



Agenda Item: G-1  
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## Board Agenda Item

TO: Air Pollution Control District Board

FROM: Aeron Arlin Genet, Air Pollution Control Officer 

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SUBJECT: Determine that a New District Rule for Miscellaneous Combustion Units is No Longer Necessary to Satisfy Assembly Bill 617 Requirements

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### RECOMMENDATION:

Consider recommendations as follows:

1. Receive and file a report regarding Best Available Retrofit Control Technology (BARCT) for Miscellaneous Combustion Units at Assembly Bill 617 Industrial Facilities; and
2. Adopt a resolution determining that adopting a new District Rule is no longer necessary to implement BARCT for Miscellaneous Combustion Units because the affected Assembly Bill 617 Industrial Facility has requested changes to their District Permit to Operate to comply with the BARCT analysis through enforceable permit conditions.

### BACKGROUND:

Assembly Bill (AB) 617, enacted in July 2017, has many requirements to address the disproportionate impacts of air pollution in environmental justice communities. One of the key components of AB 617 is to reduce air pollutant emissions from facilities that participate in the California Greenhouse Gas (GHG) Cap-and-Trade system. Emissions of criteria pollutants and toxic air contaminants are often associated with GHG-emitting sources, and these pollutants may impact local communities that are already experiencing a disproportionate burden from air pollution.

In December 2018, as required by AB 617, your Board adopted a Best Available Retrofit Control Technology (BARCT) Rule Development Schedule that included a commitment to evaluate

BARCT for six emission source categories. BARCT is an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts. To meet the BARCT emission limits, a facility may need to install new air pollution controls on their existing unit(s) or replace the unit(s) in part or in whole. The BARCT requirements only affect the following six industrial facilities in Santa Barbara County:

- 1) Exxon Mobil – Las Flores Canyon,
- 2) Exxon Mobil – Pacific Offshore Pipeline Company (POPCO),
- 3) Pacific Coast Energy Company (PCEC) – Orcutt Hill,
- 4) Cat Canyon Resources, LLC – Cat Canyon West<sup>1</sup>,
- 5) Imerys Filtrations Minerals, Inc., and
- 6) Windset Farms.

Since Santa Barbara County is nonattainment for the state ozone standard<sup>2</sup> and nonattainment for the state PM<sub>10</sub> standard (particulate matter with a diameter of 10 microns or less), these industrial facilities must implement BARCT by the earliest feasible date, but no later than December 31, 2023. To date, District staff has completed four of the six BARCT assessments, as shown in Table 1 below.

**Table 1: Status Update on BARCT Rule Development Schedule**

#	Equipment Category	Status	Method
1)	Boilers, Steam Generators, and Process Heaters (5 MMBtu/hr and greater)	<i>Completed June 2019</i>	Amended Rule 342
2)	Boilers, Steam Generators, and Process Heaters (2 - 5 MMBtu/hr)	<i>Completed June 2019</i>	Amended Rule 361
3)	Particulate Matter Control Devices	<i>Completed June 2022</i>	Incorporated into Permit
4)	Reciprocating Internal Combustion Engines	<i>Completed March 2023</i>	Incorporated into Permit
<b>5)</b>	<b>Miscellaneous Combustion Units</b>	<b><i>Focus of Board Item Discussion</i></b>	
6)	Stationary Gas Turbines	<i>In Progress</i>	

The next BARCT assessment evaluates Miscellaneous Combustion Units to see if any retrofits or upgrades are required at the AB 617 Industrial Facilities. “Miscellaneous Combustion Units” includes devices such as dryers, kilns, and furnaces. These units are typically used to directly

<sup>1</sup> Facility was previously operated by ERG Operating Company.

<sup>2</sup> In January 2023, the California Air Resources Board held a [public hearing](#) to change Santa Barbara County’s designation from "nonattainment" to "nonattainment-transitional." The change in designation is effective January 2024.

heat the product material or heat the air that is directed to the product material. Miscellaneous Combustion Units do not include boilers, water heaters, steam generators, or process heaters subject to District prohibitory rules (Rules 342, 361, and 360).

Currently, the District does not have a specific prohibitory rule that focuses on Miscellaneous Combustion Units. However, combustion processes can create a significant amount of oxides of nitrogen (NO<sub>x</sub>), which is a precursor pollutant that leads to ground level ozone formation. Out of the six AB 617 industrial facilities in Santa Barbara County, Imerys Filtration Minerals, Inc. (“Imerys”) is the only facility that uses Miscellaneous Combustion Units. Imerys is a diatomaceous earth processing facility located approximately 2 miles south of the City of Lompoc.

## **DISCUSSION:**

District staff completed the BARCT analysis for Miscellaneous Combustion Units, as shown in Attachment A, that demonstrates that it is technologically feasible for the applicable units at Imerys to comply with lower NO<sub>x</sub> limits. The lower NO<sub>x</sub> limits are based on the rule requirements adopted by other neighboring air districts, and they’re identified as BARCT in the California Air Resources Board’s Technology Clearinghouse.<sup>3</sup> However, it is only cost-effective to install low NO<sub>x</sub> burners and implement the lower NO<sub>x</sub> limits if the devices are used a certain amount. Based on the District’s cost-effectiveness calculations, a low-use threshold was identified for each applicable device, and Imerys’ recent operations have been below these device-specific low-use thresholds.

Although Imerys’ recent operations are below the low-use thresholds, the operating permit for the facility allows the devices to operate at maximum capacity. Hence, Imerys submitted an application to modify the facility’s Permit to Operate (PTO), as shown in Attachment B, to incorporate the low-use thresholds directly into its operating permit. As long as the affected units operate under the low-use thresholds, no equipment changes need to be performed. If the low-use thresholds are exceeded in the future, the facility will be required to comply with the lower NO<sub>x</sub> limits, through equipment modifications or replacement, within an 18-month time frame.

The proposed District Board Resolution, included as Attachment C to this letter, concludes that adopting a new District Rule is no longer necessary to implement BARCT for Miscellaneous Combustion Units. This is because the BARCT requirements are incorporated directly into Imerys’ operating permit and no other AB 617 facilities in the County use this type of equipment. This BARCT analysis will continue to apply to Imerys’ existing equipment units as well as any new units installed in the future at the site to guarantee that the NO<sub>x</sub> emissions are effectively controlled. In addition, the BARCT analysis will be forwarded to the California Air Resources Board for inclusion into their AB 617 BARCT webpage ([ww2.arb.ca.gov/expedited-barct](http://ww2.arb.ca.gov/expedited-barct)). Staff worked with District Counsel and concluded that this approach effectively satisfies the AB 617 mandate because it accomplishes the emission reduction goals of the legislation.

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<sup>3</sup> <https://ww2.arb.ca.gov/current-air-district-rules>

## **IMPACTS TO THE REGULATED COMMUNITY:**

The implementation of BARCT affects Imerys' diatomaceous earth processing facility. However, if the affected units continue to operate under the low-use thresholds, no equipment changes need to be performed. If operations increase above the low-use thresholds in the future, the conventional burners will need to be replaced with low NOx burners at that time, with additional costs estimated to be around \$160,000 per burner. By using the new burners, the facility would reduce their NOx emissions by approximately 1.1 tons per year.

The remaining five AB 617 industrial facilities (Exxon Mobil – Las Flores Canyon, Exxon Mobil – POPCO, PCEC – Orcutt Hill, Cat Canyon Resources, LLC – Cat Canyon West, and Windset Farms) do not currently use Miscellaneous Combustion Units, but this BARCT analysis would apply to any new units installed at these facilities. This is because BARCT is an emission standard that is not limited to just “retrofits.” The BARCT analysis will make sure that these industrial facilities install low NOx burners instead of conventional burners for any future projects. However, in most cases, new equipment will be evaluated for Best Available Control Technology (BACT), which is equal to or more stringent than the requirements in this BARCT analysis.

## **DISTRICT BUDGET IMPACTS:**

The costs for the permitting and compliance activities by District staff are included in the budget approved by your Board. There are no additional fiscal impacts.

## **PUBLIC REVIEW:**

A Community Advisory Council (CAC) meeting was held on August 23, 2023, to present, discuss, and receive comments on the draft BARCT analysis. To inform the public about the meeting, District staff e-mailed a notice to everyone who subscribed to the District's electronic noticing subscription list. Staff also directly notified the six AB 617 Industrial Facilities about the meeting.

At the CAC meeting, District staff delivered a 15-minute presentation on the key points of the analysis. Staff then answered the questions from CAC members, covering topics such as the costs and efficiency gains of the new burners, and how some industrial processes can transition away from fossil fuels to electric heating options. However, electric heating options aren't available and cost-effective for all applications, and so industrial low-NOx burners are still needed at this point in time. After all questions were answered, the CAC received and filed the draft BARCT analysis.

## **CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA):**

The proposed action for the Board of Directors is to determine that a rule development proceeding for Miscellaneous Combustion Units is no longer necessary to satisfy the AB 617 BARCT requirements. Staff has concluded that this action is not a project subject to CEQA because it will not cause either a direct physical change in the environment, or a reasonably

foreseeable indirect physical change in the environment [Public Resources Code §21065 and State CEQA Guidelines §15378(b)(5)].

**ATTACHMENTS:**

- A. Assembly Bill 617 BARCT Analysis for Miscellaneous Combustion Units
- B. Imerys Permit Modification #5840-13
- C. District Board Resolution for Assembly Bill 617 – Miscellaneous Combustion Units

ATTACHMENT A

Assembly Bill 617 BARCT Analysis for Miscellaneous  
Combustion Units

October 19, 2023

Santa Barbara County Air Pollution Control District  
Board of Directors

260 San Antonio Road, Suite A  
Santa Barbara, California 93110

**SANTA BARBARA COUNTY  
AIR POLLUTION CONTROL DISTRICT**

**Assembly Bill 617 –  
BARCT Analysis for Miscellaneous Combustion Units**

**Date: October 19, 2023**

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Our Mission

*Our mission is to protect the people and the environment of  
Santa Barbara County from the effects of air pollution.*

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# 1. BACKGROUND

## 1.1 Ozone and Health

Ground level ozone is a secondary pollutant formed from photochemical reactions of the precursor pollutants oxides of nitrogen (NOx) and reactive organic compounds (ROC) in the presence of heat and sunlight. Both short-term and long-term exposure to ozone can cause a number of health effects in broad segments of the population. Ozone can damage the respiratory system, causing inflammation and irritation, or symptoms such as coughing and wheezing. High levels of ozone are especially harmful for children, the elderly, and people with asthma or other respiratory problems. Ground-level ozone also impacts the economy by increasing hospital visits and medical expenses, loss of work time due to illness, and by damaging agricultural crops. Santa Barbara County is currently designated as nonattainment<sup>1</sup> for the state ozone standards.

