



**TECHNICAL REVIEW AND EVALUATION  
OF APPLICATION FOR  
AIR QUALITY PERMIT No. 94090**

**I. INTRODUCTION**

This Class II Renewal permit is for the continued operation of Gowan Milling, LLC's pesticide mixing facility. Permit No. 94090 renews and supersedes Permit No. 66122. This facility is subject to the requirements of 40 CFR 63 Subpart BBBB, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry" and is therefore required to obtain a permit or registration in accordance with Arizona Administrative Code (A.A.C.) R18-2-302.B. The facility's potential to emit (PTE), without controls or operating limitations, of air pollutants is less than major source thresholds; however, a Class II permit has been required by the Director in accordance with Arizona Administrative Code R18-2-302.01.D.

**A. Company Information**

Facility Name: Gowan Milling, LLC  
Mailing Address: 12300 East County 8th Street  
Yuma, Arizona 85365  
Facility Location: 12300 East County 8th Street  
Yuma, Arizona 85365

**B. Attainment Classification**

This facility is located in Yuma County in a designated nonattainment area for PM<sub>10</sub>. The area was designated as nonattainment for the 1987 24-hour PM<sub>10</sub> national ambient air quality standard (NAAQS) on November 6, 1991. The nonattainment designation is classified as moderate. The area is designated as attainment or unclassifiable for all other criteria pollutants.

**II. PROCESS DESCRIPTION**

**A. Process Equipment**

**1. Equipment Overview**

Gowan Milling, LLC formulates, packages, and ships a variety of agricultural chemicals for customers nationally and worldwide. The formulation process consists of the blending of materials that are manufactured elsewhere into precise mixtures of finished products, which are then packaged for ease of use by growers or applicators in the field. After initial packaging, the product is palletized and shipped from the facility to the customer's requested destination. No chemical synthesis occurs at the facility and no actual chemical reactions that would constitute the manufacturing of pesticides take place.

The facility consists of 16 different buildings for processing and storing pesticides, in addition to supporting areas. Bulk storage tanks for propane and solvents are

present at the facility. There is one emergency natural gas-fired engine that is associated with a generator that is used to provide power to various sources when electric power from the local utility is interrupted. Facility operations also include two fixed location natural gas-fired boilers (in Buildings # 5 and 10), one portable natural gas-fired boiler, six natural gas-fired fluid bed air heaters, and three natural gas-fired hot bath water heaters.

2. Pesticide Mixing and Handling

Solid pesticides formulations are handled in Buildings #1, 5, 6, 7, 8, 9, 10, 11, 12, 16, 23 and 24. Facilities for production of flowable, wet solid pesticides are in Buildings #17 and 25. Liquid pesticides are handled in Building #2. Building #10 is used as a pilot plant for testing and developing new solid pesticides.

a. Solid Pesticide Formulations

The process begins with the introduction of air-entrained ingredients (usually in powder form) into the Pneumatic Conveyance loop. The first stop is a first stage blender, where ingredients are mixed to the required consistency. The mixture is then passed through a hammer mill, where the suspended solids are reduced to large micron-sized particles. Following the hammer mill, the particles are pneumatically conveyed to a second stage blender where the particles are deposited out of the air stream. The mixture is then passed through an air mill, where the suspended solids are reduced to sub-micron-sized particles. Following the air mill, the particles are conveyed to a third stage blender where the particles are deposited out of the air stream. The deposited particles are packaged as the end product. The air stream continues on through a 3-stage filter where the residual suspended solids are recovered. The exhaust of the 3-stage filter collects fresh ingredients and enters the first stage blender, thus completing the loop.

b. Liquid Pesticide Formulations

The formulation of liquid pesticide products is generally the same as the formulation of solid pesticides, except that the bulk feed materials and final products are in liquid form. Consequently, particulate emissions are eliminated, as is the need for a pneumatic transfer system and particulate filtration system. Bulk active ingredients are stored in individual containers, normally 55-gallon drums, prior to formulation. Liquid pesticide formulation begins when bulk pesticides are poured into a 1,000-gallon mixing tank into which an appropriate solvent is placed. There is also capability of transferring pesticides and solvents by a high shear mixer to a second 1,000-gallon mix tank. The final product may be a blend of pesticides or have a lower concentration than the bulk pesticides. Following mixing, the mixture is placed into 1,200-gallon holding tanks from which containers are filled. Product container sizes vary depending on customer specifications, but range from 1 quart to 55 gallons, with more than 90% packaged in 2.5-gallon jugs. The transfer of liquid pesticides is

performed with bottom-filling equipment to minimize splashing and evaporation of solvent. Production rates vary depending on mixing times, but liquid pesticide packaging normally occurs at a rate of about 500 gallons per hour (gal/hr).

