

**FACT SHEET / STATEMENT OF BASIS
DUCHESNE CITY WASTEWATER TREATMENT LAGOONS
UPDES PERMIT NUMBER: UT0020095
RENEWAL PERMIT
MINOR MUNICIPAL**

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DESCRIPTION OF FACILITY

The Duchesne Wastewater Treatment Facility was last expanded and upgraded in 1988. The facility currently consists of four cell discharging lagoon system with an area totaling approximately 300 ft. by 600 ft., and is designed for organic loadings of 410 lbs/day for Five Day Biochemical Oxygen Demand (BOD₅) and 410 lbs/day for Total Suspended Solids (TSS). Average design flow is 0.42 Million Gallons Per Day (MGD) with a population equivalent of 2400 people. The facility currently serves the City of Duchesne with a current population of about 1700, and is located approximately one mile east of Duchesne at North Latitude 40° 10' 10" and West Longitude 110° 21' 30".

DESCRIPTION OF DISCHARGE

The facility was designed as a total containment lagoon and has been run as such since October 1988 as a result of expansion and upgrades to the system. However, the facility occasionally discharges and DMRs submitted by the permittee indicate these intermittent discharges result in occasional violations of permit limits. The violations were mainly for BOD₅ and TSS percent removal. These violations are a result of chronically low strength influent, which is an indication of inflow and infiltration problems with the collection system.

RECEIVING WATERS AND STREAM CLASSIFICATION

Final discharge is to the Duchesne River classified as 1C, 2B, 3A and 4 according to *Utah Administrative Code (UAC) R317-2-12*:

- Class 1C -protected for domestic purposes with prior treatment by treatment processes as required by the Utah Department of Health.
- Class 2B -protected for secondary contact recreation such as boating, wading or similar uses.
- Class 3A -protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain.
- Class 4 -protected for agricultural uses including irrigation of crops and stockwatering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS), biochemical oxygen demand (BOD₅), *E. Coli*, pH and percent removal for TSS and BOD₅ are based on current Utah Secondary Treatment Standards, *UAC R317-1-3.2*. Total residual chlorine (TRC) and Dissolved Oxygen (DO) are water quality limited and are based on a Wasteload Analysis. These limitations should be sufficiently protective of water quality in order to meet State water quality standards in the receiving waters.

Discharges from the Duchesne City Wastewater facility eventually reach the Colorado River, which places it within the purview of the Colorado River Basin Salinity Control Forum (CRBSCF). Total dissolved solids (TDS) are limited in loading by the CRBSCF and in February 1977 they produced the “Policy For Implementation of Colorado River Salinity Standards Through the NPDES Permit Program”(Policy). This Policy is still in effect and under Part II (Municipal Discharges) it states, that the effluent shall not exceed the culinary intake (CI) water supply by more than 400 mg/L (TDS). However, the policy also states that the requirements for establishing incremental increases may be waived in those cases where the incremental salt load reaching the main stem of the Colorado River is less than one ton per day or 366 tons per year.” The Duchesne City Lagoons are an intermittent discharger, discharging less than 366 tons per year total. Based on this, the facility has requested a waiver in meeting the 400 mg/L incremental increase as indicated in the CRBSCF Policy. As a result, the 400 mg/L incremental increase limitation for TDS has been waived and the TDS loading limitations of one ton per day or 366 tons per year shall apply.

The Wasteload Analysis indicates that seasonal ammonia limits in the range of 154-306 mg/L should be applied (see ADDENDUM), however, since these limits are substantially higher than what should reasonably be expected in the discharge, there will be no effluent limitations or monitoring requirements for this parameter.

Effluent Limitations

Parameter	Effluent Limitations a/			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
BOD ₅ , mg/L	25	35	NA	NA
BOD ₅ Min. % Removal	85	NA	NA	NA
TSS, mg/L	25	35	NA	NA
TSS Min. % Removal	85	NA	NA	NA
E-Coli, No./100mL	126	157	NA	NA
TRC, mg/L	NA	NA	NA	0.3
pH, Standard Units	NA	NA	6.5	9.0
TDS, Effluent, mg/l	Report	NA	NA	NA
TDS, Effluent, lbs/day e/	NA	NA	NA	2,000
Dissolved Oxygen, mg/L	≥ 5.0	NA	NA	NA

NA – Not Applicable

SIGNIFICANT CHANGES

There were no significant changes in the permit limits.

SELF-MONITORING AND REPORTING REQUIREMENTS

The following effluent self-monitoring requirements are based on the *Utah Monitoring, Recording and Reporting Frequency Guidelines* as effective December 1, 1991. Reports shall be made on Discharge Monitoring Report (DMR) forms, and are due 28 days after the end of the monitoring month.