## 1.2 The AB 617 BARCT Rule Development Schedule

Assembly Bill (AB) 617, enacted in July 2017, has many requirements to address the disproportionate impacts of air pollution in disadvantaged communities. One of the key components of AB 617 is to reduce air pollutant emissions from facilities that participate in the California Greenhouse Gas (GHG) Cap-and-Trade system. Cap-and-Trade is designed to limit GHG emissions and allows facilities to comply by either reducing GHG emissions at the source or by purchasing GHG emission allowances. Emissions of criteria pollutants and toxic air contaminants are often associated with large GHG-emitting sources, and these pollutants may impact local communities that are already experiencing a disproportionate burden from air pollution.

AB 617 helps alleviate the pollution burden near these communities by requiring each air district to adopt an expedited rule development schedule for Best Available Retrofit Control Technology (BARCT) by January 1, 2019. The District's AB 617 BARCT schedule was adopted at the December 2018 Board Hearing, and it included a list of measures that needed to be evaluated for BARCT.<sup>2</sup> BARCT is an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts. To meet the BARCT emission limits, a facility may need to install new air pollution controls on their existing unit(s) or replace the unit(s) in part or in whole. The BARCT requirements apply to the following six facilities within the District boundaries since they are industrial sources subject to the California Cap-and-Trade requirements:

- 1) Exxon Mobil – Las Flores Canyon,
- 2) Exxon Mobil – Pacific Offshore Pipeline Company (POPCO),
- 3) Pacific Coast Energy Company (PCEC) – Orcutt Hill,
- 4) Cat Canyon Resources, LLC – Cat Canyon West<sup>3</sup>,
- 5) Imerys Filtrations Minerals, Inc., and
- 6) Windset Farms.

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<sup>1</sup> In January 2023, the California Air Resources Board held a [public hearing](#) to change Santa Barbara County's designation from "nonattainment" to "nonattainment-transitional." The change in designation is effective January 2024.

<sup>2</sup> Additional information on the AB 617 BARCT Rule Development Schedule is available on the District's website at [www.ourair.org/community-air](http://www.ourair.org/community-air).

<sup>3</sup> Facility was previously operated by ERG Operating Company.

During the initial BARCT assessment in 2018, the District reviewed the Miscellaneous Combustion Units that were permitted at the AB 617 industrial sources. The initial BARCT assessment showed that it may be feasible and cost-effective to control the existing Miscellaneous Combustion Units rated at 5 million Btu and higher and to establish new BARCT standards for Santa Barbara County. The BARCT assessment would also apply to any new Miscellaneous Combustion Unit that is installed at the six industrial sources within Santa Barbara County.

### **1.3 Miscellaneous Combustion Units**

Most external combustion units that are permitted by the District are boilers, steam generators, and water heaters that are subject to the source-specific prohibitory requirements in District Rules 342, 360, and 361. However, there are a variety of external combustion units that would not be covered by the aforementioned rules. These units are termed “Miscellaneous Combustion Units,” which includes devices such as dryers, dehydrators, ovens, kilns, calciners, furnaces, roasters, crematories, and incinerators. Most of these Miscellaneous Combustion Units are unique or custom-built devices that are designed for specific industries. However, they can be categorized and consolidated into three main types:

- 1) Equipment that heats materials directly, such as kilns and metallurgical furnaces;
- 2) Equipment that heats air that is directed to a process chamber to dry or raise the temperature of process materials. This includes most ovens, dryers, and dehydrators; and
- 3) Equipment that is used as air pollution control devices that capture and incinerate any Reactive Organic Compounds (ROCs) in the process stream.

By combusting fuel in their burners, these devices contribute to the NO<sub>x</sub> emissions within Santa Barbara County.

### **1.4 Imerys Filtration Minerals**

Imerys Filtration Minerals, Inc. (“Imerys”) is a diatomaceous earth mining and processing facility that is located approximately two miles south of the City of Lompoc. Mining has occurred at this site for over 100 years, with Imerys being the current owner and operator of the mine since 1991.<sup>1</sup> Diatomaceous earth is a sedimentary deposit composed of fossilized diatoms, a type of algae that contains siliceous skeletons. Imerys mines and processes the diatomite ore into powders of various grades for use by industries, such as for filtration aids or fillers.

Most of the ore is surface mined from lands within the facility boundaries, crushed and screened using mobile equipment, and then stored in stockpiles. The stockpiled material is then transported to the powder mill using covered conveyors. The powder mill production line consists of various equipment combinations to additionally crush, mill, dry, and convey minerals. The natural diatomaceous earth is then transformed into calcinated powders via exposure to high temperatures in the natural gas-fired rotary kiln. Finally, the product is classified into a variety of grades before being bagged for shipment, by truck or by rail, for distribution to customers.

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<sup>1</sup> Celite Corporation purchased the facility from Manville in 1991. Celite changed its name to Imerys in 2012.

## **2. EXTERNAL COMBUSTION CONTROLS**

### **2.1 NO<sub>x</sub> Formation**

NO<sub>x</sub> from combustion sources is formed through three main mechanisms: thermal NO<sub>x</sub>, fuel NO<sub>x</sub>, and prompt NO<sub>x</sub>.

- Thermal NO<sub>x</sub> is formed from the high temperature reaction of nitrogen and oxygen contained in the combustion air.
- Fuel NO<sub>x</sub> is formed from the direct oxidation of nitrogen compounds contained in the fuel.
- Prompt NO<sub>x</sub> is formed from the reaction of nitrogen from the air with the fuel under fuel-rich conditions, then through subsequent oxidation of these nitrogen compounds.

Hence, NO<sub>x</sub> formation varies in the combustion process depending on the air-to-fuel ratio, the flame temperature, the residence time, and the nitrogen content of the fuel. For gaseous fuels, thermal NO<sub>x</sub> is generally the largest contributor of NO<sub>x</sub> emissions, and so lowering the flame temperature can help reduce NO<sub>x</sub> emissions.

### **2.2 Low-NO<sub>x</sub> burners And Flue Gas Recirculation (FGR)**

To minimize the formation of thermal NO<sub>x</sub>, burners can be designed to have a reduced flame temperature and shortened residence time. These burners are typically referred to as low-NO<sub>x</sub> burners. Low-NO<sub>x</sub> burners pre-mix the fuel and air together prior to combustion, which results in a lower and more uniform flame temperature. Some burners also use a staged combustion process where they have a fuel rich zone to stabilize the flame and a fuel lean zone to complete combustion and reduce the peak flame temperature. Overall, low-NO<sub>x</sub> burners require sophisticated controls to optimize burner efficiency while maintaining emission levels and a turndown ratio that meets the demands of the operation.

Flue Gas Recirculation (FGR) can be used in combination with some low-NO<sub>x</sub> burners to achieve additional NO<sub>x</sub> reductions. FGR recycles a portion of the exhaust stream back into the burner, reducing the flame temperature by diluting the air-fuel mix with relatively inert gases like nitrogen, carbon dioxide, and water vapor (N<sub>2</sub>, CO<sub>2</sub>, and H<sub>2</sub>O). Some newer burners can also be designed to induce an internal FGR within the burner and combustion chamber, thereby negating the need for external piping and additional blowers to bring the flue gases back to the burner. As for disadvantages, FGR can destabilize the flame or slightly reduce the thermal efficiency of the process.

### **2.3 Selective Catalytic Reduction (SCR) Systems**

SCR is a post-combustion control technology that is commercially available and commonly employed to control NO<sub>x</sub> on larger emission sources. SCR systems can achieve NO<sub>x</sub> control efficiencies of 95% or higher, and they do this by injecting ammonia into the flue gas stream where it reacts with NO<sub>x</sub> and oxygen (in the presence of the catalyst) to produce nitrogen gas and water vapor. A typical SCR system consists of an ammonia storage tank, ammonia vaporization and injection equipment, a booster fan for the flue gas exhaust, an SCR reactor with catalyst, and electronic instrumentation to monitor the system parameters.

When in operation, the ammonia injection rate and the combustion parameters need to be constantly monitored to achieve the desired NO<sub>x</sub> reductions while preventing ammonia slip, which is the industry term for ammonia passing through the SCR unreacted. Ammonia slip occurs if excess ammonia is injected into the reactor, temperatures are too low for the ammonia to react, or if the catalyst has degraded or is past its useful life. The optimal flue gas temperature of a conventional SCR system will typically range between 550°F and 750°F, but there are both high temperature and low temperature SCR catalysts available that can effectively operate above or below these temperature thresholds.

### **3. REVIEW OF OTHER CALIFORNIA AIR DISTRICT RULES**

In considering what benchmarks to use for BARCT, it is important to evaluate other emission limits that have been imposed on the same categories of equipment. Other California air districts, such as the South Coast Air Quality Management District and the Ventura County Air Pollution Control District, have adopted prohibitory rules that address Miscellaneous Combustion Units. A simplified summary of the rules from other California air districts that addresses these units is presented below.

#### **3.1 South Coast AQMD Rule 1147**

Rule 1147 was initially adopted by the South Coast AQMD in December 2008, and it established NO<sub>x</sub> limits for a wide variety of Miscellaneous Combustion Sources at non-RECLAIM<sup>1</sup> facilities. Rule 1147 applies to ovens, dryers, dehydrators, heaters, kilns, calciners, furnaces, crematories, incinerators, heated pots, cookers, roasters, fryers, closed and open heated tanks and evaporators, distillation units, afterburners, degassing units, vapor incinerators, catalytic or thermal oxidizers, soil and water remediation units, and other combustion equipment that are not subject to other equipment-specific prohibitory rules.

Under Rule 1147, equipment with a total heat input greater than or equal to 325,000 Btu/hr must meet the NO<sub>x</sub> concentration limits depending on the equipment category and process temperature. Rule 1147 has been amended several times to respond to compliance challenges and to incorporate new findings and recommendations from a technology assessment. The most recent amendment occurred in May 2022 where the rule was updated to reflect newer BARCT emission limits and to apply the rule to all facilities within the South Coast AQMD jurisdiction (RECLAIM and non-RECLAIM facilities). Table 3.1 provides a summary of the various equipment categories and the emission limits for those categories in Rule 1147. All emission limits are given in units of parts per million by volume (ppmv) corrected to 3% oxygen content.<sup>2</sup>

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<sup>1</sup> RECLAIM: REgional CLean Air Incentives Market Program

<sup>2</sup> Throughout this document, all ppmv limits are referenced to 3% oxygen, unless otherwise stated.