Bulk solvents used in the liquid pesticide formulation process are stored in four above-ground storage tanks located just south and west of Building #2. The bulk solvents stored in these tanks include Propylene Glycol, Aromatic 100, Aromatic 200-A, and Aromatic 200-B. The tanks are equipped with pressure relief valves that maintain safe pressures while preventing unnecessary evaporative losses from occurring. Solvents are delivered from the tanks to the Building #2 mixing tank via an overhead piping system.

c. Flowable, Wet Solid Pesticide Formulations

For flowable, wet solid pesticide formulations, insoluble active ingredients in powder form are suspended in a small amount of aqueous ingredients to produce a thick liquid suspension. The process begins with the introduction of air-entrained ingredients (usually in powder form) into the pneumatic conveyance loop. The ingredients are conveyed to one of two mix tanks, where active ingredients are mixed with carrier substances. The mixture is then passed through a colloidal mill and/or bead mill, where the suspended solids are reduced to micron-sized particles. Following the mills, the particles are pneumatically conveyed to one of three packaging mix tanks where the powder is suspended in liquid. The resulting suspension is packaged as the end product.

**B. Control Devices**

Air pollution control devices at this facility consist of HEPA filters located at the process vents of the buildings that process solid and flowable, wet solid pesticide formulations. The HEPA filters have a minimum control efficiency of 99.97% for particles of 0.3 microns in diameter. Following HEPA filtration, the discharged air may pass through a charcoal filter for odor control before being released to the environment. Some systems also employ secondary filtration equipment located before the final filtration that is designed to recover product and minimize contamination of process ducts. These filters are not in place to minimize emissions, and, therefore, are not considered pollution control devices.

The liquid pesticide formulation system does not generate particulate emissions. Therefore, there are no air pollution control devices on this system.

The Natural Gas Emergency Engine is equipped with a catalytic converter to minimize CO, NO<sub>x</sub>, and VOC emissions.

**C. Process Flow Diagrams**

The Permittee provided process flow diagrams for their pesticide formulation processes and an example of their filtration system in their permit renewal application on pages D-3 through D-6 (PDF pages 145 through 148).

### **III. COMPLIANCE HISTORY**

#### **A. Compliance Status**

A review of the compliance records for the facility indicates that there are no pending air quality cases. During the previous permit term, ADEQ reviewed the following reports for Gowan Milling, LLC:

- 6 Annual Compliance Certifications (The compliance reporting period changed when Permit #66122 became effective. This led to an extra compliance certification submission during the permit term.)
- 4 Annual Compliance Reports as required by NESHAP 40 CFR 63 Subpart BBBBbbb
- 2 Permit Deviation Reports (Discussed further in Section III.B)

With the exception of the permit deviation discussed in Section III.B.2, no deficiencies were noted during these report reviews. ADEQ also conducted one full inspection on March 6, 2018. No deficiencies were noted during this inspection. There were no excess emissions reports submitted during the permit term, and the Permittee is not subject to any compliance schedules at this time. No performance testing was conducted during the permit term.

#### **B. Permit Deviations**

##### **1. Expiration of Method 9 Certifications (Inspection ID #s 368433)**

A permit deviation report was received on March 12, 2021 due to the Permittee's inability to meet the permit requirement to have a person certified in EPA Reference Method 9 on site or on call at all times. The Method 9 Certifications held by those at the facility expired due to the cancelation of Method 9 recertification classes due to the COVID-19 pandemic. The deviation began on May 19, 2020 and ended on October 8, 2021 when those at the facility were able to renew their certifications.

##### **2. Late Submission of NESHAP Subpart BBBBbbb Annual Compliance Report (Inspection ID #394180)**

Annual compliance reports required under NESHAP 40 CFR 63 Subpart BBBBbbb are due every year on January 31<sup>st</sup>. The annual compliance report for calendar year 2021 was received on February 24, 2022. ADEQ noted in the review of this report and in the review of the annual compliance certification received on March 10, 2022 that the NESHAP Subpart BBBBbbb report was late, and

requested that the Permittee submit a permit deviation report. A permit deviation report was received on March 21, 2022 for the late report.

#### IV. EMISSIONS

##### A. Emission Calculations

The potential-to-emit (PTE) for this facility was calculated using emissions factors from the United States Environmental Protection Agency's AP-42: Fifth Edition Compilation of Emissions Factors, Volume 1: Stationary Point and Area Sources ("AP-42"), manufacturer's specifications, and a site-specific study. Total particulate matter (PM), PM10, and PM2.5 emissions were assumed to be equal for all emission sources. In the paragraphs below, all particulate matter species are collectively referred to as PM. Controlled emissions are included in the final PTE.

