



**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT RENEWAL OF NO. 58866
TO OPERATING PERMIT NO. 74605**

I. INTRODUCTION

This synthetic minor Class II renewal Permit is issued to Nestle Purina Petcare Company for the continued operation of a pet food manufacturing facility. The facility is located at 4700 E Nestle Purina Ave in Flagstaff, Arizona.

A. Company Information

1. Facility Name: Nestlé Purina PetCare
2. Facility Location: 4700 E Nestle Purina Ave
Flagstaff, Arizona 86004
3. Mailing Address: 4700 E Nestle Purina Ave
Flagstaff, Arizona 86004

B. Attainment Classification

This facility is located in an attainment area for all criteria pollutants.

II. PROCESS DESCRIPTION

The primary product manufactured at the facility is pet food. The pet food contains mainly grains and other ingredients such as soft stock. The grains are received via rail car and truck. Initial ingredients are milled to reduce the grain size before it is sent for storage. Through water, pressure, and steam, the milled ingredients are converted into pet food. Wet pet food is conveyed to dryers and mixers for final additives, such as vitamins and flavors. Finally, the product is packaged and stored.

III. PROPOSED REVISIONS

Along with the renewal of their permit, Nestlé Purina PetCare Company has proposed an alternate operating scenario that will allow the operation of a new natural gas fired dryer and new pneumatic conveyance Dust Collector. This modification is anticipated to occur in mid-2019. This new natural gas fired dryer will replace an existing dryer currently in operation.

Nestlé Purina PetCare has two boilers that are defined as “gas-fired” boilers under NESHAP Subpart JJJJJ. As such, each boiler may only operate up to 48 hours as fuel oil fired except in times of gas curtailment or gas supply interruption. To prevent SO₂ emissions from exceeding major source thresholds during times of gas curtailment or gas supply interruption, additional limitations are added for fuel oil combustion in the boilers.



IV. EMISSIONS

Table 1 identifies the facility-wide potential-to-emit (PTE) before and after the permit renewal. The emission calculations conducted for review of this permit relied upon emission factors drawn from the EPA's Compilation of Air Pollution Factors (AP-42) and test data conducted at a similar facility for Particulate Matter (PM).

Table 1: Facility-Wide Potential-to-Emissions

Pollutant	Emissions (tons per year)			Significance Threshold (tons per year)	Permitting Exemption Threshold	Minor NSR Triggered?
	Pre-	Post-	Difference			
PM ₁₀	41.67*	45.55*	3.88	15	7.5	No
PM _{2.5}	26.54*	28.69*	2.15	10	5	No
NO _x	60.91	68.57	7.67	40	20	No
SO ₂	90.88**	90.88**	0.00	40	20	No
VOC	4.62	5.04	0.42	40	20	No
CO	48.95	55.39	6.44	100	50	No
HAPs	1.21	1.36	0.14	N/A	N/A	No

*Limited by control technology to maintain Synthetic Minor classification.

**Fuel oil can only be used in the boilers for 48 hours except during times of natural gas curtailment or gas-supply emergency. During times of natural gas curtailment or gas supply emergency, fuel oil usage is limited.

V. MINOR NSR

The changes being proposed by this permit renewal application does not increase the potential to emit in excess of the permitting exemption thresholds. As a result, minor NSR does not apply.

VI. COMPLIANCE HISTORY

During the prior permit term, the facility was inspected four times and had ten compliance certification reviews. One stationary excess emission report was reported by the Permittee during the prior permit term on September 14th, 2014 for an explosive event do to combustible dust suspended inside. The Permittee did not submit an excess emission report which satisfies excess emission reporting and an NOV was issued on February 13th, 2015 and closed on March 16th, 2015. No other violations or excess emissions were documented during the previous permit term.

VII. APPLICABLE REGULATIONS

Table 2 displays the applicable requirements for each permitted piece of equipment along with an explanation of why the requirement is applicable.