**Table 3.1 – SCAQMD Rule 1147 NOx Emission Limits**

Equipment Category	Process Temperature	NOx Limit
Afterburner, Degassing Unit, Thermal Oxidizer, Catalytic Oxidizer or Vapor Incinerator	All	20 ppmv or 0.024 lb/MMBtu
Tenter Frame or Fabric or Carpet Dryer		
Chiller (Absorption or Adsorption)		
Burn-off Furnace, Burnout Oven, Incinerator or Crematory with or without Integrated Afterburner	All	30 ppmv or 0.036 lb/MMBtu
Make-Up Air Heater or Air Heater located outside with temperature controlled zone inside building		
Autoclave or Rotary Dryer		
Evaporator, Fryer, Heated Process Tank, or Parts Washer	All	60 ppmv or 0.073 lb/MMBtu
Remediation Unit		
Turbine <0.3 MW	All	9 ppmv (corrected to 15% O <sub>2</sub> ) or 0.033 lb/MMBtu
Oven, Dehydrator, Dryer, Heater, Kiln, Calciner, Cooker, Roaster, Furnace, or Heated Storage Tank	<1,200°F	20 ppmv or 0.024 lb/MMBtu
	≥1,200°F	30 ppmv or 0.036 lb/MMBtu
Tunnel Kiln, Beehive Kiln, and other remaining units	<1,200°F	30 ppmv or 0.036 lb/MMBtu
	≥1,200°F	60 ppmv or 0.073 lb/MMBtu
All liquid fuel-fired Units	<1,200°F	40 ppmv or 0.053 lb/MMBtu
	≥1,200°F	60 ppmv or 0.073 lb/MMBtu

For the equipment category that includes ovens, dehydrators, dryers, heaters, and kilns, the initial NOx limits were initially established to be 30 or 60 ppmv, depending on the process temperature. However, during the 2022 amendments, the emission limits for this category were reduced to 20 and 30 ppmv, as shown in the table above. These lower limits were deemed feasible for most burner replacements and new installations based on observed source test data and technical information from vendors. Hence, the 2022 amendments require all new units to meet the lower NOx limits upon burner replacement, and existing equipment that already complied with the initial rule limits (30 or 60 ppmv) would be required to meet the lower NOx limits (20 or 30 ppmv) when the burner reaches 32 years of age.

### 3.2 Ventura County APCD Rule 74.34

Rule 74.34 was initially adopted by the Ventura County APCD in 2016 to reduce NOx emissions from dryers, furnaces, heaters, incinerators, kilns, ovens, and duct burners. The rule applies to units with a total rated heat input of 5 MMBtu/hr or greater, and the NOx emission standards in the rule are shown below in Table 3.2. Most of the emission standards in the rule were based on similar standards being implemented by the South Coast AQMD at the time of rule adoption. However, the NOx emission limit for kilns was raised from 60 ppmv to 80 ppmv to account for process bound nitrogen at one of the aggregate facilities within Ventura County. Since combustion controls do not impact process bound nitrogen, the 80 ppmv emission standard was determined to be the most feasible standard for the specific aggregate facility in Ventura County.

**Table 3.2 – Ventura County APCD Rule 74.34 NOx Emission Limits**

Equipment Category	Process Temperature	NOx Limit
Asphalt/Sand/Paper Dryer	All	40 ppmv or 0.048 lb/MMBtu
Metal Heat Treating or Metal Melting Furnace	All	60 ppmv or 0.072 lb/MMBtu
Kiln	All	80 ppmv or 0.096 lb/MMBtu
Oven, Heater, Incinerator, Remaining Dryer & Furnace	<1,200°F	30 ppmv or 0.036 lb/MMBtu
	≥1,200°F	60 ppmv or 0.072 lb/MMBtu

### 3.3 Sacramento Metropolitan AQMD Rule 419

Rule 419 was initially adopted by the Sacramento-Metropolitan Air Quality Management District in 2018 to reduce NOx emissions from the various Miscellaneous Combustion Units within their jurisdiction. The rule applies to units with a maximum rated heat input of 2 MMBtu/hr or greater at major stationary sources of pollution<sup>1</sup> and units with a maximum rated heat input of 5 MMBtu/hr or greater at all sources. The NOx emission standards in the rule are similar to the emission standards being implemented by the South Coast AQMD at the time of rule adoption, but additional evaluations and categories were needed for some of the more unique combustion units, such as cooking units and soybean roasters. The NOx emission standards in Rule 419 are shown below in Table 3.3.

**Table 3.3 – Sac-Metro AQMD Rule 419 NOx Emission Limits**

Equipment Category	Process Temperature	NOx Limit
Asphalt Manufacturing Operation	All	40 ppmv or 0.049 lb/MMBtu
Incinerator or Crematory, Metal Heat Treating or Metal Melting Furnace	All	60 ppmv or 0.073 lb/MMBtu
Cooking Unit	<500°F	40 ppmv or 0.049 lb/MMBtu
	≥500°F	60 ppmv or 0.073 lb/MMBtu
Soybean Roaster	<1,200°F	45 ppmv or 0.055 lb/MMBtu
	≥1,200°F	60 ppmv or 0.073 lb/MMBtu
Oven, Dehydrator, Dryer, Heater, Kiln, and Remaining Furnaces and Miscellaneous Units	<1,200°F	30 ppmv or 0.036 lb/MMBtu
	≥1,200°F	60 ppmv or 0.073 lb/MMBtu
All liquid fuel-fired Units	<1,200°F	40 ppmv or 0.053 lb/MMBtu
	≥1,200°F	60 ppmv or 0.073 lb/MMBtu

<sup>1</sup> Major stationary source means any source of air pollutants which has the potential to emit 100 tons per year or more of a regulated criteria pollutant, except that lower thresholds may apply based on the federal attainment status.

### 3.4 San Joaquin Valley Unified APCD Rule 4309

SJVUAPCD Rule 4309 was adopted in December 2005, and it applies to units that have a total rated heat input of 5 MMBtu/hr or greater. The rule sets NO<sub>x</sub> emission limits for gaseous and liquid fueled dryers, dehydrators, and ovens. The emission limits in Rule 4309 are referenced at an oxygen content level of 19%, and so Table 3.4 below also shows the equivalent concentration at 3% O<sub>2</sub> so that they can be compared to the other rules in this BARCT analysis.

**Table 3.4 – San Joaquin Valley Unified APCD Rule 4309 NO<sub>x</sub> Emission Limits**

Equipment Category	NO <sub>x</sub> Limit ppmv @ 19% O <sub>2</sub> (ppmv @ 3% O <sub>2</sub> )	
	Gaseous Fueled	Liquid Fueled
Asphalt Manufacturing Operation	4.3 (~ 40)	12.0 (~ 110)
Milk, Cheese, and Dairy Processing < 20 MMBtu/hr	3.5 (~ 32)	3.5 (~ 32)
Milk, Cheese, and Dairy Processing ≥ 20 MMBtu/hr	5.3 (~ 49)	5.3 (~ 49)
Other processes (dryers, dehydrators, or ovens) not described above	4.3 (~ 40)	4.3 (~ 40)

## 4. PROPOSED BARCT FOR MISCELLANEOUS COMBUSTION UNITS

### 4.1 Overview of Proposed Analysis

Although there are a multitude of different equipment types that can be considered Miscellaneous Combustion Units, this BARCT analysis addresses dryers, furnaces, kilns, and heaters since these types of equipment units are permitted at the AB 617 Industrial Sources within Santa Barbara County. District Staff reviewed the measures identified as BARCT in the California Air Resources Board's Technology Clearinghouse<sup>1</sup> and the following major requirements are needed to satisfy the BARCT provisions for AB 617:

- All dryers, kilns, furnaces, and heaters with a rated heat input capacity of 5 million Btu or greater need to comply with the BARCT standards;
- Units with a process temperature < 1,200°F shall meet a 30 ppmv NO<sub>x</sub> BARCT standard; and
- Units with a process temperature ≥ 1,200°F shall meet a 60 ppmv NO<sub>x</sub> BARCT standard.

All of the amendments are described in further detail in their corresponding sections below, and a comparison of the key requirements in the District's BARCT analysis to the rules from other air districts is shown in Table 4.2 at the end of this section. An evaluation of the costs and impacts of the requirements is contained in Section 5 of this report.

### 4.2 Definitions

For the purpose of this assessment, the following definitions shall apply:

- "Unit" means a dryer, furnace, kiln, heater, or any combination of such devices, with one or more burners and one or more exhaust stacks, that are collectively operated as the source(s) of heat to complete a process, such as drying, curing, or calcining a product. This definition does not include any boiler or process heater subject to District Rule 342.
- "Process Temperature" means the maximum operating temperature of the unit under maximum designed production rate.
- "Therm" means one hundred thousand (100,000) British Thermal Units.

### 4.3 Requirement – NO<sub>x</sub> and CO Emission Limit

Based on our review of the CARB Technology Clearinghouse, the BARCT emission limits for Miscellaneous Combustion Units within Santa Barbara County are proposed to be 30 ppmv for units that have a process temperature of less than 1,200°F and 60 ppmv for units that have a process temperature greater than or equal to 1,200°F. These emission limits, as shown in Table 4.1 below, can typically be met by retrofitting the older, conventional burners with low-NO<sub>x</sub> burners. Units may also comply with the applicable lb/MMBtu emission limit in lieu of the associated ppmv limit.

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<sup>1</sup> <https://ww2.arb.ca.gov/current-air-district-rules>

**Table 4.1 – Santa Barbara County BARCT for Miscellaneous Combustion Units**

Equipment Category	Process Temperature	NOx Limit
Dryer, Furnace, Kiln, or Heater	<1,200°F	30 ppmv or 0.036 lb/MMBtu
	≥1,200°F	60 ppmv or 0.073 lb/MMBtu

Low-NOx burners used in miscellaneous applications have been available for over a decade, demonstrating that the use of these burners to meet the 30 and 60 ppmv limits is technologically feasible. Although lower NOx emission limits have recently been established in the South Coast AQMD (20 and 30 ppmv), the emission limits in their rule have not yet been proven to work in all applications. The combustion units subject to this BARCT assessment are older, unique devices that are challenging to retrofit with new burner technology. Hence, using the 30 and 60 ppmv NOx limits, which is representative of BARCT for most other air districts, is the lowest feasible NOx BARCT standard for the equipment in Santa Barbara County.