##### 1. Solid and Flowable, Wet Solid Pesticide Formulation

The pollutants of concern from the solid and flowable, wet solid pesticide formulation processes are PM and hazardous air pollutants (HAPs). A site-specific PM emission factor was developed by weighing the amount of PM collected by the HEPA filter on four buildings on site. Using the rated control efficiency of the HEPA filters of 99.97%, an uncontrolled emission factor was back-calculated from the mass of PM collected by the HEPA filters in the units of grains per standard cubic foot (gr/scf). Then, a flow-weighted average of the four uncontrolled emission factors was calculated. Potential uncontrolled emissions were then calculated by multiplying this flow-weighted average emission factor by 138,400 cubic feet per minute (cfm), which is the current total flow rate of all of the building vents on site, while assuming 8,760 hours per year of operation. Controlled emissions were calculated by multiplying the uncontrolled emissions by 1 minus the rated efficiency of the HEPA filters (*i.e.* Annual PM emissions = 1 ton per year (tpy) x (1-0.9997)).

Uncontrolled PM emissions are estimated to be 1.73 tpy, and controlled PM emissions are estimated to be 5.19E-04 tpy. For those products containing HAPs, the Permittee stated that only 20%-50% of the particulate matter would contain active ingredients, and that only a portion of those active ingredients may include HAPs. The Permittee therefore stated that a conservative estimate of the total controlled HAPs emissions for the facility would be 0.4 pounds per year. This quantity is considered negligible and was not included in the final PTE.

##### 2. Liquid Storage Tanks

The pollutants of concerns from the liquid storage tanks are volatile organic compounds (VOCs) and HAPs. Emissions were calculated for the Propylene Glycol Tank (BT1), the Aromatic 100 Tank (BT2), the Aromatic 200-A Tank (BT3), and the Aromatic 200-B Tank (BT4) using the EPA TANKS program. The following input parameters, which are consistent for all of the tanks, were used in the EPA TANKS program:

- The tanks are not heated;
- The tanks are located above ground;
- The shell condition of the tanks is good;
- The vacuum and pressure settings are -0.03 psig and 0.03 psig, respectively;
- The meteorological data corresponds to Yuma, Arizona; and
- The throughput of the tanks is evenly distributed throughout the year.

The EPA TANKS program output is equivalent to the annual HAPs emissions from the tanks. The annual VOC emissions were calculated by summing the emissions of each organic compound emitted from EPA Tanks program output. An assumption of 8,760 hours of operation per year was used in the program.

### 3. Emergency Natural Gas Engine

Pollutants of concern from the emergency natural gas engine include PM, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs, and HAPs. Emission factors for NO<sub>x</sub>, CO, and VOCs were taken from the Caterpillar engine specification sheet. PM and HAPs emission factors were taken from AP-42 Table 3.2-2 for 4-stroke lean-burn engines and Table 3.2-3 for 4-stroke rich-burn engines. It is unknown if the engine is lean-burn or rich-burn. Therefore, the higher of the emission factors from the two tables listed above was used in the calculations. The SO<sub>2</sub> emission factor was estimated assuming a sulfur content in the fuel of 2,000 grains of sulfur per million standard cubic foot (gr/MMscf). Potential emissions were calculated by multiplying emission factors by the engine's rating of 860 hp and using the common assumption for emergency engines of 500 hours per year of operation. A 90% control efficiency was applied for emissions of NO<sub>x</sub>, CO, and VOCs for the presence of the catalytic converter.

### 4. Natural Gas-Fired Boilers, Air Heaters, and Water Heaters

Pollutants of concern from the natural gas-fired boilers, air heaters, and water heaters include PM, NO<sub>x</sub>, SO<sub>2</sub>, CO, VOCs, and HAPs (including lead). Emission factors were taken from AP-42 Tables 1.4-1, 1.4-2, 1.4-3, and 1.4-4. Potential emissions were calculated by multiplying the emission factors by the rating of each piece of equipment while assuming 8,760 hours per year of operation.

