal to be evaluated during the next permit term. In addition, the division added a narrative condition/special study to be submitted by December 31, 2020. The study is required to provide the information needed to inform future permit renewals. If the facility cannot meet the percent removal requirements at that time and requests a waiver for the renewal permit, the facility must include the following in the report:

- Demonstration that the inability to meet the percent removal requirement is not a result of excessive infiltration as defined in 40 CFR 35.2005(b)(16)
- Data confirming that the provisions listed in 40 CFR 133.103(d) can be met.

V. PUBLIC NOTICE COMMENTS

The public notice period was from November 10, 2016 to December 12, 2016. No comments were received during the public notice period.