Based on our review of the CARB Technology Clearinghouse, the CO emission limit is proposed to be 400 ppmv. The 400 ppmv limit is mainly used as a backstop because CO emissions above this threshold are indicative of improper combustion parameters (i.e., low-excess oxygen) for equipment units of this size. Furthermore, no other air district has established lower CO emission limits in their rule.

#### **4.4 Requirement – Testing and Monitoring Conditions**

Low-NOx burners can be initially calibrated to attain the emission limits, but they typically need to be cleaned and adjusted over time. Hence, a testing and monitoring program is necessary to ensure that the units are properly tuned, and that the lower NOx limits prescribed in this BARCT assessment are achieved.

This BARCT analysis will require each unit to be source tested every two years at the unit's actual peak load or under the unit's typical duty cycle. Acceptable source test methods include CARB Method 100, and EPA Methods 3A (Stack Gas Oxygen), 7E (Oxides of Nitrogen), 10 (Carbon Monoxide), and 19 (NOx Emission Rate). Alternative test methods may be used as long as they have been determined to be equivalent and have been approved for use by the Control Officer, the California Air Resources Board, and the United States Environmental Protection Agency. Each source test shall consist of three separate 40-minute runs, and it shall be conducted in accordance with a source test plan that has been approved by the Control Officer.

#### **4.5 Exemption – Low-use Threshold**

One of the requirements for BARCT assessments is to evaluate the cost-effectiveness of the project. For units that aren't operated very often, installing controls or retrofitting the device may cost a lot of money while not reducing much pollution. Low-use thresholds are typically included in rules and analyses to address these situations.

Based on our review of the CARB Technology Clearinghouse and the District's cost-effectiveness calculations, a 90,000 therm low-use threshold has been incorporated into this analysis for each burner. For a burner that is rated at 15 MMBtu/hr, the low-use threshold correlates to approximately 600 hours per year at maximum firing capacity, or around a 7%

annual operating capacity. It would not be cost-effective to retrofit a burner that consistently operates below this amount. Please refer to Section 5 of this report for more information on the District's cost-effectiveness calculations.

To qualify for the low-use exemption, a non-resettable totalizing fuel meter shall be installed and maintained on each miscellaneous combustion unit to verify that the threshold is not exceeded. If the low-use threshold is exceeded during a calendar year, the equipment must be retrofitted to comply with the BARCT standards no later than 18 months after the end of the calendar month during which the exemption was exceeded.

Table 4.2 – Comparison to Air District Rules

ANALYSIS DESCRIPTION		Santa Barbara APCD BARCT - Misc. Units (Proposed)	South Coast AQMD Rule 1147 (2022)	Ventura APCD Rule 74.34 (2016)	Sac-Metro AQMD Rule 419 (2018)	San Joaquin Valley APCD Rule 4309 (2005)
Applicability	Equipment Rating & Location	5+ MMBtu/hr (at AB 617 Sources)	0.325+ MMBtu/hr	5+ MMBtu/hr	2+ MMBtu/hr (at Major Sources); 5+ MMBtu/hr (All Sources)	5+ MMBtu/hr
	Equipment Type	Dryers, Furnaces, Kilns, and Heaters	Permitted Miscellaneous Combustion Units not subject to other equipment-specific rules	Dryers, Furnaces, Heaters, Incinerators, Kilns, Ovens, and Duct Burners	Permitted Miscellaneous Combustion Units and Cooking Units	Dryers, Dehydrators, and Ovens
Exemptions	Equipment Type	Air Pollution Control Devices, Flares, Boilers, Duct Burners with SCR	Air Pollution Control Devices & Flares under specific scenarios, Charbroilers, Food Ovens	Air Pollution Control Devices, Flares, Boilers, Duct Burners with SCR	Air Pollution Control Devices, Flares, Boilers, Duct Burners with SCR	Tower/Grain Dryers, Cotton Dryers, Boilers
	Low-use	90,000 therms	---	90,000 therms	30,000 therms	---
NOx Requirements – Gaseous Fueled Equipment		<u>Dryer, Furnace, Kiln, or Heater</u> <1,200°F: 30 ppmv ≥1,200°F: 60 ppmv	<u>Oven, Dehydrator, Dryer, Heater, Kiln, Calciner, Cooker, Roaster, Furnace, or Heated Storage Tank</u> <1,200°F: 20 ppmv ≥1,200°F: 30 ppmv	<u>Oven, Heater, Incinerator, Remaining Dryer &amp; Furnace</u> <1,200°F: 30 ppmv ≥1,200°F: 60 ppmv <u>Kiln</u> 80 ppmv	<u>Oven, Dehydrator, Dryer, Heater, Kiln, Remaining Furnace</u> <1,200°F: 30 ppmv ≥1,200°F: 60 ppmv	<u>Dryers, Dehydrators, and Ovens</u> ~ 40 ppmv
CO Requirements		400 ppmv	1,000 ppmv	400 ppmv	400 ppmv	~ 400 ppmv
Source Testing Frequency		Biennial	<2 MMBtu/hr: Optional Manufacturer certification in lieu of tests <10 MMBtu/hr: 5 years 10 - <40 MMBtu/hr: Biennial 40+ MMBtu/hr: Annual	Every 4 years with Annual NOx screening	Biennial	Biennial

## 5. IMPACTS OF THE PROPOSED ANALYSIS

### 5.1 Emission Impacts

The BARCT analysis will affect new and existing Miscellaneous Combustion Units with a maximum heat input of 5 million Btu or greater at the AB 617 industrial sources. The only facility that is expected to be impacted by this analysis is Imerys. Imerys currently uses multiple burners in dryers, furnaces, and kilns to dry or calcinate its products. A listing of these units is shown below in Table 5.1.

**Table 5.1 – Miscellaneous Combustion Units at Imerys, 5 MMBtu/hr or greater**

#	Device Name	Rated Heat Input Capacity (MMBtu/hr)	Most Recent Burner Modification	Permitted Emission Rate	BARCT Assessment
1	System 7 Kiln	50	1994	5.5 lbs/hr (≈ 48 ppmv NOx)	Exempt
2	System 7 Furnace	45	2007		
3	Silicates Conveyor Dryer	45 total [3 burners]	Pre-1990	Uncontrolled (≈ 82 ppmv NOx)	30 ppmv
4	Silicates Flash Dryer	17.5	Pre-1990	Uncontrolled (≈ 82 ppmv NOx)	30 ppmv

Out of the four units listed above, two of the units are currently exempt from having to comply with the AB 617 BARCT requirements. In the implementing legislation, the AB 617 BARCT requirements were crafted by the state legislature to not apply to devices that have implemented BARCT due to a permit revision or a new permit issuance since 2007. The System 7 kiln and furnace have a combined emission rate since these two units are operated in tandem, and these units were analyzed for Best Available Control Technology (BACT) during an air permit evaluation in 2007. The BACT analysis evaluated NOx control technologies, including other low NOx burners and selective catalytic reduction (SCR), but additional controls were not cost-effective. This is partly because System 7 already uses a wet scrubber to control SOx and PM emissions, which means that additional natural gas combustion would be needed to reheat the exhaust stream to the necessary temperature for SCR to achieve high NOx control efficiencies. Hence, the engineering evaluation showed that the kiln and furnace met BACT in 2007, and so a new BARCT determination for these two units cannot be performed under the AB 617 mandate.

The remaining two devices, the silicates conveyor dryer and the flash dryer, do not have any emission controls, but they could be retrofitted with low-NOx burners to reduce their emissions of criteria pollutants. To evaluate the estimated emission impacts of the silicates conveyor and flash dryer complying with the BARCT requirements, the historical operating records of the units were reviewed and a representative operating capacity was determined based on the last three years of data. The estimated emission reductions of the silicates conveyor dryer complying with the BARCT standard are shown below in Table 5.2.

**Table 5.2 – Estimated Emission Reductions using Representative Operating Capacity**

<u>Description</u>	<b>Maximum Heat Input</b> (MMBtu/hr)	<b>Initial NOx EF</b> (lbs/MMBtu)	<b>Final NOx EF</b> (lbs/MMBtu)	<b>Representative Operating Capacity</b>	<b>NOx Reductions</b> (tons/yr)
Silicates Conveyor Dryer	45	0.098	0.036	4.3%	<b>0.53</b>
Silicates Flash Dryer	17.5	0.098	0.036	0.9%	<b>0.04</b>

Where:

- Initial NOx Emission Factor (EF) = 82 ppmv NOx [uncontrolled default]
- Final NOx Emission Factor = 30 ppmv NOx [Process Temperature <1,200°F]
- Representative Operating Capacity = (Annual Fuel Use) / (Max Potential Annual Fuel Use)
- NOx Reductions = (Max Heat Input) \* (Δ Emission Factor) \* (Rep. Op. Capacity) \*  
(8,760 hours/year) / (2,000 lbs/ton) / (1,050 Btu/scf)

Based on the equation above, the implementation of BARCT may reduce approximately 0.57 tons of NOx per year if the Silicates Conveyor Dryer and Flash Dryer are retrofitted with low-NOx burners. However, these two units qualify for the low-use exemption, which is discussed below in Section 5.2.

## 5.2 Cost-Effectiveness

Staff evaluated a scenario where the silicates conveyor dryer and flash dryer were retrofitted with low-NOx burners to comply with the BARCT standards. Capital and installation cost estimates were obtained from recent staff reports published by the South Coast AQMD and a confidential quote provided by Imerys. For cost-effectiveness calculations, the District uses the Levelized Cash Flow (LCF) method. In the LCF method, a capital recovery factor (CRF) is used to transform any capital costs into an equivalent annual cost. The CRF is necessary because the one-time capital expenditures reduce emissions over the entire duration of the project life. Hence, the CRF is a function of the real interest rate and equipment life. The estimated cost-effectiveness for the scenario using the representative operating capacity is shown below in Table 5.3.