## B. Summary of PTE

The facility has a potential-to-emit (PTE) less than permitting exemption thresholds. Changes in emissions were mainly due to the removal of the 365 hp non-emergency natural gas-fired engine. There are no increases in emissions associated with this permit renewal. The facility's PTE is provided in Table 1 below:

**Table 1: Potential to Emit (tpy)**

Pollutant	PTE from Permit No. 66122 as revised by MPR No. 74945	Change in PTE	PTE	Permitting Exemption Threshold
NO <sub>x</sub>	7.15	-0.38	6.77	20
PM <sub>10</sub>	0.71	-0.25	0.46	7.5
PM <sub>2.5</sub>	0.71	-0.25	0.46	5
CO	8.18	-3.40	4.78	50
SO <sub>2</sub>	0.04	-0.01	0.03	20
VOC	2.51	-0.34	2.17	20
Pb	2.79E-05	0.00	2.79E-05	0.3
HAPs	1.28	-0.95	0.33	N/A

**V. APPLICABLE REGULATIONS**

Table 2 identifies applicable regulations and verification as to why that standard applies. The table also contains a discussion of any regulations the emission unit is exempt from.

**Table 2: Applicable Regulations**

Unit & year	Control Device	Rule	Discussion
All Pesticide Mixing Equipment (Various years)	HEPA Filters	A.A.C. R18-2-702	General Provisions – The provisions of this section apply to stationary point sources that are not subject to any NSPS. The opacity standard in A.A.C. R18-2-702.B.1 has been included in the permit.
All Pesticide Mixing Equipment in Target HAP service (Various years)	HEPA Filters	NESHAP 40 CFR 63 Subpart BBBBBBB	National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry – These standards apply to all chemical preparations operations, meaning the collection of mixing, blending, milling, and extruding equipment used to manufacture chemical preparations that are in target HAP service and that are located at a facility that is a stationary area source of HAPs. The definition of “in target HAP service” is any equipment in the chemical preparation operation that either contains, contacts, or is processing target HAP-containing materials. Target HAP-containing materials are defined as raw materials,

Unit & year	Control Device	Rule	Discussion
			intermediates, or products that contain one or more target HAP, which are metal compounds for chromium, lead, manganese, and nickel. Any material that contains compounds of chromium (VI), lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), or manganese or chromium (III) compounds in amounts greater than or equal to 1.0 percent by weight (as the metal) is considered to be target HAP-containing. Currently, certain products blended by Gowan contain manganese compounds (manganese chloride, manganese oxide, and manganese sulfate). These equipment are in target HAP service and are subject to the standards in NESHAP Subpart BBBBBBBB.
All Pesticide Mixing Equipment <u>NOT</u> Subject to NESHAP Subpart BBBBBBBB Emission Standards (Various years)	HEPA Filters	A.A.C. R18-2-730	Standards of Performance for Unclassified Sources – These standards apply to National Emission Standards for Hazardous Air Pollutants for Area Sources: Chemical Preparations Industry – These standards apply to all pesticide mixing equipment that are not in target HAP service and are therefore not subject to the emission standards in NESHAP Subpart BBBBBBBB.
Natural Gas Emergency Engine (1998)	Catalytic Converter	A.A.C. R18-2-719  NESHAP 40 CFR 63 Subpart ZZZZ	Standards of Performance for Existing Stationary Rotating Machinery – These standards are applicable because the engine was manufactured prior to the NSPS Subpart JJJJ applicability date of January 1, 2009 for emergency engines rated greater than 25 hp.  National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines – This engine is categorized as an “existing” area source under Subpart ZZZZ.



Unit & year	Control Device	Rule	Discussion
Natural Gas-Fired Boilers, Air Heaters, and Water Heaters (1999, 2004, 2006, 2008, 2011, 2015, 2018)	None	A.A.C. R18-2-724	Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment – These standards are applicable to the boilers, air heaters, and water heaters because they are rated greater than 500,000 Btu/hr in the aggregate, but are each less than 250 MMBtu/hr. is applicable. NSPS Subpart Dc is not applicable because the equipment is rated less than 10 MMBtu/hr. NESHAP Subpart JJJJJ is not applicable to the boilers because they are gas-fired boilers.
Gasoline Storage Tank	None	NESHAP 40 CFR 63 Subpart CCCCC	National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities – These standards are applicable because the equipment meets the definition of a gasoline dispensing facility (GDF) given in 40 CFR 63.11132 and is located at an area source for HAPs.
Fugitive dust sources	Water Trucks, Dust Suppressants	A.A.C. R18-2 Article 6 A.A.C. R18-2-702	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting	Wet blasting; Dust collecting equipment; Other approved methods	A.A.C. R-18-2-702 A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.
Spray Painting	Enclosures	A.A.C. R18-2-702 A.A.C. R-18-2-727	These standards are applicable to any spray painting operation.
Demolition/renovation Operations	N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.

