pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Northeast Regional Office
CLEAN WATER PROGRAM

Application Type	**Renewal**	Application No.	**PA0014681**
Facility Type	**Industrial**	APS ID	**623270**
Major / Minor	**Minor**	Authorization ID	**1374383**

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

Applicant and Facility Information

Applicant Name	**Nestlé Purina PetCare Company**	Facility Name	**Nestlé Purina PetCare Company**
Applicant Address	2050 Pope Road	Facility Address	2050 Pope Road
	Allentown, PA 18104-9308		Allentown, PA 18104-9308
Applicant Contact	Ryan Hammonds	Facility Contact	Jeanne Lee
Applicant Phone	(610) 398-4672	Facility Phone	(610) 398-4672
Client ID	163520	Site ID	49041
SIC Code	2047	Municipality	South Whitehall Township
SIC Description	Manufacturing - Dog and Cat Food	County	Lehigh
Date Application Received	September 17, 2021	EPA Waived?	Yes
Date Application Accepted	September 17, 2021	If No, Reason	-

Purpose of Application: Renewal and amendment to permit.

Summary of Review

A draft permit amendment was issued on November 1, 2021 to change the effective date of the limitations for several parameters from November 1, 2021 to November 1, 2023. The new effective date coincided with the parameter effective dates in the facility's latest amended DRBC docket (D-1983-018-2). The limitations were originally added to the latest issued NPDES permit renewal as a result of the DRBC docket requirements in effect at the time.

After draft permit amendment issuance, DEP and the permittee began discussions about how to address increased flows at the wastewater treatment facility. A final permit amendment was not issued. This authorization combines the original amendment request, a new amendment request, and the NPDES permit renewal. The previously issued NPDES permit expired on November 30, 2023.

The latest amendment application includes a few requests:

- Increase the monthly average permitted discharge flow rate to 1.08 MGD upon completion of the WWTP upgrade and discharge through new Outfall 005 on Jordan Creek. The monthly average permitted discharge flow would then be increased to 1.5 MGD to allow for future facility expansion(s).
- Extend NPDES permit boundary
- Include authorized non-stormwater discharges

The permittee expects increased flows at the WWTP due to an increase in can cooling water usage as well as the addition of two production lines. One existing production line was shut down during this time as well.

A new WWTP will be constructed to replace the existing treatment system. The upgraded treatment plant will provide screening, equalization, nitrification, denitrification, and removal of phosphorus from the facility effluent. The system includes a biological nutrient removal (BNR) system with a chemical/physical assist for total phosphorous removal followed by a

Approve	Deny	Signatures	Date
X		*Brian Burden* Brian Burden, E.I.T. / Project Manager	January 26, 2024
X		Amy M. Bellanca (signed) Amy M. Bellanca, P.E. / Program Manager	3-7-24

Summary of Review

Membrane Bioreactor (MBR) for the removal of biological solids. The system will also include solids dewatering, reverse osmosis, disinfection, deaeration, and final aeration to achieve the dissolved oxygen concentration required for discharge to Jordan Creek. An additional system will be installed to treat the facility's cooling water. This system will include chemical phosphorus removal, filtration, and disinfection. The effluent from the Cooling Water Treatment System (CWTS) will then combine with the treated process wastewater in the re-aeration tank prior to discharge. A Water Quality Management permit application must be submitted to DEP before construction of the upgraded WWTP can begin (see Part C.I.E.).

The anticipated peak day flow that has resulted from the increase in can cooling water and new production lines is 1,080,000 GPD. It's estimated the potential future peak day flow that would result from future expansion at the facility is 1,500,000 GPD. The permittee requested an increase in the permitted daily discharge flow to 1,080,000 GPD upon completion of the WWTP upgrade with phased limitations included for 1,500,000 GPD.

Outfall Relocation

On November 9, 2021, DEP provided Preliminary Effluent Limitations (PELs) for a proposed increased monthly average discharge flow total of 1.08 MGD for discharge to the unnamed tributary of Jordan Creek, a High Quality/Cold Water and Migratory Fish receiving stream. The permittee determined that the temperature PEL could not be achieved without the installation of chillers to cool the effluent discharge flow to be compliant with the effluent limitations. Due to the anticipated high capital cost and energy usage associated with the chillers, the permittee evaluated a WWTP discharge directly to the Jordan Creek, a Trout Stocking and Migratory Fish receiving stream. The higher stream flow will provide greater mixing with the WWTP discharge. On April 8, 2022, DEP provided PELs for 1.08 MGD and 1.5 MGD discharges directly to Jordan Creek.