Table 2: Verification of Applicable Regulations

Unit	Control Device	Rule	Verification
Truck & Rail Receiving, Grinding Aspiration, Live Bottom Bin, Aspiration, dryer Leg Aspiration, LBB Rotex, Aspiration, Extrusion Unit, Conveyors, Odd-Pound Ingredient Storage Silos, Product Dryers, Dryer Conveyance	Cyclones are used on extrusion units, By-product dryer is uncontrolled, remaining sources use dust collectors.	<u>A.A.C.</u> R18-2-702 R18-2-730	The emission sources identified are unclassified sources and are subject to the requirements of A.A.C. R18-2-730.
FP Cooler #1 FP Cooler #2 FP Cooler #4 DA Mixer Cyclone #1 DA Mixer Cyclone #1 DA Mixer Cyclone #1 DA Mixer Cyclone #1	Cyclones	<u>A.A.C.</u> R18-2-702 R18-2-730	All the existing dog food manufacture sources are subject to provisions of R18-2-702. Provisions of R18-730 apply to unclassified sources.
Boilers (2)	N/A	<u>A.A.C.</u> R18-701.14 R18-701.16 R18-724.B R18-724.E R18-724.F R18-724.G R18-724.J	The boilers are less than 250 MMBtu/hr and are used to produce steam. The boilers are subject to A.A.C. R18-2-724. They are not subject to NSPS Subpart Dc because they were both manufactured prior to 1989. They are not subject to NESHAP Subpart JJJJJ because the boilers are gas-fired as defined by NESHAP Subpart JJJJJ: “any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year.”



Unit	Control Device	Rule	Verification
Fuel Oil Storage Tanks (2)	N/A	<u>A.A.C.</u> R18-2-702.B R18-2-730.D R18-2-730.F R18-2-730.G	<p>Each of the vessels holds a volume of 78,000 gallons of fuel oil #2. The tanks are not subject to NSPS subpart K or Ka because they do not hold petroleum liquid. The tanks are not subject to NSPS subpart Kb because the vessels were made prior to 1984. The tanks are not subject to A.A.C. R18-2-710 because the vessels hold liquids that do not meet the definition of petroleum liquids (“does not mean Number 2 through Number 6 fuel oils”). Therefore, the tanks are subject to R18-2-730, standards of performance for unclassified sources.</p>
Generator/Engine Sets (100 hp) (225 hp)	N/A	<u>A.A.C.</u> R18-2-719 40 CFR Part 63, Subpart ZZZZ	<p>The 100 hp Delco generator is used for emergency replacement purposes. It is not subject to NSPS IIII because it was manufactured prior to April 1, 2006. It is subject to NESHAP ZZZZ.</p> <p>The 225 hp Onan / Cummings generator is not subject to NSPS IIII because it is a spark ignition engine. It is not subject to NSPS JJJJ because it is an emergency generator that was manufactured prior to 2009. It is not subject to NESHAP ZZZZ because it is an emergency generator manufactured before June 12, 2006. Both generators are subject to A.A.C. R18-2-719, standards of performance for existing stationary rotating machinery.</p>
Fire-Water Pump Engine (255 hp)		<u>A.A.C.</u> R18-2-719 40 CFR Part 63, Subpart ZZZZ	<p>The pump engine is used for emergency replacement purposes. It is not subject to NSPS JJJJ because it was manufactured prior to June 12, 2006. It is subject to NESHAP ZZZZ. Therefore, it is subject to A.A.C. R18-2-719, standards of performance for existing stationary rotating machinery.</p>



Unit	Control Device	Rule	Verification
Demolition/Renovation Operations (if applicable)	N/A	A.A.C. R18-2-1101.A.8	This rule is applicable to any asbestos related demolition or renovation operations.

VIII. PREVIOUS PERMIT AND CONDITIONS

The comparison of the substantive conditions in Permit No. 58866 with the conditions in this renewal permit and cross-references the previous permit conditions to their location in the renewal permit is represented in Table 3.