## VI. PREVIOUS PERMIT REVISIONS AND CONDITIONS

### A. Previous Permit Revisions

Table 3 provides a description of the permit revisions made to Permit No. 66122 during the previous permit term.

Table 3: Permit Revisions to Permit No. 66122

Permit Revision No.	Permit Revision Type	Brief Description
74945	Minor Permit Revision	This minor permit revision authorized the Permittee to install a new flowable wet solid pesticide formulation building – Building #25, and included updates to certain equipment in Buildings #5, #6 and #8 and several corrections to the equipment list.

**B. Changes to Current Renewal**

Table 4 addresses the changes made to the sections and conditions from Permit No. 66122 as amended by Minor Permit Revision No. 74945:

**Table 4: Previous Permit Conditions**

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "A"		X		General Provisions: Revised to represent the most recent template language. Notably, the emissions inventory questionnaire is now due every 3 years on June 1 <sup>st</sup> (Section A.VI).
Att. "B" Section I.A		X		Facility Wide Requirements - Opacity: Revised to represent the most recent template language
Att. "B" Condition I.B			X	Facility-Wide Requirements: This reporting condition was deleted and replaced by Condition I.D.4.
Att. "B" Conditions I.B and C		X		Facility-Wide Requirements: These conditions were renumbered from Conditions I.C and I.D in the previous permit.
Att. "B" Conditions I.D.1, 2, and 4	X			Facility-Wide Requirements – Recordkeeping and Reporting Requirements: These recordkeeping and reporting requirements have been added to the permit.
Att. "B" Condition I.D.3		X		Facility-Wide Requirements – Recordkeeping and Reporting Requirements: This condition was moved and renumbered from Condition I.E in the previous permit.
Att. "B" Section II.A		X		Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Applicability: The applicability section was revised to reference the Attachment "D" Equipment List in the permit.
Att. "B" Section II.B		X		Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Operational Limitations: The permit conditions that were previously under the Section II.A Applicability section have been moved into a new section, Section II.B with the heading "Operational Limitations"

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Section II.C		X		Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Air Pollution Control: This is a new section that contains Conditions II.B.2.a and b and II.B.3.b of the previous permit.
Att. "B" Conditions II.C.1.a and b		X		Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Air Pollution Control: The citations for the requirements to operate and install air pollution control equipment to control emissions from the pesticide mixing equipment have been changed from A.A.C. R18-2-306.01 and -331.A.3.a to A.A.C. R18-2-306.A.2 and -331.A.3.e because the conditions do not meet the definition of a voluntarily accepted emission standard.
Att. "B" Section II.D		X		Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Opacity: This is a new section that contains Conditions II.B.1.b and II.B.2.b of the previous permit.
Att. "B" Section II.E		X		Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Equipment Subject to Standards of Performance under A.A.C. R18-2-730: This is a new section header that was created to house the conditions containing requirements from A.A.C. R18-2-730 that were already in the permit. The applicability statement specifies that these conditions only apply to the equipment not in target HAP service. It contains Conditions II.B.1.a and II.C of the previous permit.
Att. "B" Condition II.E.2.a(2)	X			Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Equipment Subject to Standards of Performance under A.A.C. R18-2-730– Particulate Matter: This condition containing the requirements of A.A.C. R18-2-730.B was added.
Att. "B" Condition II.E.3		X		Requirements for Buildings # 1, 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 23, 24, and 25 – Equipment Subject to Standards of Performance under A.A.C. R18-2-730 – Operational Limits: This condition was previously under the header "Volatile Organic Compounds".
Att. "B" Section II.F		X		National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry: This Section was renumbered from Section II.D in the previous permit.
Att. "B" Condition II.F.2		X		National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry – Emission Limitations and Standards:

Section No.	Determination			Comments
	Added	Revised	Deleted	
				This condition was revised to include the part of the rule that requires the use of a vent collection system and PM control device, such as a wet scrubber or fabric filter, that are maintained and operated per manufacturer's recommendations.
Att. "B" Conditions II.F.3.a(1), (2), and (3)		X		National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry – Compliance Requirements: These conditions were revised to include the part of the rule that requires the permit to include certain information in the Notification of Compliance Status Report.
Att. "B" Condition II.F.3.c		X		National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry – Compliance Requirements: This condition was moved and renumbered from Condition II.D.2.b in the previous permit.
Att. "B" Condition II.F.7.d	X			National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry – Reporting Requirements: Reporting requirements from 40 CFR 63.11585(c)(2) were inserted as this condition.
Att. "B" Conditions II.F.7.e-g		X		National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry – Reporting Requirements: These conditions were renumbered from Conditions II.D.7.d-f in the previous permit.
Att. "B" Conditions II.F.8.a and II.F.8.a(1)- (8)		X		National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry – Recordkeeping Requirements: These conditions were renumbered from Conditions II.D.8 introductory text and II.D.8.a-h in the previous permit.
Att. "B" Condition II.F.8.b	X			National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparation Industry – Recordkeeping Requirements: Reporting requirements from 40 CFR 63.11585(d)(2) were inserted as this condition.
Att. "B" Condition III.C	X			Requirements for Internal Combustion Engines – Air Pollution Control Requirements: This condition was added to require the Permittee to operate and maintain the catalytic converter on the Natural Gas Emergency Engine at all times in a manner consistent with good practice for minimizing emissions and in accordance with the manufacturer's instructions
Att. "B" Section III.D		X		Requirements for Internal Combustion Engines – ICE Subject to State Regulations:

Section No.	Determination			Comments
	Added	Revised	Deleted	
				This section was renumbered from Section III.C in the previous permit.
Att. "B" Condition III.D.1		X		Requirements for Internal Combustion Engines – ICE Subject to State Regulations: The applicability requirement was updated to reflect the format of the updated equipment list in Attachment "D".
Att. "B" Condition III.D.2.a(1)		X		Requirements for Internal Combustion Engines – ICE Subject to State Regulations: This condition was renumbered from Condition III.D.2.a in the previous permit.
Att. "B" Condition III.D.2.a(2)	X			Requirements for Internal Combustion Engines – ICE Subject to State Regulations: This condition containing the requirements of A.A.C. R18-2-719.B was added to the permit.
Att. "B" Section III.D.4	X			Requirements for Internal Combustion Engines – ICE Subject to State Regulations: This section containing the requirements of A.A.C. R18-2-719.I and -J was added to the permit.
Att. "B" Section III.E		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): This section was renumbered from Section III.D in the previous permit.
Att. "B" Condition III.E.1		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): The applicability requirement was updated to reflect the format of the updated equipment list in Attachment "D".
Att. "B" Condition III.E.2.c			X	Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): This condition containing requirements for the 365 hp engine that was removed from the facility was deleted from the permit.
Att. "B" Condition III.E.2.c		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): Renumbered from Condition III.D.2.d in previous permit.
Att. "B" Conditions III.E.2.d and d(1)	X			Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): These conditions containing the requirements of 40 CFR 63.6440(f) and (f)(1) were added to the permit.
Att. "B" Conditions		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP):

Section No.	Determination			Comments
	Added	Revised	Deleted	
III.E.2.d(2) and (3)				These conditions were renumbered from Conditions III.D.2.e and e(1) in the previous permit. Also, additional language from 40 CFR 63.6640(f)(4) was added to Condition III.E.2.d(3).
Att. B” Conditions III.E.2.e and f		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): These conditions were renumbered from Conditions III.D.2.f and g in the previous permit.
Att. “B” Condition III.E.2.e(3)		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): This condition was corrected to state that the Permittee is not required to change the oil only if all of the condemning limits of the oil analysis program are not exceeded.
Att. “B” Condition III.E.2.e(4)	X			Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): This condition containing the requirement for the oil analysis program to be a part of the maintenance plan for the engine was added to the permit.
Att. “B” Condition III.E.3.a	X			Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): This condition containing the recordkeeping requirements from 40 CFR 63.6655(e) was added to the permit.
Att. “B” Conditions III.E.3.b-e		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): These conditions were renumbered from Conditions III.D.3.a-d in the previous permit. Condition III.E.3.c was revised to more closely match the language in 40 CFR 63.6625(j).
Att. “B” Condition III.E.3.f		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): This condition was moved and renumbered from Condition III.D.3.h in the previous permit.
Att. “B” Conditions III.E.3.g-i		X		Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): These conditions were renumbered from Conditions III.D.3.e-g in the previous permit.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "B" Condition III.E.3.i			X	Requirements for Internal Combustion Engines – Existing RICEs Subject to National Emission Standards for Hazardous Air Pollutants (NESHAP): This condition was deleted because it is not applicable to this engine.
Att. "B" Condition IV.B.		X		Requirements for Boilers, Air Heaters, and Water Heaters – Fuel Limitation – Boilers: Propane was removed as an allowable fuel for firing in the portable boiler (Boiler 1). Conditions IV.B.1.a, 1.b, and 2 in the previous permit were streamlined into Condition IV.B allowing only natural gas to be fired in the boilers, air heaters, and water heaters.
Att. "B": Section V.B		X		Gasoline Dispensing Facility – Emission Standards: This section was reformatted.
Att. "B" Condition V.D.1		X		Gasoline Dispensing Facility – Recordkeeping Requirements: The definition of "monthly throughput" that is included in this condition was revised to more closely reflect what is written in 40 CFR 63.11132
Att. "B" Condition V.D.2	X			Gasoline Dispensing Facility – Recordkeeping Requirements: This condition containing the requirements of 40 CFR 63.11125(d) and 63.11115(b) was added to the permit.
Att. "B": Section V.F	X			Gasoline Dispensing Facility – Reporting Requirements: This section containing the reporting requirements of 40 CFR 63.11126(b) were added to the permit.
Att. "B" Section VII			X	Mobile Source Requirements: These requirements have been removed from the permit because they have been deemed to be not applicable.
Att. "B" Section VII		X		Other Periodic Activities: This section was renumbered from Section VIII in the previous permit.
Att. "C"		X		Active Ingredients: This Attachment was previously under the heading "Specific Products". The following active ingredients have been added to the table: broflanilide, captan, chlorfenapyr, clofentezine, cyazofamid, diflubenzuron, fluazinam, fluopyram, N-benzamide, Pseudomonas chlororaphis, quinoxifen, and thiobendazole.
Att. "D"		X		Equipment List: Revised to reflect the most recent equipment operating at the facility and to include equipment information provided. Notably, the 365 hp Natural Gas Engine has been removed, and numerous changes were made to the equipment listed under Building #23.

