FACT SHEET STATEMENT OF BASIS
SWIFT BEEF COMPANY
UPDES PERMIT NUMBER: UT0000281
PERMIT RENEWAL
MAJOR INDUSTRIAL

FACILITY LOCATION & CONTACTS

Name	Position	Phone
Jerry Peterson	General Manager/ VP of Operations	435-245-6456
Don Summit	Environmental and Sustainability Manger	435-245-2351

Facility Name	Mailing Address
Swift Beef Company, Hyrum Plant	410 North 200 West Hyrum, Utah 84319-1024

DESCRIPTION OF FACILITY

Swift Beef Company, formerly known as EA Miller, is a beef slaughterhouse and meat packing plant. It is defined as a complex slaughterhouse in 40 CFR 432.21 and Standard Industrial Classification Code 2011 applies. The facility is located in Hyrum, Cache County, Utah. The treatment plant is approximately 0.75 miles north of the slaughter/packing plant.

The slaughterhouse operations began in 1935. Since then, the operation has grown both in number of cattle processed and number of products produced. In 2011, the facility processed 466 million pounds of beef and beef byproducts. The products produced include boxed beef, ground beef, beef flavorings, gravy mix, edible and inedible tallow, hides, tripe, organ meats, bone meal, blood products and pet food.

The facility was upgraded in 2011 to provide treatment for significant reductions in phosphorus in the effluent as required by the Spring Creek TMDL.

DISCRIPTION OF DISCHARGE

Wastewater is collected from the following operations: blood and hide processing, the on-site rendering facility, storm water runoff, holding pen runoff, production area cleaning water, equipment washing, steam making, freshly slaughtered beef washing and paunch washings.

The wastewater treatment process has changed since the last permit renewal. It consists of rotary screens and a dissolved air flotation unit at the processing plant to remove grease and solids followed by a grit settling tank and influent flow meter. Flow is then split between anaerobic lagoons and the newly constructed aeration basins. The activated sludge system has changed to utilize the Modified Ludzack-Ettinger (MLE) process which consists of a two stage anoxic and aeration basins followed by four clarifiers, two disk filters, UV disinfection or chlorination followed by sodium bisulfate prior to discharging at Outfall 001.

Swift's self-monitoring data for the last three years is included as an appendix to this document. The data demonstrates that the facility has had difficulty maintaining compliance with the permit effluent limits with the pervious treatment plant. However, it is expected that with the upgraded plant, the facility should be able to maintain compliance with the effluent limits consistently during this permit cycle.

Outfall 001	Description of Discharge Point
001	The discharge pipe is located in the northwest corner of the wastewater treatment plant property between 200 West and 500 West in Hyrum City, Cache County at latitude 49°39'21" and longitude 111°52'05". The water is discharged inside the fenced area and flows under the chain-link fence to the receiving irrigation ditch.
001R	Treated effluent for reuse will be stored in Pond 5 at the wastewater treatment plant until it is needed in the irrigation distribution system owned and operated by Miller Farms, LLC. The effluent will be used to irrigate crops in fields near the treatment plant.

RECEIVING WATERS AND STREAM CLASSIFICATION

Swift discharges to an irrigation ditch which is a tributary to Spring Creek. The beneficial use classification for Spring Creek is:

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 organisms in their food chain.

Class 3D: Protected for waterfowl, shore birds and other water oriented wildlife not included in Class 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.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

The phosphorus concentration limit is based upon reductions required in the Spring Creek TMDL. The TMDL was not written to allow for a phased approach, however, given the magnitude of the reductions required the DWQ will require Swift to meet a 1 mg/L phosphorus concentration in the effluent for this permit cycle. The effects on Spring Creek will be monitored and at the end of this permit cycle the DWQ will determine if Swift must meet the phosphorus effluent limit called for in the TMDL. It should be noted that Swift Beef's upgraded treatment plant has reduced the phosphorus concentration in the effluent from an average of 26 mg/L for the timeframe of May 2006 to March 2011 to an average of 0.77 mg/L since April 2011.

Swift Beef has requested the option to distribute most or all of their effluent for reuse during the irrigation season of April through October. The effluent will be used to irrigate agricultural fields near the wastewater treatment plant owned by Miller Farms LLC. Water intended for reuse will bypass the filter building and be stored in Ponds 4 and 5 until it can be reused. Swift Beef will

chlorinate the water before it is drawn into the irrigation system. It is anticipated that Miller Farms will reuse all of the effluent during the irrigation season to grow short grains, alfalfa and silage corn. The facility will be required to meet Type II Reuse effluent standards as per UAC R317-3-11.5.

Mass effluent limits for 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) have increased from the previous permit. This is due to the Live Weight Killed (LWK) and/or number of head of cattle increasing from the last permit cycle.

BASIS FOR EFFLUENT LIMITATIONS

Effluent concentration limitations on TSS, BOD_5, E-coli concentrations and pH are based upon current Utah Secondary Treatment Standards, UAC R317-1-3.2.

The effluent limitations for flow, total dissolved solids (TDS), total residual chlorine (TRC), and dissolved oxygen are based upon the wasteload analysis. The Oil & Grease limitation is based upon best professional judgment (BPJ).

Mass limits for TSS, BOD_5, Oil and Grease and fecal coliforms are based on 40 CFR 432.22. A LWK value of 2,430 pounds per day per 1000 lbs was used to calculate the mass loading limits. The concentration limits on ammonia and nitrogen are based upon 40 CFR 432.22 and 40 CFR 432.13.

