pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northwest Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0272817**
Facility Type	**Industrial**	APS ID	**995209**
Major / Minor	**Minor**	Authorization ID	**1276727**

NPDES PERMIT FACT SHEET INDIVIDUAL INDUSTRIAL WASTE (IW) AND IW STORMWATER

Applicant and Facility Information

Applicant Name	**Shearer's Foods, LLC**	Facility Name	**Barrel O Fun Snack Foods**
Applicant Address	821 State Route 97 South	Facility Address	821 State Route 97 South
	Waterford, PA 16441-2843		Waterford, PA 16441-2843
Applicant Contact	Kris Webb	Facility Contact	Brian Niggel
Applicant Phone	(276) 619-1332	Facility Phone	(814) 796-4683
Client ID	330660	Site ID	241933
SIC Code	2096	Municipality	Waterford Township
SIC Description	Manufacturing - Potato Chips, Corn Chips and Similar Snacks	County	Erie
Date Application Received	May 29, 2019	EPA Waived?	Yes
Date Application Accepted	June 6, 2019	If No, Reason	

Purpose of Application: Renewal of a NPDES Permit for a proposed discharge of treated industrial waste.

Summary of Review

This facility is a commercial industrial facility that produces potato chip products. Process wastewater generated consists of wastewater from the washing of potatoes.

The plant has been either sending treated wastewater to the Waterford Borough STP or the Union City STP over the last five plus years instead of discharging to French Creek. The permittee is still considering discharging to French Creek in the future.

The plant discharges to French Creek which is known to contain threatened and endangered mussel species. A summary of threatened and endangered mussel species concerns, and considerations is included on Page 5 of this Fact Sheet.

There are currently no open violations listed in EFACTS for this permittee (9/15/2020).

Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

Approve	Deny	Signatures	Date
X		Adam Pesek Adam J. Pesek, E.I.T. / Environmental Engineering Specialist	September 15, 2020
X		Justin C. Dickey Justin C. Dickey, P.E. / Environmental Engineer Manager	September 15, 2020

Discharge, Receiving Waters and Water Supply Information

Outfall No.	001	Design Flow (MGD)	0.03
Latitude	41º 54' 29.16"	Longitude	-79º 57' 48.4"
Quad Name	Waterford	Quad Code	1044
Wastewater Description:	IW Process Effluent with ELG		
Receiving Waters	French Creek	Stream Code	51591
NHD Com ID	127355376	RMI	69.1500
Drainage Area	321	Yield (cfs/mi^2)	0.093
Q_{7-10} Flow (cfs)	29.85/4.48*	Q_{7-10} Basis	French Creek near Cambridge Springs
Elevation (ft)	1171	Slope (ft/ft)	0.00058
Watershed No.	16-A	Chapter 93 Class.	WWF
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Impaired		
Cause(s) of Impairment	MERCURY		
Source(s) of Impairment	SOURCE UNKNOWN		
TMDL Status		Name	

Background/Ambient Data		Data Source
pH (SU)	7.63	7/27/16 sample on SB French Creek (approx. RMI 12.3)
Temperature (°C)	25	Default (WWF)
Hardness (mg/L)	120	7/27/16 sample on SB French Creek (approx. RMI 12.3)
Other: NH_3-N	0.085	7/27/16 sample on SB French Creek (approx. RMI 12.3)

Nearest Downstream Public Water Supply Intake		Cambridge Springs Borough	
PWS Waters	French Creek	Flow at Intake (cfs)	51.45
PWS RMI	48.35	Distance from Outfall (mi)	Approx. 21

Changes Since Last Permit Issuance:

Other Comments: A stream flow of 4.48 cfs was used for the WQM 7.0 modeling, which is derived by taking the actual Q7-10 flow and taking it times the acute partial mix factor (calculated in PENTOXSD). This procedure is in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Industrial Permits."