In conjunction with the construction of the upgraded WWTP, a new effluent pipeline and outfall structure (proposed Outfall 005) into Jordan Creek will be installed. The proposed location of Outfall 005 is: 40° 37' 21.8", -75° 34' 32.2". Outfall 001 will remain as a permitted outfall to the unnamed tributary to Jordan Creek. Once the upgraded WWTP is completed and discharge is conveyed to Outfall 005, Outfall 001 will be taken out of service.

Outfall 001

Limitations and monitoring requirements from the previously issued permit for the 0.53 MGD discharge to the unnamed tributary to Jordan Creek are carried over in this renewal and will remain in effect until completion of the WWTP upgrade and outfall relocation. Some existing limitations have been updated (see below). The annual average flow rate reported on eDMR for the previous year (December 2022 – November 2023) was 0.515 MGD. As in previous renewals, the discharge was modeled using a design flow of 0.53 MGD.

Updates had been made to the Ammonia-N Chapter 93 criteria since the previous permit renewal and WQM 7.0 was run using the same model inputs identified in the 2018 permit renewal fact sheet. A summertime monthly average limitation of 1.46 mg/L was recommended and will come into effect upon permit issuance. The 3x wintertime multiplier and 2x IMAX multiplier will be included. The highest reported monthly average concentration discharged from the facility in 2023 was 0.22 mg/L. The summertime and wintertime months for the recommended DRBC mass-based limitations are adjusted to coincide with DEP's more stringent periods (summertime: May – October, wintertime: November – April). Note: The 6.06 lbs/day summertime and 18.18 lbs/day wintertime DRBC mass-based limitations for Ammonia-N are slightly more stringent than the new limitations calculated by WQM 7.0 (1.46 mg/L x 8.34 x 0.53 MGD = 6.45 lbs/day).

The TRC calculation spreadsheet was re-run with updated model inputs. The Q_{7-10} entered in the model during the previous renewal was 0.36 cfs but should have been entered as 0.036 cfs (0.09 LFY x 0.4 mi^2 = 0.036 cfs). A slightly higher Q_{7-10} of 0.0384 cfs was entered in the model for this renewal due to the extra decimal value being included in the LFY (0.096 LFY x 0.4 mi^2 = 0.0384 cfs). A 0.016 mg/L monthly average limitation and 0.05 mg/L IMAX limitation was recommended. The standard Part C condition regarding WQBELs below the target QL is included in this renewal. For the purpose of compliance, a statistical value reported on the DMR that is less than the QL (i.e., "non-detect") will be considered to be in compliance. Since the permittee can already meet these limitations based on eDMR results previously submitted, the limitations will come into effect upon permit issuance.

The Toxics Management Spreadsheet (TMS) recommended limitations for Total Zinc and monitoring requirements for Total Copper. Total Zinc limitations will come into effect 3 years after the permit effective date since the highest reported concentration is above the recommended monthly average limitation. A Toxics Reduction Evaluation (TRE) must be

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completed in accordance with the schedule provided in Part C.V. The permittee may choose to perform site-specific studies to update the model inputs to change or eliminate the Total Zinc limitations.

Outfall 005

More stringent temperature limitations will come into effect after discharge commences through Outfall 005 on Jordan Creek (see attachment). A temperature sensor at the effluent lift station will measure the effluent temperature. During the month of July, NPPC will demonstrate that its discharge will not result in an increase of more than 2°F in Jordan Creek in lieu of temperature limitations for that month. The difference between upstream and downstream temperature will be determined using continuous recording meters installed immediately upstream of the outfall and downstream of the mixing zone. The locations are to be approved by DEP (see Part C.IV).

After discharges through Outfall 005 commence, an annual biological assessment to demonstrate that the aquatic biota is not being negatively impacted by the discharge is required (see Part C.IV). The permittee shall also conduct a biological assessment at the Jordan Creek discharge location prior to commencing discharge through Outfall 005. If the biological assessments demonstrate a significant negative impact on the aquatic biota is occurring in Jordan Creek that can be attributed to the discharge, additional requirements will be included in a permit amendment or during the next renewal. The assessments shall be completed in accordance with DEP's *Water Quality Monitoring Protocols for Streams and Rivers 2021* and a study plan for conducting the assessments shall be submitted to DEP for approval within 90 days of the permit effective date.

