



**TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT No. 100560**

I. INTRODUCTION

This Class II synthetic minor renewal permit is for the continued operation of Potters Industries, LLC's Kingman Plant. Permit No. 100560 renews and supersedes Permit No. 73578.

This facility's potential to emit (PTE) for all criteria air pollutants before controls is greater than 100 tons per year (tpy) for particulate matter with an aerodynamic diameter less than 10 micrometers (PM₁₀). Potters Industries, LLC is accepting voluntary emission and operating limitations to stay below major source thresholds under Arizona Administrative Code (A.A.C.) R18-2-101.75. Therefore, a Class II synthetic minor permit is required per A.A.C. R18-2-302.B.2.a.

A. Company Information

Facility Name: Kingman Plant
Mailing Address / Facility Location: 4655 Finance Way, Kingman, Arizona 86401

B. Attainment Classification

The facility is located in Mohave County which is an area that is designated as in attainment or unclassified for all criteria air pollutants.

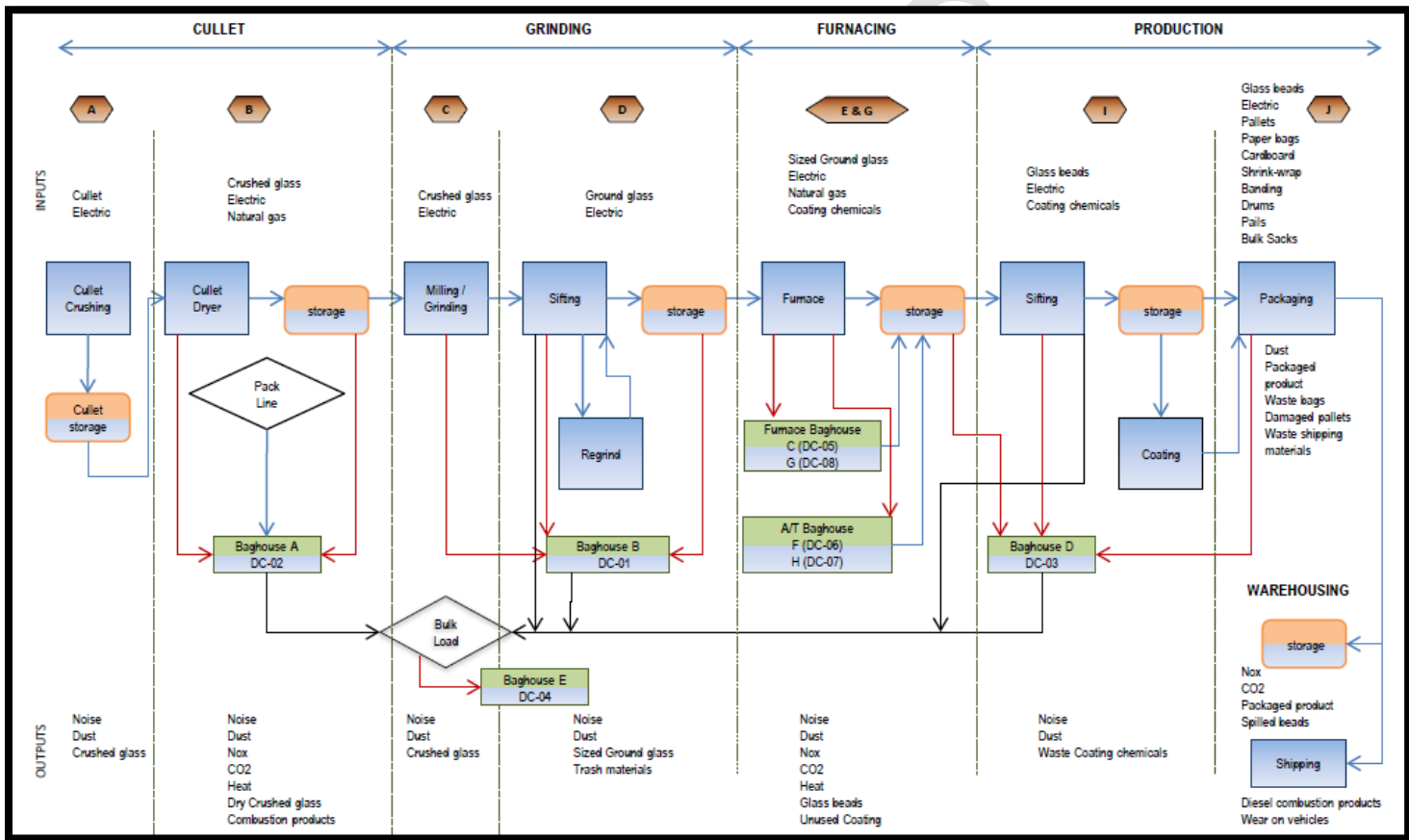
II. PROCESS DESCRIPTION

A. Process Equipment and Control Devices

The Kingman Plant manufactures glass beads for marking paved roads, runways and industrial applications such as in metal finishing. The plant receives recycled, broken, or waste glass (known as cullet). The cullet is crushed and then sent to storage. From storage, the crushed cullet is sent through a natural gas-fired dryer, then onto storage. Particulate matter from the dryer, storage, and pack line are sent to Baghouse A. Collected baghouse fines are sent to the bulk-loading area or reintroduced into the process. From dry cullet storage, the cullet is then sent to the milling and grinding area so the glass is sized before it is sent to the furnace. The milling and grinding equipment is controlled by Baghouse B. Collected baghouse fines are sent to the bulk-loading area or reintroduced into the process. From the milling and grinding areas, the ground glass is sifted (i.e. sized) and sent to storage. Some of the product is reground and sent back to sifting, remaining material is sent to the bulk ground glass storage area. The sifting and regrind equipment is controlled by Baghouse B. Collected baghouse fines are sent to the bulk-loading area or reintroduced into the process. From the sifting storage area, the sized-glass particles are sent to one of two (2) natural gas fired furnaces where the glass is suspended in the furnace with a vacuum. The furnace melts the glass into round spheres. The furnaces and material transfer equipment are controlled by Baghouses C, G, F, and H. Collected baghouse fines bulk-loading area or reintroduced into the process. From the furnace bead storage area, the glass beads are sifted for size. Some of the beads are coated with chemicals for improved finished