**Table 5.3 – Estimated Cost-Effectiveness using Representative Operating Capacity**

<u>Description</u>	<b>Costs</b>		<b>Cost-Effectiveness</b>		
	<b>Capital Costs</b>	<b>Installation Costs</b>	<b>CRF</b>	<b>Annualized Cost</b>	<b>Cost-Effectiveness</b> (\$/ton)
Silicates Conveyor Dryer	\$240,000	\$240,000	0.078	\$37,500	<b>\$71,000</b>
Silicates Flash Dryer	\$80,000	\$80,000	0.078	\$12,500	<b>\$303,000</b>

Where:

- Cost-Effectiveness = (Annualized Cost) / (Emission Reductions)
- Annualized Cost = (Capital Costs \* CRF) + (Annual Operational Costs)

$$\bullet \text{ CRF} = \frac{i * (1 + i)^n}{(1 + i)^n - 1} = \frac{0.06 * (1 + 0.06)^{25}}{(1 + 0.06)^{25} - 1} = 0.078$$

i = Real Interest Rate (6%)

n = Project Life (25 years)

The capital and installation costs shown above represent the costs for new, low-NOx burners that are certified to comply with the 30 ppm NOx standard. It's important to note that the current, conventional burners are over 30 years old and are near the end of their useful life. This evaluation does not exclude the capital costs associated with replacing the existing conventional burners with new conventional burners. However, the evaluation does exclude costs that are unrelated to the control equipment, such as the fuel line and the burner management system. Due to current building and fire codes, these components would eventually need to be replaced with new equipment that complies with current safety standards regardless of this BARCT analysis. Using low-NOx equipment, as compared to a conventional burner, is also not anticipated to result in any additional on-going operational or maintenance costs.

Using the assumptions listed above, the cost-effectiveness values shown in Table 5.3 for retrofitting the silicates conveyor dryer and flash dryer are higher than the normally accepted values for rule development measures. Hence, the BARCT requirement to reach 30 ppmv for these dryers is not considered to be cost-effective based on the last three years of data.

### 5.3 Low-use Thresholds

Although the actual operating loads for the conveyor dryer and flash dryer have decreased in recent years, the operating permit for the facility allows these devices to operate at maximum capacity. If these units operate at higher loads in future years, it would be cost-effective to meet the BARCT requirements at that time. Low-use thresholds are typically included in rules and analyses to determine the appropriate point in which it is cost-effective to comply with the lower emission standards. Staff reviewed the low-use thresholds established by other districts and a 90,000 therm limit per burner is proposed for this assessment. As shown in Table 5.4 below, this allows the conveyor dryer up to 270,000 therms per year because the conveyor dryer consists of three separate 15 MMBtu/hr burners. At these higher operating capacities, the project is cost-effective.

**Table 5.4 – Estimated Emission Reductions and Cost-Effectiveness at Low-use Threshold**

<u>Description</u>	<b>Low-Use Threshold</b> (Therms)	<b>Operating Capacity At Threshold</b>	<b>NOx Reductions at Threshold</b> (tons/yr)	<b>Annualized Cost</b>	<b>Cost-Effectiveness</b> (\$/ton)
Silicates Conveyor Dryer	270,000	7%	<b>0.84</b>	\$37,500	<b>\$45,000</b>
Silicates Flash Dryer	90,000	6%	<b>0.28</b>	\$12,500	<b>\$45,000</b>

Hence, the low-use thresholds need to be incorporated into the facility's permit to satisfy BARCT. To verify the operational usage of each dryer, a non-resettable totalizing fuel meter shall be installed and maintained on each unit. If the low-use threshold is exceeded, a new permit application needs to be submitted no later than 30 days after the end of the calendar month during which the threshold was exceeded. The affected equipment must then demonstrate compliance with the BARCT standards no later than 18 months after the end of the calendar month during which the threshold was exceeded. This proposal shall ensure that the BARCT requirements are implemented in a timely and expeditious manner.

#### **5.4 Incremental Cost-Effectiveness**

Incremental cost-effectiveness evaluates and compares two or more control options available for emission reductions. For equipment subject to this BARCT analysis, the two identified pollution control technologies are low-NOx burners and selective catalytic reduction (SCR) systems. SCR systems may allow an equipment unit to operate at a NOx level of 5 ppm or less. However, SCR retrofits dramatically increase the capital and operational costs compared to a burner retrofit. Based on the size and operating capacity of the equipment units in this analysis, the alternative control option of installing an SCR system was determined to not be cost-effective.

#### **5.5 Implementation Timeline**

Imerys submitted a permit application to comply with the BARCT analysis for Miscellaneous Combustion Units by incorporating the low-use thresholds for the dryers at the Silicates Plant. The enforceable permit conditions have been incorporated no later than December 31, 2023, in accordance with AB 617. By operating under the low-use thresholds, the devices will meet BARCT. Any operation beyond the thresholds will trigger the requirement to reduce the equipment's NOx emissions to the levels prescribed in this analysis.

### **6. REFERENCES**

- 1) South Coast Air Quality Management District – *Rule 1147, NOx Reductions from Miscellaneous Sources*, Adopted December 5, 2008.
- 2) South Coast Air Quality Management District – *Rule 1147, NOx Reductions from Miscellaneous Sources*, Amended May 6, 2022.
- 3) San Joaquin Valley Unified Air Pollution Control District – *Rule 4309, Dryers, Dehydrators, and Ovens*, Adopted December 15, 2005.
- 4) Ventura County Air Pollution Control District – *Rule 74.34, NOx Reductions from Miscellaneous Sources*, Adopted December 13, 2016.
- 5) Sacramento Metropolitan Air Quality Management District – *Rule 419, NOx From Miscellaneous Combustion Units*, Adopted July 26, 2018.
- 6) Santa Barbara County Air Pollution Control District – *Assembly Bill 617 Best Available Retrofit Control Technology Rule Development Schedule*, Adopted December 20, 2018.

ATTACHMENT B

Imerys Permit Modification #5840-13

October 19, 2023

Santa Barbara County Air Pollution Control District  
Board of Directors

260 San Antonio Road, Suite A  
Santa Barbara, California 93110



air pollution control district  
SANTA BARBARA COUNTY

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And Part 70 Minor Modification 5840-13

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EQUIPMENT OWNER:

Imerys Filtration Minerals, Inc.

EQUIPMENT OPERATOR:

Imerys Filtration Minerals, Inc.

EQUIPMENT LOCATION:

2500 Miguelito Road, Lompoc

STATIONARY SOURCE/FACILITY:

Imerys Filtration Minerals, Inc.

SSID: 01735  
FID: 00012

EQUIPMENT DESCRIPTION:

The equipment subject to this permit is listed in the table at the end of this permit.

AUTHORIZED MODIFICATION:

This permit implements quarterly and annual low-use heat input operating limits for the Silicates Conveyor Dryer (DID# 000143) and the Silicates Flash Dryer (DID# 000140) as well as associated monitoring, recordkeeping and reporting requirements to ensure compliance with AB617 Best Available Retrofit Control Technology (BARCT) requirements.

PROJECT/PROCESS DESCRIPTION:

Imerys currently mines and processes diatomaceous earth (DE) at its Lompoc Plant. Imerys operates multiple product lines each with “wet end” and “dry end” processing. Wet diatomaceous earth crude is surface mined, crushed, milled and dried and/or calcined at high temperatures. The dried product is classified into a variety of grades and bagged, or bulk loaded for shipment to distributors and customers. Specialized wet and dry processing of diatomite and other materials occurs on a smaller scale at the Synthetic Silicates Plant and the Pellet Plant. The Imerys Facility ID is 0012 and the Stationary Source ID is 1735.

CONDITIONS:

The following conditions amend the Part 70 Operating Permit for this facility. The remaining conditions of the Part 70 Operating Permit remain in full force and effect.

**9.A *Standard Administrative Conditions***

**A.1 *Compliance with Permit Conditions.***

- (a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.
- (b) This permit does not convey property rights or exclusive privilege of any sort.
- (c) Any permit noncompliance with sections 9.A, 9.B, or 9.C constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
- (d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
- (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
  - (1) compliance with the permit, or

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- (2) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action.
  - (g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible. [Re: 40 CFR Part 70.6.(a)(6), District Rules 1303.D.1]
- A.2 **Emergency Provisions.** The permittee shall comply with the requirements of the District, Rule 505 (Upset/Breakdown rule) and/or District Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the District, in writing, a “notice of emergency” within two (2) working days of the emergency. The “notice of emergency” shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [Re: 40 CFR 70.6(g), District Rule 1303.F]
- A.3 **Risk Management Plan.** Should the Imerys facility, as defined in 40 CFR 68.3, become subject to part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 CFR 68.10. The facility shall certify compliance as part of the annual certification as required by 40 CFR part 70. [40 CFR 68.10]
- A.4 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:
- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
  - (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
  - (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing. [Re: District Rule 1303.D.2]

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- A.5 **Permit Life.** The Part 70 permit shall become invalid three years from the date of issuance unless a timely and complete renewal application is submitted to the District. Any operation of the source to which this Part 70 permit is issued beyond the expiration date of this Part 70 permit and without a valid Part 70 operating permit (or a complete Part 70 permit renewal application) shall be a violation of the CAAA, § 502(a) and 503(d) and of the District rules. [Re: District Rule 13012]
- A.6 **Payment of Fees.** The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6(a)(7)]
- A.7 **Prompt Reporting of Deviations.** The permittee shall submit a written report to the District documenting each and every deviation from the requirements of this permit or any applicable federal requirements within seven (7) days after discovery of the violation, but not later than 6 months after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. Breakdown Conditions, or Rule 1303.F Emergency Provisions. [District Rule 1303.D.1, 40 CFR 70.6(a)(3)]
- A.8 **Permit Shield.** As indicated by section 1.6.4 of this permit Imerys did not request a permit shield for the Celpure Plant. [District Rule 1303]
- A.9 **Reporting Requirements/Compliance Certification.** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on District approved forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1<sup>st</sup> and March 1<sup>st</sup>, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Compliance Verification Report" condition in Section 9.C. The permittee shall include a written statement from the responsible official, which certifies the truth, accuracy, and completeness of the reports. [Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c]

- A.10 **Federally Enforceable Conditions.** Each federally enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally enforceable or subject to the public/USEPA review. [*Re: CAAA § 502(b)(6), 40 CFR 70.6(b)*]
- A.11 **Recordkeeping Requirements.** The permittee shall maintain records of required monitoring information that include the following:
- (a) The date, place as defined in the permit, and time of sampling or measurements;
  - (b) The date(s) analyses were performed;
  - (c) The company or entity that performed the analyses;
  - (d) The analytical techniques or methods used;
  - (e) The results of such analyses; and
  - (f) The operating conditions as existing at the time of sampling or measurement;
  - (g) The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request. [*Re: District Rule 1303.D.1.f, 40 CFR 70.6(a)(3)*]
- A.12 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:
- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30 day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.
  - (b) Inaccurate Permit Provisions: If the District or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.
  - (c) Applicable Requirement: If the District or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a

federally enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

- (d) Administrative procedures to reopen a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists.
- (e) If a permit is reopened, the expiration date does not change. Thus, if the permit is reopened, and revised, then it will be reissued with the expiration date applicable to the re-opened permit. [*Re: 40 CFR 70.7(f), 40 CFR 70.6(a)*]

- A.13 **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force. [Ref: Rule 1303]
- A.14 **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all written data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file), and with the District's analyses contained within this permit (including any documents specifically referenced herein)." [Ref: Rule 206]
- A.15 **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site. [Ref: Rule 206]
- A.16 **Compliance.** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments.
- A.17 **Conflict Between Permits.** The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein.
- A.18 **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the District or its agents, the permittee shall make such records available or provide access to such facilities upon notice from the District. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.