## VII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

Table 5 contains an inclusive but not an exhaustive list of the monitoring, recordkeeping and reporting requirements prescribed by the air quality permit. The table below is intended to provide insight to the public for how the Permittee is required to demonstrate compliance with the emission limits in the permit. Records are required be kept for a minimum of 5 years as outlined in Section XIII of Attachment “A” of the permit.

**Table 5: Permit No. 94090**

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
All Pesticide Mixing Equipment	PM	20% opacity	Conduct periodic opacity monitoring on the building stacks on a monthly basis.	Record the observer name, date, results of the instantaneous survey or 6-minute observation, and, if applicable, any corrective action taken to lower the opacity of any excess emissions.  Pressure differentials across the air pollution control devices (APCD) installed on the various stacks shall be recorded every week to show proper operation and maintenance of respective APCD.	Report all 6-minute periods during which the opacity exceeded 20%.
All Equipment in Chemical Preparation Operation (Mixing, Blending, Milling, and	PM	PM percent reduction efficiency of 98 percent or an outlet concentration	Operate and maintain a bag leak detection system, control device parameter monitor and alarm system, or CPMS in continuous	Maintain records identifying periods when the chemical preparations operation is in target HAP service.	If there were no deviations during the reporting period, submit an annual compliance report. If there were deviations during the reporting period,



Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Extruding Equipment) in Target HAP Service		of 0.03 gr/dscf for all equipment in chemical preparation operation in target HAP service	<p>operation, and collect parametric data at all times that emissions are routed to the monitored control device, if applicable.</p> <p>To demonstrate compliance, either 1) Perform a PM emission test using the methods listed in Table 3 of the NESHAP 40 CFR 63 Subpart BBBBBBB; 2) Provide performance guarantee information from the control device manufacturer that certifies that the device is capable of achieving the PM emission limit; or 3) Provide engineering calculations, such as mass balance and flow rate calculations, that demonstrate that the control device is capable of achieving the PM emission limit.</p>	<p>Maintain records of performance tests and performance evaluations, CPMS (if a CPMS is used to demonstrate compliance) calibration checks and adjustments and maintenance performed on CPMS, all inspections as required and pressure measurement device checks (if applicable), the site-specific monitoring plan, particulate control device manufacturing specifications and recommendations.</p>	<p>submit a semiannual compliance report.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Natural Gas Emergency Engine	PM	40% opacity – for any period greater than 10 seconds	Conduct periodic opacity monitoring on a monthly basis.	Record the observer name, date, results of the instantaneous survey or 6- minute observation, and, if applicable, any corrective action taken to lower the opacity of any excess emissions.  Maintain records of the daily lower heating value of the fuel fired in the ICEs. This may be accomplished by maintaining on record a copy of that part of the contract with the vendor that specifies the lower heating value of the fuel.	Report all 6-minute periods during which the opacity exceeded 40%.
	SO <sub>2</sub>	None	None	Record the daily sulfur content and lower heating value of the fuel used in the engines.	Report to the Director any daily period which the sulfur content exceeds 0.8%.
	N/A	Change the oil and filter and inspect all hoses and belts every 500 hours of	Install a non-resettable hour meter.	Keep records of the hours of operation recorded through the non-resettable hour meter.	None