product attributes (flowability and adhesion). The beads are then sent to storage prior to packaging. The bead sifting area is controlled by Baghouse D. Collected baghouse fines are sent to the bulk-loading area or reintroduced into the process. From the sifting and coating storage area, the glass beads are packaged in sacks, totes, or other containers. Particulate matter from the bead packaging area is controlled by Baghouse D. Collected baghouse fines are sent to the bulk-loading area or reintroduced into the process.

B. Process Flow Diagram



III. COMPLIANCE HISTORY

During the previous permit term, the Arizona Department of Environmental Quality (ADEQ) conducted 5 annual compliance certification report reviews, 2 physical inspections, 2 performance test observations, and 2 performance test reviews. No deficiencies were found during the report reviews, inspections or observations.

IV. EMISSIONS

The facility’s PTE for the natural gas-fired cullet dryer and furnaces was calculated using emissions factors found in AP-42, *Compilation of Air Pollutant Emissions Factors from Stationary Sources*, Section 1.4 – Natural Gas Combustion. PTE is calculated assuming 8,760 operating hours per year.

PTE calculations for the bead-coating process are based on the VOC content of the coatings the facility uses from Safety Data Sheets (SDS). Potential usage was calculated based on 2.0 times the facility's 2022 actual usage.

The facility's PTE is provided in Table 1 below:

Table 1: Potential to Emit (tpy)

Pollutant	Previous PTE	Change in PTE	Updated PTE	Permitting Exemption Threshold	Minor NSR Triggered?
NO _x	25.62	0.00	25.62	20	No
PM ₁₀	93.59	0.00	93.59	7.5	No
PM _{2.5}	93.59	0.00	93.59	5	No
CO	21.52	0.00	21.52	50	No
SO ₂	0.15	0.00	25.62	20	No
VOCs	2.02	+0.87	2.89	20	No
HAPs	0.48	0.00	0.48	N/A	No
GHG (CO ₂ e)	31,484.27	0.00	31,484.27	--	No

V. VOLUNTARILY ACCEPTED EMISSION LIMITATIONS

The permit contains the following voluntary emission limitation:

Glass Bead Handling and Processing

The facility has accepted a voluntary emission limitation of 0.03 grains per dry standard cubic foot of PM for each of the baghouses to avoid major source classification. The emission limitation was incorporated into Permit No. 58973 which was issued back in 2014.