The 1.08 MGD and 1.5 MGD discharges were modeled using the information below (the TMS only utilized Locations 1 & 2):

Location 1: Proposed outfall on Jordan Creek (40.62242º -75.57678º)

- Drainage Area = 68.3 mi^2
- Elevation = 331 ft
- RMI = 11.08

Location 2: Confluence with unnamed tributary to Jordan Creek (40.62775º -75.55849º)

- Drainage Area = 70.3 mi^2
- Elevation = 319 ft
- RMI = 9.82

Location 3: Confluence with unnamed tributary to Jordan Creek (40.63084º -75.54491º)

- Drainage Area = 71.8 mi^2
- Elevation = 310 ft
- RMI = 8.57

Stream Gage Information: 01452000 Jordan Creek at Allentown, PA (40° 37' 23", -75° 28' 58"). DFLOW Q_{7-10} = 7.29 cfs. Drainage Area = 75.8 mi^2.

Low Flow Yield (LFY) = 7.29 cfs / 75.8 mi^2 = 0.096 cfs/mi^2.

Q_{7-10} at proposed outfall = LFY x D.A.
= 0.096 cfs/mi^2 x 68.3 mi^2
= 6.55 cfs

WQM 7.0 was run to determine if water quality-based effluent limitations are necessary for $CBOD_5$, Ammonia-Nitrogen (NH_3-N) or Dissolved Oxygen. Water quality-based limitations were recommended for NH_3-N for both requested discharge rates. The TRC calculation spreadsheet recommended water quality-based limitations for each flow rate.

The TMS recommended limitations for Total Zinc and monitoring requirements for Total Copper for both discharge rates. Limitations for Oil & Grease and Dissolved Iron are included for all flow rates in accordance with PA Chapter 95.2. Limitations originating from DRBC dockets are included for each design flow rate using the assumption that DRBC will carry

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the limitations over for the increased discharge rates and location. If DRBC adjusts any limitations that originated from a docket, those adjustments will be made to the next NPDES permit renewal/amendment.

Part C.I.E. is included in the permit requiring submission of a permit amendment application at least 90 days before discharge though the upgraded WWTP and Outfall 005 commences. A condition requiring the submission of a permit amendment application within 90 days of the facility exceeding a monthly average flow of 1.08 MGD for 3 consecutive months is included. At that time, the 1.5 MGD limitations will come into effect.

Outfalls 002 & 004

Stormwater Outfalls 002 & 004 are subject to the Appendix I requirements of the most recently issued PAG-03 general permit. Semiannual monitoring/reporting is included in the permit for pH, BOD_5, COD, TSS, Oil & Grease, Nitrate-Nitrite as N, TN & TP. Benchmark values for pH (9.0 S.U.), COD (120 mg/L), TSS (100 mg/L) and Oil & Grease (30 mg/L) are included in the permit. In the event that stormwater discharge concentrations for a parameter exceeds the benchmark values identified above at the same outfall for two or more consecutive monitoring periods, the permittee shall implement a corrective action plan to reduce the concentrations of the parameters in stormwater discharges in accordance with the permit. As requested by the permittee, the standard PAG-03 authorized non-stormwater discharges are included in the permit.

All outfall coordinates were updated with the coordinates provided in the renewal application. Stormwater Outfall 003 is considered a no-exposure outfall since its drainage area consists of forest and a water tank.

Calculations for all chemical additives proposed for use have been submitted to DEP and all chemicals are on the approved chemicals list. The template Part C special condition for chemical additives is included in the renewed permit.

There are no open violations for the client that would warrant withholding issuance of the final permit.

TMS PA0014681 0.53.pdf
TMS PA0014681 1.08.pdf
TMS PA0014681 1.5.pdf
TRC Calculation 0.53.pdf
TRC Calculation 1.08.pdf
TRC Calculation 1.5.pdf
WQM Modeling 53000.pdf
WQM Modeling 1080000.pdf
WQM Modeling 1500000.pdf
StreamStats 1.pdf
StreamStats 2.pdf
StreamStats 3.pdf
POFU.pdf
Nestle PEL Letter.pdf

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.