Treatment Facility Summary

Treatment Facility Name: Barrel O Fun Snack Foods

WQM Permit No.	Issuance Date
None	

Waste Type	Degree of Treatment	Process Type	Disinfection	Avg Annual Flow (MGD)
Industrial				

Hydraulic Capacity (MGD)	Organic Capacity (lbs/day)	Load Status	Biosolids Treatment	Biosolids Use/Disposal
				Animal Feed/Composting

Changes Since Last Permit Issuance:

Other Comments: Treatment is currently not permitted because it is used as pretreatment before going to a municipal STP and is not being discharged to a surface water or land application. If the permittee decides one of these options in the future, a WQM permit will be required.

Treatment consists of flow equalization, primary screening using hyperbolic static screen, primary DAF unit with augered bottom, and rake top solids removal, pH balancing, Moving Bed Bio-Reactor (MBBR), secondary DAF, chlorine disinfection, sludge holding tank, and filter press. The plant was designed for a hydraulic capacity of 0.3 MGD but actual flows have been much lower.

Water treatment chemicals currently being used are phosphoric acid and sodium hypochlorite.

Development of Effluent Limitations

Outfall No. 001 **Design Flow (MGD)** 0.03
Latitude 41º 54' 29.16" **Longitude** -79º 57' 48.40"
Wastewater Description: IW Process Effluent with ELG

Technology-Based Limitations

The following technology-based limitations apply, subject to water quality analysis and BPJ where applicable:

Parameter	Limit (lbs/day)	SBC	Federal Regulation	State Regulation
pH	6.0 – 9.0 S.U.	Min – Max		95.2(1)
BOD_5	166	Average Monthly	407.82(a)	92a.47(a)(4)
BOD_5	264	Daily Maximum	407.82(a)	92a.47(a)(4)
BOD_5	120	Annual Average	407.82(a)	92a.47(a)(4)
Total Suspended Solids	342	Average Monthly	407.82(b)	92a.47(a)(4)
Total Suspended Solids	477	Daily Maximum	407.82(b)	92a.47(a)(4)
Total Suspended Solids	226	Annual Average	407.82(b)	92a.47(a)(4)
Oil and Grease	15.0 mg/l	Average Monthly		95.2(2)(ii)
Oil and Grease	20.0 mg/l	IMAX	407.82(b)	
Total Residual Chlorine	0.5 (mg/l)	Average Monthly	-	92a.48(b)(2)

Water Quality-Based Limitations

The following limitations were determined through water quality modeling (output files attached):

Parameter	Limit (mg/l)	SBC	Model
Total Residual Chlorine	1.6	IMAX	TRC Evaluation Spreadsheet

Best Professional Judgment (BPJ) Limitations

Comments: An average monthly concentration limits for BOD_5 of 100 mg/ as an average monthly limit is being placed in the permit over concerns that higher concentrations could cause a filamentous bacterium (slime layer) problem downstream of the proposed outfall.

An average monthly concentration limits for TSS of 100 mg/ as an average monthly limit is being placed in the permit in accordance with the Department's SOP entitled "Establishing Effluent Limitations for Individual Industrial Permits.

Fecal Coliform is being given BPJ technology-based limits from 92a.47(a)(4) and (5) (for secondary biological treatment) due to bacteria present in the wastewater and the use of biological wastewater treatment. This limit is derived from 92.a.47(a) for sewage dischargers and is also the water quality criteria found in Chapter 93 of the state regulations.

A performance-based BPJ limit of 5.0 mg/l as a monthly average is being recommended based on experience with the treatment capabilities of similar treatment processes as those currently being utilized at this plant (tertiary biological treatment with nutrient reduction), past knowledge of the treatment capabilities of this treatment facility, and the existing effluent quality for ammonia reported on the renewal application (<0.5 mg/l for three samples collected) along with assuming some seasonal variation. Further discussion of ammonia nitrogen can be found on Page 5 of this Fact Sheet.