- A.19 **Equipment Identification.** Identifying tag(s) or name plate(s) shall be displayed on the equipment to show manufacturer, model number, and serial number. The tag(s) or plate(s) shall be issued by the manufacturer and shall be affixed to the equipment in a permanent and conspicuous position.
- A.20 **Emission Factor Revisions.** The District may update the emission factors for any calculation based on USEPA AP-42 or District emission factors at the next permit modification or permit reevaluation to account for USEPA and/or District revisions to the underlying emission factors.
- A.21 **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit shall constitute grounds for the APCO to petition for permit revocation pursuant to Health and Safety Code section 42307 *et seq.* [Ref: Rule 1303]
- A.22 **Transfer of Owner/Operator.** This permit is only valid for the owner and operator listed on this permit unless a *Transfer of Owner/Operator* application has been applied for and received by the District. Any transfer of ownership or change in operator shall be done in a manner as specified in District Rule 203. District Form –01T and the appropriate filing fee shall be submitted to the District within 30 days of the transfer.
- A.23 **Reimbursement of Costs.** All reasonable expenses, as defined in District Rule 210, incurred by the District, District contractors, and legal counsel for the activities listed below that follow the issuance of this permit, including but not limited to permit condition implementation, compliance verification and emergency response, directly and necessarily related to enforcement of the permit shall be reimbursed by the permittee as required by Rule 210. Reimbursable activities include work involving: permitting, compliance, CEMS, modeling/AQIA, ambient air monitoring and air toxics.

## **9.B Generic Conditions**

- B.1 **Circumvention (Rule 301).** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303. [Re: District Rule 301]

- B.2 **Visible Emissions (Rule 302).** Imerys shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in anyone hour which is:
- (a) As dark or darker in shade as that designated as No. I on the Ringelmann Chart, as published by the United States Bureau of Mines, or
  - (b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2.(a) above.
- Compliance shall be determined by visible emission evaluations by certified observers. All visible emission observations and inspections sheets and records shall be maintained consistent with the recordkeeping condition of this permit. [Ref: District Rule 302].
- B.3 **Nuisance (Rule 303).** No pollutant emissions from any source at Imerys shall create nuisance conditions. No operations shall endanger health, safety or comfort, nor shall they damage any property or business. [Re: District Rule 303]
- B.4 **PM Concentration - Northern Zone (Rule 304).** Imerys shall not discharge into the atmosphere, from any source, particulate matter in excess of 0.3 grain per cubic foot of gas at standard conditions. [Re: District Rule 304]
- B.5 **Dust and Fumes - North Zone (Rule 306).** Imerys shall not discharge into the atmosphere, from any source, particulate matter in excess of the concentrations listed in Table 306 (a) of Rule 306. [Re: District Rule 306]
- B.6 **Specific Contaminants (Rule 309).** Imerys shall not discharge into the atmosphere from any single source, sulfur compounds or combustion contaminants in excess of the applicable standards listed in Sections A and E of Rule 309. [Re: District Rule 309].
- B.7 **B.7 Sulfur Content of Fuels (Rule 311).** Imerys shall not burn fuels with a sulfur content in excess of 0.5% (by weight) for liquid fuels and 796 ppmvd or 50 gr/100 scf (calculated as H<sub>2</sub>S) for gaseous fuel. [Re: District Rule 311] Imerys shall demonstrate compliance and maintain records for the different fuel types as follows:
- (a) Fuel oil #6; The permittee shall comply with (i) or (ii)
    - (i) For each calendar year in which, #6 fuel oil was used, Imerys shall obtain the total sulfur content of the liquid fuel measured in accordance with ASTM D-2622, D-

- 129, D-1552 or an equivalent reference method which has been previously approved, in writing, by the District
- (ii) Imerys shall maintain written documentation of the total sulfur content of the fuel on a per shipment or quarterly basis. Such documentation shall consist of at least one of the following: vendor certification, vendor bill of lading, vendor laboratory analysis, or equivalent reference testing results which have prior written District approval.
- (b) Diesel oil and gasoline; The permittee shall comply with (i) or (ii)
- (i) Annually, Imerys shall obtain measurements of the total sulfur content of the liquid fuel in accordance with ASTM D-2622, D-129, D-1552 or an equivalent reference method which has been previously approved, in writing, by the District.
  - (ii) Imerys shall maintain written documentation of the total sulfur content of the fuel on a per shipment basis or quarterly basis. Such documentation shall consist of at least one of the following: vendor certification, vendor bill of lading, vendor laboratory analysis, or equivalent reference testing results which have prior written District approval.
- (c) Natural gas: Imerys shall maintain billing records or other data showing that the fuel gas is obtained from a natural gas utility. These records shall be obtained at least annually.  
*[Re: District Rule 311J]*
- B.8 **Organic Solvents (Rule 317)**. Imerys shall comply with the emission standards listed in Section B of Rule 317. *[Re: District Rule 317]*
- B.9 **Solvent Cleaning Operations (Rule 321)**. Imerys shall comply with the operating requirements of this rule when performing solvent cleaning operations unless relieved by rule exemption. *[Re: District Rule 321]*
- B.10 **Metal Surface Coating Thinner and Reducer (Rule 322)**. The use of photochemically reactive solvents as thinners or reducers in metal surface coatings is prohibited. *[Re: District Rule 322]*
- B.11 **Architectural Coatings (Rule 323)**. Imerys shall comply with the coating ROC content and handling standards listed in Section D of Rule 323 as well as the Administrative requirements listed in Section F of Rule 323. *[Re: District Rules 323]*
- B.12 **Disposal and Evaporation of Solvents (Rule 324)**. Imerys shall not dispose through atmospheric evaporation of more than one and a half gallons of any photochemically reactive solvent per day. *[Re: District Rule 324]*

- B.13 **Motor Vehicle and Mobile Equipment Coating Operations (Rule 339).** Imerys shall comply with the requirements of this rule when performing coating operations unless relieved by rule exemption. [Re: District Rule 339]
- B.14 **CARB Registered Portable Equipment.** State registered portable equipment shall comply with State registration requirements. A copy of the State registration shall be readily available whenever the equipment is at the facility. [Re: District Rule 202]
- B.15 **Rule 360 Compliance.** Any boiler or hot water heater rated at or less than 2.000 MMBtu/hr and manufactured after October 17, 2003 shall be certified per the provisions of Rule 360. An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr [Ref District Rule 360]

### 9.C **Equipment Specific Conditions**

The following conditions amend the Part 70 Operating Permit for this facility. The remaining conditions of the Part 70 Operating Permit remain in full force and effect.

- C.3 **Combustion Equipment –Silicates Dryers External Combustion Units.** The following equipment is included in this emissions unit category:

<b>Device Name</b>	<b>Imerys ID</b>	<b>District Device ID</b>
<i>Combustion Equipment</i>		
Silicates Conveyor Dryer	SPCD	143
Silicates Flash Dryer	SPFD	140

- (a) **Emissions Limitations.** The mass emissions from the equipment permitted herein shall not exceed the limits listed in Tables 5.3 and 5.4 of this permit. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

- (b) **Operating Restrictions.** The equipment permitted herein is subject to the following operational restrictions.
- (i) **Heat Input Limits – Low Use Limit.** After December 31, 2023, the hourly, daily, and annual heat input limits for the Silicates Conveyor Dryer (DID# 000143) and Silicates Flash Dryer (DID# 000140) shall not exceed the values listed in Table 5.1. Notwithstanding the above, exceeding the quarterly or annual heat input limits shall not be considered a violation of the permit if the requirements of Condition 9.C.3(b)(ii) are implemented following the exceedance. Unless otherwise designated by the District, the following fuel heat content shall be used for determining compliance:
- Natural Gas = 1,050 Btu/scf.
- (ii) **Low-Use Limit Exceedance.** If the quarterly or annual heat input thresholds for the Silicates Conveyor Dryer (DID# 000143) or the Silicates Flash Dryer (DID# 000140) are exceeded in any calendar month, Imerys shall notify the District of the exceedance and submit an ATC application to implement BARCT requirements, as defined in the District's Board-approved *Assembly Bill 617 BARCT Analysis for Miscellaneous Combustion Units*, for the unit that exceeded the threshold no later than 30 days after the end of the calendar month during which the threshold was exceeded. The affected equipment shall demonstrate compliance with BARCT standards no later than 18 months after the end of the calendar month during which the threshold was exceeded.
- (iii) There shall be no visible emissions when the Silicate Conveyor Dryer exhaust stream is re-routed to atmosphere.
- (c) **Monitoring.** The equipment permitted herein is subject to the following monitoring requirements.
- (i) **Burner Adjustment.** Imerys shall biennially clean and adjust the burners of the Silicates Conveyor Dryer (Device No 143), and the Silicates Flash Dryer (140). [Ref: 40 CFR 70.6]

- (ii) *Source Testing* - Imerys shall perform biennial source testing of air emissions and process parameters listed in Table 9.11 (Source Test Requirements) for the Silicates Conveyor Dryer (Device No 143). This unit shall be the first unit tested in Group 1 of Table 9.9. One zone (stack) must be tested; the zone to be tested and the method used to determine compliance with permitted emission limits shall be included in the source test plan for approval by the District. *[Ref: 40 CFR 70.6]*
  
- (iii) *Exhaust Stream Re-routing*. Each instance the Silicate Conveyor Dryer exhaust stream is re-routed to atmosphere Imerys shall:
  - (1) Conduct a USEPA Method 22 observation during equipment operations within 24 hours of exhaust re-routing. The Method 22 readings shall be a minimum of six minutes. If visible emissions are detected Imerys shall take corrective action to eliminate the emissions and record the action(s) taken in response to the visible emissions. *[ATC 14488]*
  
  - (2) Notify the District within three working days of exhaust re-routing and provide the Method 22 results with the notification. *[ATC 14488]*
  
- (iv) *Fuel Gas Usage Metering*. After December 31, 2023, the volume of fuel gas used (in units of standard cubic feet) in the Silicates Conveyor Dryer (DID# 000143) and the Silicates Flash Dryer (DID# 000140) shall be measured using separate dedicated District-approved calibrated non-resettable totalizing fuel meters for each unit as described in the District approved *AB617 Fuel Use Monitoring Plan*. The gas meter shall be temperature and pressure corrected. The fuel meters shall be accurate to within five percent (5%) of the full-scale reading. The meter shall be calibrated according to the manufacturer's specifications and the calibration records shall be made available to the District upon request.

