apcd air pollution control district
SANTA BARBARA COUNTY

H.B. Case No.:	2025-04-R
Petitioner:	MANN+HUMMEL Water Fluid Solutions, Inc., dba MNUS
Permit No.:	PTO 16120
Date Rec'd:	01/29/2025
Time Rec'd:	1615 hours
Filing Fee Paid:	$850.00

PETITION FOR VARIANCE

Type of Variance Requested:

Emergency _____ Interim[1] X 90-Day _____ Regular X

Length of Variance Requested: Start Date 1/29/2025

End Date 1/29/2026

[1] A 90-Day or Regular Variance must be filed concurrently with an Interim Variance

1. **PETITIONER INFORMATION**

A. Please provide the name, address and phone number of the Petitioner.

Name: John Paolo Quinto, HSE Specialist for Mann+Hummel
Address: 93 S. La Patera Lane Goleta, CA 93117
Phone Number: (805) 803-3898

B. Please provide the name, address and phone number of the person authorized to receive correspondence regarding this Petition if different from response in 1.A.

Name: _____
Address: _____
Phone Number: _____

C. The Petitioner is (please check one):

1) An Individual ( )
2) Partnership ( )
3) Corporation (X)
4) Public Agency ( )
5) Other Entity (please describe)

2. Location of equipment for which the variance is requested if different from response in 1.A.

6325 Lindmar Goleta, CA 93117

3. List any District permits that are applicable to the equipment subject to this variance request.

Permit: P 16120

SSID: 03640

4. Briefly describe the equipment that is the subject of this Petition.

Thermal Oxidizer

5. **FINDINGS REQUIRED FOR THE GRANTING OF A VARIANCE**

In order for the Hearing Board to grant a variance to a Petitioner authorizing the operation of a source in violation of any rule, regulation or order of the District, the Hearing Board is required to make "findings" in accordance with the requirements specified in California Health and Safety Code §42352, et. seq. and District rules and regulations. The Hearing Board's variance decision will take into consideration information you provide in this Petition. Please ensure your responses are complete and thorough. Please use additional pages as necessary.

A. Please state 1) what District rule, regulation or order you either are or will be in violation of, and 2) the date said violation will or did occur. Include as appropriate the applicable permit conditions for which variance relief is being sought.

Please see attached response #5-8.

B. Please describe how compliance with the District rule, regulation or order listed in Section A above is beyond your reasonable control. In addition to any other relevant factors, please include in your discussion 1) what actions you have taken to comply or seek a variance, which were timely and reasonable under the circumstances.

C. Please describe how you would be impacted if you were required to immediately comply with the District rule, regulation or order the subject of this variance request. In addition to any other relevant factors, please discuss why such impacts would result in 1) an arbitrary or unreasonable taking of property, or 2) the practical closing and elimination of a lawful business.

D. If you were required to immediately comply with the District rule, regulation or order the subject of this variance request, please describe what impact, if any, that would have on air contaminants.

E. Please describe what consideration you have given to curtailing operations in lieu of obtaining a variance.

F. Please describe what steps and measures you will take to reduce excess pollutant emissions the maximum extent feasible during the requested variance period.

G. If requested to do so by the District, please describe how you will monitor or otherwise quantify and report to the District any pollutant emissions associated with the granting of your variance.

6. **SUPPLEMENTAL FINDINGS IF APPLYING FOR AN EMERGENCY VARIANCE PURSUANT TO RULE 506 (EMERGENCY VARIANCE FOR BREAKDOWNS)**

A. Please provide the date and time the breakdown was reported to the District

Date: _____ Time: _____

B. Breakdown number (as provided by the District):

C. Please provide a description of the "breakdown condition", including equipment involved and the cause to the extent it is known.

D. Please describe why the continued operation of your facility in a "breakdown condition" is not likely to cause an immediate threat or hazard to public health or safety and will not interfere with the attainment or maintenance of any primary national ambient air quality standard.

7. Will the operation of the equipment subject to this variance result in violation of District Rule 303, Nuisance?

8. Please state whether or not any civil or criminal case involving the equipment subject to this variance is pending any court.

The undersigned is authorized to submit the above Petition on behalf of the Petitioner and further states under penalty of perjury that the above Petition, including any attachments and the items therein set forth, are true and correct.