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
		<p>operation or annually, whichever comes first, and replace as necessary.</p> <p>Inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.</p>		<p>If the Permittee elects to implement the oil analysis program described in 40 CFR 63.6625(i), keep records of the parameters that are analyzed, the results of the oil analysis, and the oil changes for the engine</p> <p>Keep records of the maintenance conducted on the emergency engine that demonstrate operation and maintenance in accordance with the maintenance plan</p>	
Natural Gas-Fired Boilers, Air Heaters, and Water Heaters	PM	15% opacity	None	Keep records of fuel supplier certifications. The certification shall contain information regarding the name of fuel supplier and lower heating value of the fuel.	The Permittee shall report all 6-minute periods during which the visible emissions exceed 15 percent opacity, as required under Section XII of Attachment "A".
Gasoline Storage Tank	N/A	Varies depending on monthly throughput	None	<p>Maintain records of monthly throughput of gasoline.</p> <p>Maintain records of the occurrence and duration of</p>	Report by March 15 of each year the number, duration, and a brief description of each type of malfunction which occurred during the previous calendar year and which caused or may

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
				<p>each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment.</p> <p>Maintain records of actions taken during periods of malfunction to minimize emissions including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.</p>	<p>have caused any applicable emission limitation to be exceeded.</p>
Fugitive Dust	PM	40% Opacity	<p>Conduct periodic opacity monitoring on a monthly basis.</p>	<p>Record the observer name, date, results of the instantaneous survey or 6-minute observation, and, if applicable, any corrective action taken to lower the opacity of any excess emissions.</p> <p>Record the dates and types of dust control measures employed.</p>	<p>Report all 6-minute periods which the opacity exceeded 40%.</p>

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Abrasive Blasting	PM	20% Opacity	None	Record the date, duration and pollution control measures of any abrasive blasting project.	None
Spray Painting	VOC	20% Opacity Control 96% of the overspray	None	Maintain records of the date, duration, quantity of paint used, any applicable MSDS, and pollution control measures of any spray painting project.	None
Demolition/ Renovation	Asbestos	None	None	Maintain records of all asbestos related demolition or renovation projects including the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents	None

### VIII. ENVIRONMENTAL JUSTICE ANALYSIS

The EPA (Environmental Protection Agency) defines Environmental Justice (EJ) to include the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and polices. The goal of completing an EJ assessment in permitting is to provide an opportunity for overburdened populations or communities to allow for meaningful participation in the permitting process. Overburdened is used to describe the minority, low-income, tribal and indigenous populations or communities that potentially experience disproportionate environmental harms and risks due to exposures or cumulative impacts or greater vulnerability to environmental hazards. The renewal permit does not allow or permit any increases in emissions and will not result in any additional impacts.

### IX. LEARNING SITE EVALUATION

In accordance with ADEQ's Environmental Permits and Approvals near Learning Sites Policy, the Department is required to conduct an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

This permit renewal will not result in any increase in emissions. Hence, the facility is exempt from the learning sites evaluation.

### X. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
AQD	Air Quality Division
A.R.S.	Arizona Revised Statutes
BACT	Best Available Control Technology
Btu/ft <sup>3</sup>	British Thermal Units per Cubic Foot
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emissions Monitoring System
CFR	Code of Federal Regulations
CH <sub>4</sub>	Methane
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	CO <sub>2</sub> equivalent basis
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FLM	Federal Land Manager
°F	degrees Fahrenheit
ft	Feet
g	Gram
GHG	Greenhouse Gases
HAP	Hazardous Air Pollutant
HHV	Higher Heating Value
hp	Horsepower

hr	Hour
IC	Internal Combustion
kW	Kilowatt
MW	Megawatts
NAAQS	National Ambient Air Quality Standard
NO <sub>x</sub>	Nitrogen Oxides
NO <sub>2</sub>	Nitrogen Dioxide
N <sub>2</sub> O	Nitrous Oxide
NSPS	New Source Performance Standards
O <sub>3</sub>	Ozone
Pb	Lead
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter less than 10 µm nominal aerodynamic diameter
PM <sub>2.5</sub>	Particulate Matter less than 2.5 µm nominal aerodynamic diameter
PSD	Prevention of Significant Deterioration
psia	Pounds per square Inch (absolute)
PTE	Potential to Emit
sec	Seconds
SIL	Significant Impact Level
SO <sub>2</sub>	Sulfur Dioxide Significant Impact Levels
TPY	Tons per Year
VOC	Volatile Organic Compound
yr	Year