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- (d) **Recordkeeping.** Imerys shall maintain the following records for the Silicates Conveyor Dryer (Device No 143), and the Silicates Flash Dryer (Device No 140)
- (i) *Burner Maintenance* - Imerys shall record the dates that burners are cleaned and/or adjusted.
  - (ii) *Fuel Sulfur Content* - Imerys shall maintain the documentation required by Condition 9.B.7 for fuels. [Ref: 40 CFR 70.6].
  - (iii) *Silicate Conveyor Dryer Exhaust Stream Re-Routing* - Imerys shall record the following readings obtained by the USEPA Method 22 inspections: the date and time of reading, name of reader, equipment item and whether fugitive emissions were observed, and if visible emissions were observed the corrective actions taken. [ATC 14488]
  - (iv) Fuel Volumes After December 31, 2023, the volume of fuel gas used each calendar month (in units of standard cubic feet) in the Silicates Conveyor Dryer (DID# 000143) and the Silicates Flash Dryer (DID# 000140) and the number of days in each month that the units operated shall be recorded. The fuel use data shall also be summarized for each calendar year.
  - (v) Monthly Heat Input Records – Low Use Threshold. At the end of each calendar month starting with January 2024, Imerys shall calculate and record the monthly heat input to the Silicates Conveyor Dryer (DID# 000143) and the Silicates Flash Dryer (DID# 000140) using the monthly fuel use records for each unit and the heat content of the gas as specified in Condition 9.C.3(b)(i). Each monthly record shall include the cumulative total heat input to each unit since January 1<sup>st</sup> of the reporting year to ensure the units did not exceed the quarterly or annual heat input low use limits during the month. The record shall also clearly state whether each unit remains in compliance with the low-use threshold.
- (e) Reporting: On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all the data required by condition 9.C.15 of this permit (*Semi-Annual Monitoring/Compliance Verification Reports*. [Ref: *District Rules 311.C and 1303, 40 CFR 70.6*]

C.15 **Semi-Annual Monitoring/Compliance Verification Reports.** Imerys shall submit a report to the District every six months to verify compliance with the emission limits and other requirements of section C. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year, and shall be submitted in hard copy and in an electronic (e.g., PDF) and computer searchable format approved by the District. All records and other supporting information not included in the report shall be available to the District upon request. "Supporting information" includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all logs and reports required by the permit. The second report shall include a summary of quarterly values for the half year being reported along with the yearly total for any reporting item below that requires a value or a sum over a year. The report shall include the following information:

- (c) *Combustion Equipment –Silicates Dryer External Combustion Units*
- (i) *Burner Maintenance* - Imerys shall record the dates that burners are cleaned and/or adjusted.
  - (ii) *Fuel Sulfur Content* - Imerys shall maintain the documentation required by 9.B.7 for fuel oil.
  - (iii) *Silicate Conveyor Dryer Exhaust Stream Re-Routing* - Imerys shall record the following readings obtained by the USEPA Method 22 inspections: the date and time of reading, name of reader, equipment item and whether fugitive emissions were observed, and if visible emissions were observed the corrective actions taken.
  - (iv) Fuel Volumes The volume of fuel gas used each calendar month (in units of standard cubic feet) in the Silicates Conveyor Dryer (DID# 000143) and the Silicates Flash Dryer (DID# 000140) and the number of days in each month that the units operated shall be reported. The fuel use data shall also be totaled for the year.
  - (v) Monthly Heat Input Records – Low Use Threshold. Imerys shall submit the monthly heat input records for the Silicates Conveyor Dryer (DID# 000143) and the Silicates Flash Dryer (DID# 000140) required to be maintained by Condition 9.C.3(d)(v).

- C.17 **AB617 - Fuel Use Monitoring Plan.** Within 60 days of issuance of PTO-Mod 5840-13, but no later than December 31, 2023, Imerys shall submit for review and obtain approval of a AB617 Fuel Use Monitoring Plan for the Silicates Conveyor Dryer (DID# 000143) and the Silicates Flash Dryer (DID# 000140). The plan shall detail how fuel metering for each unit will occur, the make/model of the fuel meter and any associated pressure/temperature corrector, calibration requirements and operator recordkeeping/reporting procedures to ensure any exceedance of the low-use limits is identified in accordance with the requirements of Condition 9.C.3(b)(ii).

### **9.D District-Only Conditions**

The following section lists permit conditions that are not enforceable by the USEPA or the public. However, these conditions are enforceable by the District and the State of California. These conditions are issued pursuant to District Rule 206 (*Conditional Approval of Authority to Construct or Permit to Operate*), which states that the Control Officer may issue an operating permit subject to specified conditions. Permit conditions have been determined as being necessary for this permit to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any condition specified pursuant to the provisions of Rule 206 shall be a violation of that rule, this permit, as well as any applicable section of the California Health & Safety Code.

- D.7 **Permit Activation.** All aspects of this permit are enforceable by the District and the State of California upon the issuance date stamped below. The Part 70 aspects of this permit are not final until:
- (a) The USEPA has provided written comments to the District and these comments require no modification to this permit. The District will issue a letter stating that this permit is a final Part 70 permit. The effective date that this permit will be considered a final Part 70 permit will be the date stamped on the District's letter.
  - (b) After the USEPA has provided the District written comments that require a modification to this permit, the District will modify this permit to address the USEPA's comments and issue the Part 70 permit as final. The re-issued permit will supersede this permit in its entirety.

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AIR POLLUTION CONTROL OFFICER

October 5, 2023

DATE

Attachments:

- Table 5.1 – Operating Equipment Description
- Table 5.2 – Equipment Emission Factors
- Table 5.3 – Short Term Emissions
- Table 5.4 – Long Term Emissions
- Permit Equipment List(s)
- Permit Evaluation for Permit to Operate 05840 - 13

Notes:

- Stationary sources are subject to an annual emission fee (see Fee Schedule B-3 of Rule 210).
- Annual reports are due by March 1<sup>st</sup> of each year.

TABLE 5.1 - Operating Equipment Description  
Part 70/District PTO-Mod 5840-13  
Imerys Corporation - Lompoc Plant

Equipment Description			Equipment Specification			Operating Limitations						Fuel Properties			
Equipment Item	Process Line	Fuel	District DeviceNo	Size	Units	On-line			Heat Input Fuel Limits (MMBtu)			HHV <sup>93</sup>	Total Sulfur		
						(hr/day)	(hr/qr)	(hr/yr)	(per day)	(per qr)	(per yr)				
Silicates Conveyor Dryer			143	45	MMBtu/hr	24	2190	8760	1,080	27,000	27,000	1,050	Btu/scf	797.00	ppmv S
Silicates Flash Dryer			140	17.5	MMBtu/hr	24	2190	8760	420	9,000	9,000	1,050	Btu/scf	797.00	ppmv S

TABLE 5.2 - Equipment Emission Factors Federally Enforceable  
Part 70/District PTO-Mod 5840-13  
Imerys Corporation - Lompoc Plant

Equipment Description			Emission Factors										References
Equipment Item	Process Line	District DeviceNo	NOx	ROC	CO	SOx	PM	PM10	PM2.5	GHG	Units		
Silicates Conveyor Dryer		143	140	--	--	0.128	--	--	--	117.00	See Reference	District PGD No 1., NOx (lb/hr) SOx (lb/MMBtu)	
Silicates Flash Dryer		140	140	--	--	0.128	--	--	--	117.00	See Reference	District PGD No 1., NOx (lb/hr) SOx (lb/MMBtu)	

TABLE 5.3 - Short Term Emissions  
Part 70/District PTO-Mod 5840-13  
Imerys Corporation - Lompoc Plant

Equipment Description			NOx		ROC		CO		SOx		PM		PM10		PM2.5		GHG		Federal Enforceability
Equipment Item	Process Line	District DeviceNo	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	lb/hr	lb/day	
Silicates Conveyor Dryer		143	140.0	3,360.0	--	--	--	--	5.76	138.24	--	--	--	--	--	--	5,265.00	126,360	FE
Silicates Flash Dryer		140	140.0	3,360.0	--	--	--	--	2.24	53.76	--	--	--	--	--	--	2,047.50	49,140	FE

TABLE 5.4 - Long Term Emissions  
Part 70/District PTO-Mod 5840-13  
Imerys Corporation - Lompoc Plant

Equipment Description			NOx		ROC		CO		SOx		PM		PM10		PM2.5		GHG		Federal Enforceability
Equipment Item	Process Line	District DeviceNo	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	TPQ	TPY	
Silicates Conveyor Dryer		143	153,300	613,200	--	--	--	--	6,307	23,229	--	--	--	--	--	--	5,765	23,061	FE
Silicates Flash Dryer		140	153,300	613,200	--	--	--	--	2,453	9,811	--	--	--	--	--	--	2,242	8,968	FE

Equipment List for Permit to Operate 05840 - 13

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**A PERMITTED EQUIPMENT**

**1 Silicates Flash Dryer (SPFD)**

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<i>Device ID #</i>	<b>000140</b>	<i>Device Name</i>	<b>Silicates Flash Dryer (SPFD)</b>
<i>Rated Heat Input</i>	17.500 MMBtu/Hour	<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	SPFD
<i>Model</i>		<i>Serial Number</i>	APCD ID 2-4
<i>Location Note</i>			
<i>Device Description</i>	PUC gas fired.		

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**2 Silicates Conveyor Dryer (SPCD)**

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<i>Device ID #</i>	<b>000143</b>	<i>Device Name</i>	<b>Silicates Conveyor Dryer (SPCD)</b>
<i>Rated Heat Input</i>	45.000 MMBtu/Hour	<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	SPCD
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	PUC gas fired.		