VI. 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	Control Device	Rule	Discussion
Glass Bead Handling and Processing	Baghouses	A.A.C. R18-2-730	ADEQ's Standards of Performance for Unclassified Sources are applicable to glass bead handling and processing operations because these are considered unclassified sources. Standards of Performance for Glass Manufacturing Plants, 40 CFR 60 Subpart CC, is not applicable because the facility does not operate a glass melting furnace to produce molten glass.
Fugitive Dust	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. R18-2-727	These standards are applicable to any spray painting operation.
Demolition/Renovation	N/A	A.A.C. R18-2-1101.A.12	This standard is applicable to any asbestos related demolition or renovation operation.

VII. PREVIOUS PERMIT REVISIONS AND CONDITIONS

Table 3 addresses the changes made to the sections and conditions from Permit No. 73578:

Table 3: Previous Permit Conditions

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "A"		X		General Provisions: Revised to represent the most recent template language
Att. "B" Section I		X		Facility Wide Requirements: Revised to represent the most recent template language.
Att. "B" Condition II.C.2.b		X		Glass Bead Handling and Processing: Revised citation.

Section No.	Determination			Comments
	Added	Revised	Deleted	
Att. "C"		X		Equipment List: Revised to reflect the most recent equipment operating at the facility and to include equipment information provided.

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VIII. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

Table 4 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 facility 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 XII of Attachment “A” of the permit.

Table 4: Permit No. 100560

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
Glass Bead Handling and Processing Equipment	PM	20% Opacity	A Method 9 observer is required to conduct a monthly survey of visible emissions. Annual blacklight inspection on baghouses. Performance testing on baghouses.	Record the name of the inspector, the date, the time, and the results of the inspection and the repairs performed to address any problems detected.	Any exceedance shall be reported as excess emissions.
Fugitive Dust	PM	40% Opacity	A Method 9 observer is required to conduct a monthly survey of visible emissions.	Record of the dates and types of dust control measures employed, and if applicable, the results of any Method 9 observations, and any corrective action taken to lower the opacity of any excess emissions.	N/A
Abrasive Blasting	PM	20% Opacity	N/A	Record the date, duration and pollution control measures of any abrasive blasting project.	N/A
Spray Painting	VOC	20% Opacity	N/A	Maintain records of the date, duration, quantity of paint used, any applicable	N/A

Emission Unit	Pollutant	Emission Limit	Monitoring Requirements	Recordkeeping Requirements	Reporting Requirements
		Control 96% of the overspray		MSDS, and pollution control measures of any spray painting project.	
Demolition/ Renovation	Asbestos		N/A	Maintain records of all asbestos related demolition or renovation projects including the “NESHAP Notification for Renovation and Demolition Activities” form and all supporting documents.	N/A

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IX. ENVIRONMENTAL JUSTICE ANALYSIS

The Environmental Protection Agency (EPA) 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.

This renewal permit does not allow or permit an increase in emissions and thus, it will not result in any additional impacts.

X. LIST OF ABBREVIATIONS

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
A.R.S.	Arizona Revised Statutes
CFR	Code of Federal Regulations
CO ₂	Carbon Dioxide
CO _{2e}	CO ₂ equivalent basis
EJ	Environmental Justice
EPA	Environmental Protection Agency
GHG	Greenhouse Gases
HAPs	Hazardous Air Pollutants
NO _x	Nitrogen Oxides
PM	Particulate Matter
PM ₁₀	Particulate Matter less than 10 µm nominal aerodynamic diameter
PM _{2.5}	Particulate Matter less than 2.5 µm nominal aerodynamic diameter
PTE	Potential to Emit
SDS	Safety Data Sheets
SO ₂	Sulfur Dioxide
TPY	Tons per Year
VOCs	Volatile Organic Compounds