

**FACT SHEET AND STATEMENT OF BASIS
CENTERFIELD REGIONAL CULINARY WATER TREATMENT PLANT
UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES)
DISCHARGE RENEWAL PERMIT
UPDES PERMIT NUMBER: UT0025704
MINOR INDUSTRIAL FACILITY**

FACILITY CONTACT INFORMATION

Name: Stewart Jensen
Position: Water Superintendent

Name: Garrick Willden
Position: Operator

Name: Travis Leatherwood
Position: Mayor and Signatory

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Facility Location Address: 1600 North Highway 137
Mayfield, UT 84643

DESCRIPTION OF FACILITY

Centerfield City operates and maintains a regional culinary water treatment plant (plant), which serves the areas of Centerfield City and Mayfield Town typically in the summer months when demand for water is high. Some of the local water sources are known to have nitrate concentrations that exceed the 10 mg/L maximum for State of Utah drinking water standards. In order to utilize these local water sources, small amounts of water from the higher nitrate sources are blended with Centerfield City's spring water source to provide acceptable drinking water that meets the State nitrate standard. Centerfield City began operating and discharging from this plant in July 2021 when it was first needed for the purpose of providing an additional water source to blend with other higher nitrate sources. The plant is a newer small reverse osmosis (RO) facility with a maximum design flow of 0.3 million gallons per day (MGD). When in use, treatment at the facility produces approximately 150 gallons per minute (gpm) of potable water and 50 gpm of wastewater from the RO filtration process. To date the plant has only operated during peak demand periods from July through October over the past two years with a maximum daily effluent flow rate of 0.09 MGD. This renewal permit authorizes future effluent discharges from the plant over the next five years.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The only changes proposed with this renewal permit are the removal of Secondary Treatment Standards for Biological Oxygen Demand (BOD) and Total Suspended Solids (TSS) which no longer apply to Non-POTW facilities as described further in the Self-Monitoring & Reporting Requirements section of this Fact

Sheet. As a result, Turbidity monitoring has now been included in the permit as an appropriate parameter in lieu of the previous TSS monitoring requirement. All other permit limitations remain unchanged.

DISCHARGE INFORMATION

DESCRIPTION OF DISCHARGE OUTFALL

A description of the permitted discharging outfalls are as follows:

<u>Outfall</u>	<u>Description of Discharge Point</u>
001	Located at latitude 39°07'21" N and longitude 111°42'42" W. Discharge through a one-mile length 4-inch pipe from the facility to Twelve Mile Creek.

RECEIVING WATERS AND STREAM CLASSIFICATION

The discharge from the plant flows directly into Twelve Mile Creek, which is designated according to Utah Administrative Code (UAC) R317-2-13 as follows:

- Class 2B -- Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing
- Class 3C -- Protected for non-game fish and other aquatic life, including the necessary aquatic organisms in their food chain.
- Class 3D -- Protected for waterfowl, shorebirds and other water-oriented wildlife not included in Classes 3A, 3B, or 3C, including the necessary aquatic organisms in their food chain.
- Class 4 -- Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

In accordance with regulations promulgated in *40 Code of Federal Regulations (CFR) Part 122.44* and in *Utah Administrative Code (UAC) R317-8-4.2*, effluent limitations are derived from technology-based effluent limitations guidelines, Utah Secondary Treatment Standards (*UAC R317-1-3.2*) or Utah Water Quality Standards (*UAC R317-2*) as applicable. In cases where multiple limits have been developed, those that are more stringent apply. In cases where no limits or multiple limits have been developed, Best Professional Judgment (BPJ) of the permitting authority may be used where applicable. "Best Professional Judgment" refers to a discretionary, best professional decision made by the permit writer based upon precedent, prevailing regulatory standards or other relevant information.

Permit limits can also be derived from the Wasteload Analysis (WLA), which incorporates Secondary Treatment Standards, Water Quality Standards, including Total Maximum Daily Load (TMDL) impairments as appropriate, Antidegradation Review (ADR) and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were completed as appropriate. An ADR Level I review was performed and concluded that an ADR Level II review was not required this time since there are no proposed increases in flow or concentrations from the existing plant operations. The WLA indicates that the effluent limitations will be sufficiently protective of water quality, in order to meet

State water quality standards in the receiving waters. The WLA and ADR are attached as an addendum to this Fact Sheet.

The following list is the basis of the effluent limitations for the applicable permit parameters:

- 1) Daily minimum and daily maximum limitations for pH are derived from Utah Water Quality Standards found in UAC R317-2-14.
- 2) Turbidity monitoring requirements are also derived from Utah Water Quality Standards as found in UAC R317-2-14.
- 3) The concentration limitation for Total Dissolved Solids (TDS) is unchanged as derived from the previous 2018 permit & WLA, which is a more protective limitation than was derived from the current 2023 WLA.
- 4) The flow limitation is based upon the design flow of the discharge as provided by the permittee.