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air pollution control district  
SANTA BARBARA COUNTY

PERMIT EVALUATION FOR  
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**1.0 BACKGROUND**

- 1.1 General: Imerys mines and processes diatomaceous earth (DE) at its Lompoc Plant. Imerys operates multiple product lines each with “wet end” and “dry end” processing. Wet diatomaceous earth crude is surface mined, crushed, milled, and dried and/or calcined at high temperatures. The dried product is classified into a variety of grades and bagged, or bulk loaded for shipment to distributors and customers. The Imerys Facility ID is 0012 and the Stationary Source ID is 1735.

The application for PTO/PT-70 Minor Mod 5840-13 was submitted by Imerys on August 2, 2023, and deemed complete by the District on August 8, 2023.

- 1.2 Project Description: California Assembly Bill 617 (AB 617), enacted in July 2017, has a multitude of requirements to address the disproportionate impacts of air pollution in environmental justice communities. One of the key components of AB 617 is to reduce air pollutant emissions from large facilities that participate in the California Greenhouse Gas (GHG) Cap-and-Trade system such as Imerys. The miscellaneous combustion units at Imerys, specifically the Silicates Conveyor Dryer and Silicates Flash Dryer, are subject to the Best Available Retrofit Control Technology (BARCT) requirements of AB 617. While the units have historically been permitted to operate at their maximum capacity, actual operating loads of the units have decreased significantly in recent years. As a result, the District determined that based on the actual operating loads of the units, it was not cost effective to meet the BARCT requirements at these operating levels. In order to maintain compliance with AB617, this permit enforces low use operating limits for each unit to ensure they maintain operations below the threshold where retrofitting the units to comply with BARCT was not cost effective as detailed in the District’s Board approved *BARCT Analysis for Miscellaneous Combustion Units*. Specifically, this permit sets the following requirements and restrictions:

- Operate both the Silicates Conveyor Dryer and Silicates Flash Dryer burners below the low use threshold of 90,000 Therms per burner. As the Silicates Conveyor Dryer has three burners and Silicates Flash Dryer only has one burner, this low-use threshold translates to the following quarterly and annual heat input limits for each unit (1 Therm = 0.100 MMBtu):
  - a. Silicates Conveyor Dryer Low Use Limits = 27,000 MMBtu/per quarter or year
  - b. Silicates Flash Dryer Low Use Limit = 9,000 MMBtu/per quarter or year.

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- Requirement to install pressure and temperature corrected fuel meters and record the totalized heat input to each unit to ensure their operating loads do not exceed the low use threshold each calendar month.
- Requirement that if the low-use threshold is exceeded, Imerys must submit an ATC application within 30 days of the end of the calendar month where the exceedance occurred and demonstrate compliance with BARCT standards no later than 18 months after the end of the calendar month during which the threshold was exceeded.

**2.0 ENGINEERING ANALYSIS**

- 2.1 Equipment/Processes: In order to meet the AB 617 BARCT requirements, Imerys submitted the application for PTO-Mod 5840-13 to implement low-use thresholds for the Silicates Conveyor Dryer and the Silicates Flash Dryer. See PT-70 PTO 5840-R6 for a full description of the units and their operations.
- 2.2 Emission Controls: The Silicates Conveyor Dryer and Silicates Flash Dryer are uncontrolled for NO<sub>x</sub>.
- 2.3 Emission Factors: This permit does not authorize a change in the emission factors for each unit. The existing emission factors listed in PT-70 PTO 5840-R6 apply.
- 2.4 Reasonable Worst Case Emission Scenario: This permit sets low-use quarterly and annual heat input limits for each unit which are enforceable using pressure and temperature corrected fuel meters.
- 2.5 Emission Calculations: Tables 5.3 and 5.4 define the worst-case short term and long-term emissions from the Silicates Conveyor Dryer and Silicates Flash Dryer at Imerys.
- 2.6 Special Calculations: There are no special calculations.
- 2.7 BACT Analyses: Best Available Control Technology was not required for this project. This project is not subject to NSR.
- 2.8 Enforceable Operational Limits: The permit has enforceable operating conditions that ensure the equipment is operated properly. Specifically, this permit modification sets quarterly and annual low-use operating limits for the Silicates Conveyor Dryer and Silicates Flash Dryer at Imerys. An exceedance of the low-use threshold for either unit will subject the unit to BARCT requirements and a BARCT implementation schedule.

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2.9 Monitoring Requirements: Monitoring of the equipment's operational limits are required to ensure that these are enforceable. The permit requires that Imerys install pressure and temperature corrected totalizing fuel meters on each unit and monitor each units heat input to ensure they remain below the low-use threshold.

2.10 Recordkeeping and Reporting Requirements: The permit requires that the data which is monitored be recorded and reported to the District. Imerys must maintain monthly records of each units heat input using fuel use records since the start of each calendar year to ensure the units do not exceed the low-use threshold.

**3.0 REEVALUATION REVIEW (not applicable)**

**4.0 REGULATORY REVIEW**

4.1 Partial List of Applicable Rules:

Rule 201.	Permits Required
Rule 202.	Exemptions to Rule 201
Rule 205.	Standards for Granting Permits
Rule 301.	Circumvention
Rule 302.	Visible Emissions
Rule 303.	Nuisance
Rule 801.	New Source Review- Definitions and General Requirements
Rule 802.	New Source Review
Rule 809.	Federal Minor Source New Source Review
Rule 810.	Federal Prevention of Significant Deterioration

4.2 Rules Requiring Review: None.

**5.0 AQIA**

The project is not subject to the Air Quality Impact Analysis requirements of Regulation VIII.

**6.0 OFFSETS/ERCs**

6.1 Offsets: The Imerys stationary source potential to emit exceeds the Rule 802 emission offset threshold for ROC, NOx, SOx, PM and PM10. This project does not authorize an increase in permitted emissions, as a result, offset requirements are not triggered.

6.2 ERCs: See PT-70 PTO 5840-R6 for a full list of ERCs generated at the Stationary Source.

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**7.0 AIR TOXICS**

An air toxics health risk assessment was not required for this permitting action.

**8.0 CEQA / LEAD AGENCY**

This project is exempt from CEQA pursuant to the Environmental Review Guidelines for the Santa Barbara County Air Pollution Control District (revised April 30, 2015). Appendix A (District Projects Exempt from CEQA and Equipment or Operations Exempt from CEQA) provides an exemption specifically for projects undertaken for the sole purpose of bringing an existing source into compliance with newly adopted regulatory requirements of the APCD or any other local, state or federal agency. No further action is necessary.

**9.0 SCHOOL NOTIFICATION**

A school notice pursuant to the requirements of Health and Safety Code Section 42301.6 was not required.

**10.0 PUBLIC and AGENCY NOTIFICATION PROCESS/COMMENTS ON DRAFT PERMIT**

10.1 This project was not subject to public notice.

10.2 The source had no draft comments.

**11.0 FEE DETERMINATION**

Fees for this permit are assessed under the cost reimbursement provisions of Rule 210.

**12.0 RECOMMENDATION**

It is recommended that this permit be granted with the conditions as specified in the permit.

<u>William Sarraf</u>	<u>9/21/2023</u>	<u></u>	<u>10/3/2023</u>
AQ Engineer/Technician	Date	Supervisor	Date

ATTACHMENT C

District Board Resolution for  
Assembly Bill 617 – Miscellaneous Combustion Units

October 19, 2023

Santa Barbara County Air Pollution Control District  
Board of Directors

260 San Antonio Road, Suite A  
Santa Barbara, California 93110

IN THE MATTER OF  
ASSEMBLY BILL 617 –  
MISCELLANEOUS COMBUSTION UNITS

APCD RESOLUTION NO. \_\_\_\_\_

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**RECITALS**

**WHEREAS**, Santa Barbara County is designated nonattainment for the state ozone standard and nonattainment for the state standard for particulate matter less than 10 microns in diameter (PM<sub>10</sub>).

**WHEREAS**, California Health and Safety Code Section 40920.6, as amended by California Assembly Bill 617 (2017), requires each California air district that is nonattainment for one or more air pollutants to adopt an expedited schedule for the implementation of Best Available Retrofit Control Technology (BARCT) on or before January 1, 2019, and the schedule must provide for the implementation of BARCT by the earliest feasible date, but in any event, not later than December 31, 2023; and

**WHEREAS**, the Assembly Bill 617 BARCT Rule Development Schedule, as adopted by the Board on December 20, 2018, included a commitment to conduct rulemaking procedures in order to evaluate and implement BARCT at the six industrial facilities in Santa Barbara County that were subject to the California Greenhouse Gas Cap-and-Trade Regulation as of January 1, 2017.

**WHEREAS**, a new rule for Miscellaneous Combustion Units was included as a measure to be evaluated on the Assembly Bill 617 BARCT Rule Development Schedule.

**WHEREAS**, only one facility within the District’s jurisdiction currently has equipment that would be subject to the new rule for Miscellaneous Combustion Units.

**WHEREAS**, District staff performed a detailed analysis of available control technologies and the expected costs to fully meet all BARCT requirements being evaluated under the new rule for Miscellaneous Combustion Units.

**WHEREAS**, the affected Assembly Bill 617 Industrial Facility that would be subject to the new rule has voluntarily submitted an application to modify its Permit to Operate to incorporate a low-use threshold for each applicable device subject to the BARCT assessment for

Miscellaneous Combustion Units, resulting in enforceable conditions that ensure cost-effective emission reductions.

**NOW, THEREFORE, IT IS HEREBY RESOLVED,** as follows:

1. Based on the information recited above, adopting a new rule for Miscellaneous Combustion Units is no longer necessary to satisfy the AB 617 BARCT requirements.
2. This action is exempt from the California Environmental Quality Act (CEQA) because it is not a project pursuant to CEQA Guidelines section 15378(b)(5).

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**PASSED, APPROVED AND ADOPTED** by the Air Pollution Control District Board of the Santa Barbara County, State of California, this \_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, by the following vote:

Ayes:

Noes:

Abstain:

Absent:

SANTA BARBARA COUNTY  
AIR POLLUTION CONTROL DISTRICT

**ATTEST:**

AERON ARLIN GENET  
Clerk of the Board

By \_\_\_\_\_  
Deputy

By \_\_\_\_\_  
Chair

Date \_\_\_\_\_

**APPROVED AS TO FORM:**

RACHEL VAN MULLEM  
Santa Barbara County Counsel

By  \_\_\_\_\_  
District Counsel