Self-Monitoring and Reporting Requirements a/			
Parameter	Frequency	Sample Type	Units
Total Flow b/ c/	Continuous	Recorder	MGD
BOD ₅ , Influent d/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
TSS, Influent d/ Effluent	Monthly	Grab	mg/L
	Monthly	Grab	mg/L
E. coli	Monthly	Grab	No./100mL
TRC	Monthly	Grab	mg/L
PH	Monthly	Instaneous	SU
TDS, Effluent e/	Monthly	Grab	mg/L
Dissolved Oxygen	Monthly	Instantaneous	mg/L

- a/ See Permit, *Part V, Definitions*, for definition of terms.
- b/ Flow measurements of influent/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/ In addition to monitoring the final discharge, influent samples shall be taken and analyzed for this constituent at the same frequency as required for this constituent in the discharge.
- e/ The total TDS discharged shall be limited to a average of 2,000 lbs/day (one ton per day) or 366 tons per year as a sum total from all discharge points.

STORM WATER REQUIREMENTS

A treatment works facility treating domestic sewage or any other sewage sludge, a wastewater treatment device or system used in the storage, treatment, recycling and reclamation of municipal sewage, and lands dedicated to the disposal of sewage sludge that are located within the confines of the facility is required to submit a Notice of Intent (NOI) specifically for the Utah Pollutant Discharge Elimination System Multi Sector General Permit for Industrial Activities by December 31, 2002, if the treatment facility meets one of the following two criteria; 1) any facility that holds an approved pretreatment program as described in *40CFR Part 403*, or, 2) has a design flow of 1.0

MGD or greater. Duchesne City does not meet the above mentioned criteria required for permit coverage, thus the facility does not need a UPDES Multi Sector General Permit for Industrial Activities at this time.

LEVEL II ANTIDegradation Requirements

Since the facility discharges to a water listed at Class 1C (Drinking water supply), a level II ADR is required. This form is attached to this FSSOB as an attachment.

Pretreatment Requirements

The permittee has not been designated for a pretreatment program development because it does not meet conditions which necessitate a full program. The flow through the plant is less than one (1) MGD, and there are no categorical industries discharging to the wastewater treatment plant.

Although the permittee does not have a State-approved pretreatment program, any wastewater discharges to the sanitary sewer by industrial users are subject to Federal, State and local pretreatment regulations. Pursuant to *Section 307* of the *Clean Water Act*, the permittee shall comply with all applicable Federal General Pretreatment Regulations promulgated, found in *40 CFR 403* and the State Pretreatment Requirements found in *UAC R317-8-8*.

An industrial waste survey (IWS) is required of the permittee as stated in Part II of the permit. The IWS is to assess the needs of the permittee regarding pretreatment assistance. The IWS is required to be submitted within sixty (60) days after the issuance of the permit. If an Industrial User begins to discharge or an existing Industrial User changes their discharge the permittee must resubmit an IWS no later than sixty days following the introduction or change as stated in Part II of the permit.

It is recommended that the permittee perform an annual evaluation of the need to revise or develop technically based local limits for pollutants of concern, to implement the general and specific prohibitions *40 CFR, Part 403.5(a)* and *Part 403.5(b)*. This evaluation may indicate that present local limits are sufficiently protective, need to be revised or should be developed. It is required that the permittee submit any local limits that are developed to the Division of Water Quality for review and if needed public notice.

Biomonitoring Requirements

As part of a nationwide effort to control toxic discharges, biomonitoring requirements are being included in permits for facilities where effluent toxicity is an existing or potential concern. In Utah, this is done in accordance with the *State of Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (Biomonitoring)*. 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*.

Based on said Utah guidelines, the Duchesne Wastewater Treatment Facility is not a major municipal discharger and has not been required to develop an industrial pretreatment program. To the best of our knowledge this facility has no significant industrial or categorical industrial users, and

a reasonable potential for toxicity does not exist. In the event of any unforeseen toxicity occurring at the facility the permit does contain a toxicity limitation-reopener provision.

BIOSOLIDS MANAGEMENT REQUIREMENTS

As required by the 1987 amendments to the Federal *Clean Water Act*, EPA has established toxic contaminant criteria and other requirements for sewage sludge use and disposal by works treating domestic sewage. These regulations are found in *Title 40 of the Code of Federal Regulations, Part 503*. The biosolids (sludge) management program was delegated to the State of Utah on June 14, 1996. The 503 regulations are implemented by the issuance of permits, as needed and appropriate.

Because the permitted facility is a lagoon, there is no regular biosolids production. Therefore, the requirements of 503 do not apply unless or until sludge is removed from the bottom of the lagoon and used or disposed of in some way. When planning biosolids removal, the permittee should contact the DWQ for guidance.

PERMIT DURATION

It is recommended that this permit be effective for a period of five (5) years.

Drafted by Lonnie Shull
Environmental Scientist
Utah Division of Water Quality
Drafted December 1, 2013