Table 3: Permit No. 58866 Conditions

Section No.	Determination			Comments
	Revised	Keep	Delete	
Att. A.	X			General Provisions - Revised to represent most recent template language.
Att. A.VII	X			Compliance Certification – Revised compliance certification to be required annually for the period between August 1 st and July 31 st , due no later than September 15 th .
Attachment B				
I.A	X			General Provisions - Revised to represent most recent template language.
I.B	X			Facility-Wide Requirements - Revised to represent the most recent template language
I.C	X			Facility-Wide Requirements - Revised to represent the most recent template language
II.D	X			Boilers – Removed emission limit of 0.141 lb per gallon when burning fuel oil. Added fuel oil limitations of 1,390,000 gallons in a 12-month rolling period during times of gas curtailment or gas supply emergencies. Added recordkeeping requirement to maintain monthly records of fuel oil combusted at each boiler.
III	X			Unclassified Sources - Revised to include NG Dryer and Dryer Conveyance. Added monitoring requirement for annual black light inspections for baghouses. Added condition that the Permittee shall not emit gaseous or odorous materials from equipment, operations or premises from unclassified sources.
IV	X			Internal Combustion Engines -Revised to represent most recent template language.
V		X		Standards of performance for fuel oil storage tanks remained unchanged.
VI	X			Fugitive Dust Requirements- Revised to represent most recent template language.
VII			X	Mobile Source Requirements sections was removed.



VIII	X			Other Periodic Activities- Revised to represent most recent template language.
Att. C	X			Revised to include NG 6 Dryer and Dust Collector Fan # 1527 for NG Dryer #1.

IX. MODELING

In January 2008, the facility conducted an ambient air dispersion model for the boiler emissions. Modeled concentrations were shown to be below the NAAQS standard for criteria and hazardous air pollutants as seen in Table 4.

Table 4: 2008 NAAQS Modeling Results

Pollutant	Averaging Time	Model Concentrations	NAAQS Standards
CO	8 Hours	0.54 ppm	9 ppm
	1 Hour	0.56 ppm	35 ppm
NO ₂	1 Year	6.95 ppb	53 ppb
PM ₁₀	24 Hour	46.2 µg/m ³	150 µg/m ³
SO ₂	3 hour	0.22 ppm	0.5 ppm

X. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

A. Facility Wide

1. Along with the annual compliance certification, the permittee is required to submit reports of all recordkeeping, monitoring and maintenance required by the permit.
2. The permittee is required to maintain, on-site, records of the manufacturer's specifications or an Operation and Maintenance Plan for all equipment listed in the permit.

B. Boilers

1. The Permittee is required to keep records of fuel supplier certifications. The certification shall contain information regarding the name of fuel supplier and lower heating value of the fuel.
2. The Permittee is required to conduct monthly opacity monitoring from the stack each boiler, when in operation.

C. Unclassified Sources

1. The Permittee is required to conduct monthly opacity monitoring from the stack each unclassified process source.
2. The Permittee is required to conduct annual black light inspection on the baghouses.

D. Internal Combustion Engines



1. The Permittee is required to keep a record of the fuel supplier certification for each delivery of fuel to the facility. The certification shall contain information regarding the name of fuel supplier and lower heating value of the fuel.
2. The Permittee is required to conduct monthly opacity monitoring for the engines, when in operation.

E. Fugitive Dust

1. The permittee is required to keep record of the dates and types of dust control measures employed.
2. The permittee is required to show compliance with the opacity standards by having a Method 9 certified observer perform a monthly survey of visible emission from fugitive dust sources. The observer is required to conduct a 6-minute Method 9 observation if the results of the initial survey appear on an instantaneous basis to exceed the applicable standard.
3. The permittee is required to keep records of the name of the observer, the time, date, and location of the observation and the results of all surveys and observations.
4. The permittee is required to keep records of any corrective action taken to lower the opacity of any emission point and any excess emission reports.

F. Periodic Activities

The permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.

XI. EQUIPMENT LIST UPDATES

Table 5: Equipment List Changes

Equipment Type	I.D. No.	Maximum Capacity	Make	Model	Date of MFG.	NSPS/ NESHAP applicable?
Added Equipment						
Dryer #1 Natural Gas (Fan #1520)	6 NG	32,000 lbs/hr and 17.1 MMBtu/hr	Buhler Separator	PDAZ-110	2019	No
Dust Collector #1527 (Dryer #1 Conveyance)	40	150,000 lb/hr	Schrenk Dust Collector	39AVRC39	2019	No