Anti-Backsliding

N/A

Threatened and Endangered Mussel Species Concerns and Considerations

The main segment of French Creek from the Union City Reservoir to the confluence with the Allegheny River was designated by the United States Fish and Wildlife Services (USFWS) as "Critical Habitat" for the rabbitsfoot mussel, a federally listed threatened species, and is known to also contain other threatened and endangered mussel species. Due to this being a direct discharge to French Creek, potential impacts were evaluated.

The USFWS has indicated in comment letters on other NPDES permits that in order to protect threatened and endangered mussel species, wastewater discharges containing ammonia-nitrogen (NH_3-N), chloride (Cl^-) and nickel, where mussels or their habitat exist, can be no more than 1.9 mg/l, 78 mg/l and 7.3 µg/l, respectively. The NH_3-N criteria is based on a stream pH of 7.0 S.U. and a temperature of 20° C. The calculated site-specific criteria based on an upstream stream sample and default temperature for a warm water fishery (pH of 7.51 S.U. and temperature of 25° C) results in NH3-N criteria of 0.936 mg/l.

A summary of the NPDES permit renewal application sampling data for ammonia-nitrogen (NH3-N), chloride (Cl-) and nickel is as follows below. No other current effluent data is available because the treatment facility has been sending the treated wastewater offsite.

PARAMETER	UNITS	Outfall 001			Comments
		Max.	Avg. Value	No. Samples	
NH_3-N	mg/l	0.49	0.25	3	
Chloride	mg/l	169	150	3	
Nickel	µg/l	<40	<40	3	

Based on application effluent sampling and the proposed ammonia nitrogen average monthly effluent of 5 mg/l, this facility discharges ammonia nitrogen, chloride, and nickel concentrations that either do, or might, potentially exceed the USFWS site-specific criteria for the protection of threatened and endangered mussel species. Based on impact area calculations for ammonia nitrogen and chlorides (see attached), this discharge is not expected to have any adverse impacts on threatened and endangered mussel species due to these pollutants.

Nickel was non-detect at a higher detection level in the application sampling than USFWS criteria. The Department had also collected an effluent sample on 9/26/2017 during a site inspection which yielded a nickel concentration of 6.9 µg/l. The 9/26/2017 sample was less than USFWS criteria.

Ammonia nitrogen application sampling results were all below USFWS criteria, but a limit, based on plant performance is being proposed due to acknowledgement that much higher ammonia nitrogen concentrations are possible if the high level of treatment currently being implemented is not continued or maintained.

Based on this information, the Department has determined the discharge will be protective of threatened and endangered mussels in French Creek. However, the Department will establish twice a month effluent monitoring for ammonia nitrogen and monthly effluent monitoring for chloride and nickel to develop a dataset as a means of further evaluating potential impacts in the upcoming permit term.

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) (1)		Concentrations (mg/L)				Minimum (2) Measurement Frequency	Required Sample Type
	Average Monthly	Daily Maximum	Minimum	Average Monthly	Daily Maximum	Instant. Maximum		
Flow (MGD)	Report	Report	XXX	XXX	XXX	XXX	Continuous	Measured
pH (S.U.)	XXX	XXX	6.0 Daily Min	XXX	9.0	XXX	1/day	Grab
TRC	XXX	XXX	XXX	0.5	XXX	1.6	1/day	Grab
BOD5	166	264	XXX	100.0	Report	200	2/month	8-Hr Composite
BOD5	120 Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Calculation
TSS	342	477	XXX	100.0	Report	200	2/month	8-Hr Composite
TSS	226 Annl Avg	XXX	XXX	XXX	XXX	XXX	1/year	Calculation
Oil and Grease	XXX	XXX	XXX	15.0	XXX	20.0	1/week	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	2000 Geo Mean	XXX	10000	2/month	Grab
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1000	2/month	Grab
Ammonia	Report	XXX	XXX	5.0	XXX	10	2/month	8-Hr Composite
Total Nickel	XXX	Report	XXX	XXX	Report	XXX	1/month	8-Hr Composite
Chloride	XXX	Report	XXX	XXX	Report	XXX	1/month	8-Hr Composite

Compliance Sampling Location: Outfall 001 (after disinfection)