The parameters of concern (POCs) are consistent with previous and other similar UPDES permits, which are based on the plant processes for the treatment of drinking water. Therefore, as listed above and included in the permit; TDS, turbidity (in lieu of TSS) and pH are the primary POCs for this renewal permit.

Total Maximum Daily Load (TMDL)

According to the Utah 2022 303(d) Water Quality Assessment Report, "Final 2022 Integrated Report on Water Quality", the receiving water for the discharge, *San Pitch River and tributaries from confluence with Sevier River to tailwaters of Gunnison Reservoir (excluding all of Six Mile Creek and Twelve Mile Creek above USFS boundary)*, (AU UT16030004-001_00) is listed as impaired for total dissolved solids (TDS). A TMDL addressing TDS for the San Pitch River was completed November 18, 2003, as TDS remains a POC in the permit as appropriate.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. RP for this permit renewal was conducted following DWQ's September 10, 2015 Reasonable Potential Analysis Guidance (RP Guidance). There are four outcomes defined in the RP Guidance: Outcome A, B, C, or D. These Outcomes provide a frame work for what routine monitoring or effluent limitations are required.

A qualitative RP analysis was performed on all current permit parameters and POCs to determine if there was reasonable potential for the discharge to exceed the applicable water quality standards. Based on the RP analysis, it was determined that no additional effluent limits were necessary in this renewal permit. This is because all the data points reviewed did not exceed the applicable Water Quality Standards and in most cases were well below the applicable standards. Also, as a part of the RP analysis, the BOD & TSS monitoring, which were the previously included secondary treatment standards, have been omitted. The results of the RP analysis confirmed the removal of these two parameters is appropriate in conjunction with the aforementioned rule change regarding the applicability of secondary treatment standards. Therefore, no RP currently exists at the facility for the existing permit parameters and/or the identified POCs and a more quantitative RP analysis was not necessary at this time. The result is *RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit.* A copy of the RP analysis is included as an Addendum to this Fact Sheet.

The permit effluent limitations are as follows:

Parameter, Units	Effluent Limitations *a			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
Total Flow, MGD *b, *c	0.3	--	--	--
pH, S.U.	--	--	6.5	9.0
Total Dissolved Solids (TDS), mg/L	--	--	--	4000
Turbidity, NTU *d	Report	--	--	Report

SELF-MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are similar as in the previous permit with a couple changes as mentioned previously. TSS & BOD secondary treatment standards have been omitted to reflect recent rule changes in UAC R317-1-3, which clarifies that both TSS and BOD secondary treatment standards are not required for Non-POTW facilities. Publicly Owned Treatment Works (POTWs) are facilities that receive and process domestic waste water. The Centerfield plant is a Non-POTW facility as classified and therefore, secondary treatment standards do not apply. Turbidity monitoring has been included in the permit however, and is an appropriate parameter in lieu of TSS. The permit requires that the self-monitoring reports are to be submitted monthly as appropriate, and on Discharge Monitoring Report (DMR) forms due 28 days after the end of each monitoring period. Effective January 1, 2017, monitoring results must be submitted electronically using NetDMR unless the permittee has successfully petitioned for an exception. Lab reports for biomonitoring, as well as lab reports for metals and toxic organics, if required in the future must be submitted with the applicable DMRs. A review of the past 5 years of DMR data reveals that the Centerfield plant has had no permit limit exceedances and should be able to continue complying with the permit provisions as included herein.

The self-monitoring and reporting requirements in the permit are as follows:

Self-Monitoring and Reporting Requirements *a			
Parameter	Frequency	Sample Type	Units
Total Flow *b, *c	Continuous	Recorder	MGD
pH	2 x Month	Grab	S.U.
Turbidity - Effluent *d	2 x Month	Grab	NTU
Turbidity – In Stream *d	2 x Month	Grab	NTU
TDS	Monthly	Grab	mg/L

- *a See Permit Definitions, *Part VII*, for definition of terms.
- *b Flow measurements of the effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- *c If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- *d Turbidity monitoring shall be performed to demonstrate that there is not

an increase of greater than 15 NTUs between the receiving water and the effluent as discharged.

STORM WATER

Separate storm water UPDES permits may be required based on the types of activities occurring on site. The Centerfield plant falls under the *Standard Industrial Category #4941 for Water Supply*, for which there is no bulk storage or exposure of any contaminants at the facility. Therefore, a separate storm water industrial UPDES permit is not required.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at <http://stormwater.utah.gov>

PRETREATMENT REQUIREMENTS

Currently, process wastewater is discharged by the permittee directly into a water of the State and there are no bathrooms, kitchens, or other domestic wastewater sources onsite. If changes occur where any wastewater from the facility is discharged to a POTW, as an Indirect Discharge, which includes hauled waste, the permittee will be subject to federal, state and local pretreatment regulations. Based on section 307 of the Clean Water Act, the permittee shall comply with all applicable Federal Pretreatment Standards and Pretreatment Requirements promulgated in 40 CFR Section 403, the State Pretreatment Standards and Pretreatment Requirements found in UAC R317-8-8, and any Pretreatment Standards and Pretreatment Requirements developed by the POTW accepting the waste.