The phosphorus concentration limit is based upon reductions required in the Spring Creek TMDL.

The permit limits for Outfall 001 are as follows:

Parameter	**Effluent Limitations** a/b/			
	Max Monthly Avg.	Max Weekly Avg.	Daily Min	Daily Max
Flow, MGD	2.0			
BOD_5, mg/L	25	35		
BOD_5, lbs/day	510			1021
TSS, mg/L	25	35		
TSS, lbs/day	607			1215
Fecal Coliforms, No./100mL				400
E.-coli, No./100mL	126	158		
TRC, mg/L, October - March				0.15
TRC, mg/L, April-September				0.25
Oil & Grease, mg/L				10
Oil & Grease, lbs/day	194			389

Parameter	**Effluent Limitations** a/b/			
	Max Monthly Avg.	Max Weekly Avg.	Daily Min	Daily Max
Phosphorus, mg/L	1			
Ammonia as N, mg/L, October-March	4.0			8.0
Ammonia as N, mg/L, April-September	3.0			8.0
Nitrogen as N, mg/L	134			194
TDS, mg/L, April-September				3,000
TDS, mg/L, October-March				3,600
pH, SU			6.5	9.0
Dissolved Oxygen, mg/L, October – March			4.0	
Dissolved Oxygen, mg/L, April – September			4.0	

a/ See Part I for definition of terms.
b/ There shall be no visible sheen or floating solids or visible foam in other than trace amounts. There shall be no discharge of sanitary wastes.

The Type II Reuse limitations for BOD5, TSS, E-Coli and pH are based upon UAC R317-3-11.5.

The Type II Reuse limits for Outfall 001R are as follows:

Parameter	**Type II Reuse Limitations** a/			
	Max Monthly Avg.	Max Weekly Avg.	Daily Min	Daily Max
BOD_5, mg/L	25			
TSS, mg/L	25	35		
E.-coli, No./100mL		126		500 b/
pH, SU			6.0	9.0

a/ See definitions Part I for definition of terms.
b/ No sample shall exceed this value.

SELF MONITORING AND REPORTING REQUIREMENTS

The following self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly and quarterly, as applicable, on Discharge Monitoring Report (DMR) forms due 28 days after the end of the monitoring period. Lab sheets for biomonitoring must be attached to the biomonitoring DMR.

Self-Monitoring and Reporting Requirements a/			
Parameter	Frequency	Sample Type	Units
Total Flow	Continuous	Recorder	MGD
BOD_5	Weekly	Composite	mg/L
TSS	Weekly	Composite	mg/L
Fecal Coliforms	Weekly	Grab	No./100mL
E-Coli	Weekly	Grab	No./100mL
TRC	Weekly	Grab	mg/L
Oil & Grease	Weekly	Grab	mg/L
Phosphorus	Twice Weekly	Composite	mg/L
Ammonia as N	Twice Weekly	Grab	mg/L
Nitrogen as N	Weekly	Composite	mg/L
TDS	Weekly	Grab	mg/L
pH	Weekly	Grab	mg/L
Dissolved Oxygen	Weekly	Grab	mg/L
Nitrate/Nitrite (as N)	Monthly	Composite	mg/L

a/ See Part I for definition of terms.

Self-Monitoring and Reporting Requirements for Type II Reuse a/ b/			
Parameter	Frequency	Sample Type	Units
Total Flow c/	Continuous	Recorder	MGD
BOD_5	Weekly	Composite	mg/L
TSS	Daily	Composite	mg/L
E-Coli	Daily	Grab	No./100mL
pH	Daily	Grab	mg/L

a/ See Part I for definition of terms.
b/ An alternative disposal option or diversion to storage must be available in case quality requirements are not met.
c/ Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated 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 *Establishing 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*.

Since the permittee is a major industrial discharger, the renewal permit will require whole effluent toxicity (WET) testing. Upon the effective date of the permit, the permittee shall

conduct quarterly acute static replacement toxicity tests on a composite sample of the final effluent at Outfall 001.

The permit will contain the standard requirements for accelerated testing upon failure of a WET test and a PTI (Preliminary Toxicity Investigation) and TRE (Toxicity Reduction Evaluation) as necessary.

Acute and chronic WET limits are not included in the renewal permit because there is no reasonable potential for toxicity due to the high level of treatment provided by the newly upgraded treatment plant.

Chronic WET testing requirements will not be included in the renewal permit, as the same with the previous permit, because the facility discharges directly to an irrigation ditch which then flows approximately 2 miles to Spring Creek, a Class 3A stream. This approach is consistent with the biomonitoring policy.

STORM WATER PROVISIONS

A storm water pollution prevention plan requirement has been included in the permit for all storm water on industrially regulated areas that drains off the site unless it is treated and discharged through the UPDES permitted wastewater discharge outfall.

ANTIDEGREDATION REVIEW

Antidegradation Reviews are intended to ensure that waters that have better quality than required by the standards are not degraded unless the degradation is necessary for important social or economic reasons.

A Level I Antidegradation Review (wasteload analysis) was conducted for discharges to Spring Creek and is included as an addendum to the FSSOB. The Level I ADR concluded that a Level II ADR was not required, because the facility is being renewed without increases in the effluent flow or concentrations.

The DWQ concurs with the findings of the Level I which indicates that the effluent limitations should be sufficiently protective of water quality.

PERMIT DURATION

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

Drafted by

Kim Shelley
Utah Division of Water Quality

PUBLIC NOTICE

Began:
Ended:
Public Noticed in The Herald Journal