In addition, per *40 CFR 403.12(p)(1)*, the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if a discharge of any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under *40 CFR 261*. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018 (DWQ WET policy). Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor industrial facility that only discharges a small volume of effluent intermittently when in use. Upon initial startup of the facility in 2021, the Centerfield regional treatment plant was required to perform an acute biomonitoring test two times, using both the *Ceriodaphnia dubia* and *Pimephales promelas* (fathead minnows) species. The first time was within 30 days of when the treatment plant first discharges, the second time was within 90 days of the first test as required in the permit. Both WET testing results passed for both species and no further testing was required. These WET testing results

confirmed that the potential for toxicity is not deemed sufficient to require regular biomonitoring or whole effluent toxicity (WET) limits in this renewal permit. Based on these considerations, there is no reasonable potential for toxicity in the permittee's discharge as per DWQ WET Policy. As such, there will be no numerical WET limitations or WET monitoring requirements in this renewal permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge at any time in the future.

PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years as authorized in UAC R317-8-5.1(1).

Drafted and reviewed by
Jeff Studenka, Discharge
Lonnie Shull, Biomonitoring
Jennifer Robinson, Pretreatment
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Utah Division of Water Quality, (801) 536-4300
March 30, 2023

PUBLIC NOTICE INFORMATION (to be updated after)

Began: Month Day, Year
Ended: Month Day, Year

Written Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Notice of the draft permit and the draft permit documents will be published on the DWQ website for at least 30 days as required per UAC R317-8-6.5. During the public comment period provided under UAC R317-8-6.5, any interested person may submit written comments on the draft permit and/or may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in UAC R317-8-6.12.

ADDENDUM TO FSSOB

ATTACHMENTS (2): I. Wasteload Analysis and Antidegradation Review
II. Reasonable Potential Analysis Summary with Effluent Data

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ATTACHMENT 1

Wasteload Analysis & Antidegradation Review

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ATTACHMENT 2

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

DWQ has worked to improve the reasonable potential (RP) analysis for the inclusion of limits for parameters in the permit by utilizing an EPA approved method and RP guidance document. As a result, more parameters and/or limits may be included in a renewal permit. There are four resulting outcomes for the RP Analyses¹ as listed below;

- Outcome A: A new effluent limitation will be placed in the permit.
- Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
- Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
- Outcome D: No limitation or routine monitoring requirements are in the permit.

The Initial RP Screening Table is included below for all existing permit parameters and/or parameters of concern (POCs), as derived from the previous UPDES permit and the WLA information. Note that the full RP analysis model was not necessary at this time due to the results of the initial screening results below.

**RP Initial Screening Table for Centerfield Water Plant (UT0025704)
2021-2022 Data Summary Results & RP Analysis (Outfall 001)**

Parameter	No. of Samples	MEC* mg/L	Water Quality Standards (WQS) MAC** (most stringent)		Result
			Acute WQS mg/L	Chronic WQS mg/L	
BOD	16	<5.0	25	35	MEC ≤ MAC
TSS	16	<4.0	25	35	MEC ≤ MAC
TDS	16	3340	4000	NA	MEC ≤ MAC
pH, SU	16	7.5 - 7.8 (SU)	6.5 (min)	9.0 (max)	MEC ≤ MAC

Notes:

NA = Not Applicable.

*MEC = Maximum expected effluent concentration as determined from existing data set.

**MAC = Maximum allowable concentration from Water Quality Standards and/or Wasteload Analysis.

MEC less than or equal (≤) to MAC, no additional Acute or Chronic limits required.

MEC > MAC = RP identified, include appropriate limits, if applicable.

Result: From the table above, the RP analysis results of the discharge for all of the listed POCs is: MEC ≤ MAC, therefore no additional Acute or Chronic limits required. This equates to **RP Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit.**

Summary: Based upon the policy “Reasonable Potential Analysis Guidance” developed by the Utah Division of Water Quality on September 10, 2015 and subsequently implemented beginning January 1, 2016 for all new and renewal permits; it was determined that no additional effluent limits were warranted in this 2023 renewal permit. This is because all the discharging data points reviewed did not exceed the applicable most stringent Water Quality Standards and in actuality were well below the applicable standards. Also, as a part of the RP analysis, the BOD & TSS monitoring, which were the previously included secondary treatment standards, have been omitted. The results of the RP analysis herein confirmed the removal of these two parameters is appropriate

¹ Outcome definitions taken from the 2015 DWQ Reasonable Potential Analysis Guidance.

in conjunction with the rule change regarding the applicability of secondary treatment standards as referenced in the Fact Sheet. Therefore, no RP currently exists at the facility for the existing permit parameters and/or identified POCs and a more quantitative RP analysis was not necessary at this time.

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