DATE: 1/29/2025

SIGNATURE: 

TITLE: HSE Specialist

PRINT NAME: John Paolo Quinto

Variance Filing Fees: All variance Petitions must be accompanied by the requisite filing fee at the time of filing or include a letter from the Petitioner on company letterhead authorizing the District to debit the filing fee from the company's reimbursable account. You may also pay your filing fees by credit card using the attached form. Current variance filing fees may be found under Rule 210, schedule F, Sections 12a and 12b at http://www.sbcapcd.org/fees.htm

Credit Card Payment: The Variance Filing Fee may be paid with a credit card. Please use APCD Form -01C to pay via credit card. The form may be downloaded at: http://www.sbcapcd.org/eng/dl/dl01.htm

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A. Please state 1) what District rule, regulation or order you either are or will be in violation of, and 2) the date said violation will or did occur. Include as appropriate the applicable permit conditions for which variance relief is being sought.

1.

A. **District Rule 206** – Conditional Approval of Authority to Construct or Permit To Operate

B. **Condition 1- Emission Limitations**. The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 1 and Table 2. Compliance shall be based on the operational, monitoring, recordkeeping, and reporting conditions of this permit. Compliance with the pound per day (lb/day) emission limits for all solvents except for XXX in the ACM-VI line shall be demonstrated by dividing the monthly emissions by 21.7 days per month. Compliance with the pound per day (lb/day) emission limit for XXX in the ACM-V1 line shall be demonstrated by dividing the monthly emissions by the number of days that the tanks were rinsed with XXX in that month. Compliance with the ton per year (TPY) emission limit shall be demonstrated by compiling the monthly ROC emission records for the year. Emissions shall be calculated in accordance with the emission calculation formulas specified in Attachment B of the Engineering Evaluation of this permit.

C. Conditions: A1

<u>Operational Restrictions</u>

2d IV: Removal Efficiency. The ROC removal efficiency across the thermal oxidizer shall be greater than 98 percent (mass basis) or outlet stack ROC concentrations shall be <10 ppmv, whichever is attainable.

Table III - (ACM Cast Dryer and Rinse Tank Emissions)

Table 3 - Best Available Control Technology Requirements
FID 3640 MNUS: PTO 16120

Emission Unit/Process	Control Technology	Pollutant	Performance Standard
CA-V1 Casting and PSF-V1 Casting	Wet Scrubber	ROC	90.0 mass percent ROC removal or 10 ppmv
ACM Casting Dryer and Rinse Tank Emissions	Thermal Oxidizer	ROC	98.0 mass percent ROC destruction or 10 ppmv
PSF-V2 Casting & iSep Solvent Welding Emissions	Wet Scrubber	ROC	95.0 mass percent ROC removal or 10 ppmv
CA-V1 Casting, PSF-V1 Casting, and PSF-V2 Casting	Covered Tanks and 2000 cfm Ventilation System	ROC	95.0 percent ROC capture

Table IV - Source Testing

Table 4 - Source Test Requirements
FID 3640 MNUS: PTO 16120

Emission Test Point	Pollutants	Parameters	Test Methods	Limit
Water Scrubber Inlet and Outlet (DID #111707)	Reactive Organic Compounds (ROC)	Inlet and Outlet Concentration (ppmvd) and Mass Rate (lb/hr)	EPA Method 18	95% DRE by mass ~ 10 ppmv ROC
Thermal Oxidizer Fuel Line (DID #109886)	-	Supplemental Fuel Consumption (scfh)	Calibrated meter	952 scfh
Thermal Oxidizer Inlet (DID #109886)	ROC	Flow Rate (scfm) Concentration (ppmvd) Mass Rate (lb/hr)	EPA Method 2 EPA Method 308 EPA Method 308	750 scfm N/A N/A
Thermal Oxidizer Outlet (DID #109886)	ROC	Flow Rate (scfm) Concentration (ppmvd) Mass Rate (lb/hr) Efficiency (%)	EPA Method 2 EPA Method 308 EPA Method 308 EPA Method 308	750 scfm N/A N/A 98%
Thermal Oxidizer Combustion Chamber (DID #109886)	-	Residence Time (seconds)	-	1 second

Notes:

1. Alternative methods may be acceptable on a case-by-case basis.
2. Performance testing of each emission control device shall be performed on an "as-found" basis.
3. All test results are to be reported at standard conditions (60° Fahrenheit, 1 atm).
4. All tests shall be performed on the frequency described in Condition 10 of this permit.
5. Hourly mass emission rates (lb/hour) require measurment of the exhaust stack velocity.
6. Destruction rate efficiency = [100 x (inlet mass - outlet mass)] ÷ (inlet mass)]
7. Residence Time (sec) = combustion chamber volume (cubic feet) x 60 (sec/min) ÷ Outlet Flow Rate (scfm)

Condition 9 – Best Available Control Technology. The permittee shall apply emission control technology and plant design measures that represent Best Available Control Technology (BACT) to the operation of the equipment/facilities as described in this permit and the District's Permit Evaluation for this permit. Table 3 and the Emissions, Operational, Monitoring, Recordkeeping and Reporting Conditions of this permit define the specific control technology and performance standard emission limits for BACT. The BACT shall be in place, and shall be operational at all times, for the life of the project. This permit contains BACT related monitoring, recordkeeping and reporting requirements.

Condition 11(a) – Source Testing. Source testing shall be performed on an annual schedule (anniversary date of April). The permittee shall conduct source testing of air emissions and process parameters listed in Table 4 of this permit. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur. If, after the issuance of ATC 16120, two consecutive source tests demonstrate compliance with the requirements of Table 4, the District may approve biennial (ever two years) source testing for DID #109886 and DID #111707 upon permittee request. If a subsequent source test shows a unit to be out of compliance, then source testing of that unit shall revert to an annual basis.

2. The November 6, 2024, Source Test Report revealed that our emissions for the thermal oxidizer exceeded the allowable limits due deteriorated pipes of the heat exchanger. The deterioration was caused by the age and has been in operation for over 30 years. To my knowledge, the heat exchanger was installed in 1992.

D. Please describe how compliance with the district rule, regulation or order listed in Section A above is beyond your reasonable control. In addition to any other relevant factors, please include in

your discussion 1) what actions you have taken to comply or seek a variance, which were timely and reasonable under the circumstances.

- **Compliance Beyond Reasonable Control:**
  Mann+Hummel (M+H) failed the Source Test for the outlet flowrate of the thermal oxidizer and ROC emissions. This prompted us to contact a third-party vendor to determine the condition of the thermal oxidizer. The thermal oxidizer was visually inspected on December 10, 2024, and had a scheduled inspection on January 13 and 14. The inspection report revealed that the heat exchanger pipes are deteriorated. The thermal oxidizer has been in commission for approximately 30 years and due to its age, pipes will naturally degrade due to constant pressure, heat, and exposure to environmental factors. The state of the oxidizer was not known until a thorough inspection was performed on January 13 and 14.

- **Actions To Comply**
  M+H had the ducts checked and added a damper to keep inlet and outlet flowrate at 750 scfm. Since the heat exchanger pipes are deteriorated, we are obtaining quotes for repairing and replacing the thermal oxidizer. We also hired an Environmental Consultant to assist with the conformance of the thermal oxidizer.

- **Actions Taken To Seek Variance Relief**
  To address this issue proactively, we submitted a variance requested to the District on January 24, 2025, explaining the circumstances and our planned corrective actions. We have also been in communication with district representatives (Will Saraff, Eric Kett, Aimee Long, Charlotte Mountain) to keep them informed of our progress and timeline for compliance.

E. Please describe how you would be impacted if you were required to immediately comply with the District rule, regulation or order the subject of this variance request. In addition to any other relevant factors, please discuss why such impacts would result in 1) an arbitrary or unreasonable taking of property, or 2) the practical closing and elimination of a lawful business.

The facility makes many different products through three distinct casting operations prescribed in our permit 16120. The ACM Process is an integral part of our production and without that it would complete shut us down. This is because the ACM process is a necessary step in the far majority of products of the facility. Shutting down the ACM process would essentially shut down the other processes. The ACM process emissions are controlled by the thermal oxidizer sole as prescribed in the permit. Excess emissions are less (expected to be under the performance standard of 10 ppmv) than the taking of this lawful business, so it will not have a significant impact on the surrounding neighborhood.

Impact of Immediate Compliance with District Rule 206:

Immediate compliance with District Rule 206 would have a significant impact on our operations. Our facility is currently facing an unforeseen issue with the thermal oxidizer's heat exchanger, and we are in the process of repairing or replacing it. Complying right away would require us to significantly reduce our operations, putting the company under considerable financial pressure. This could lead to the loss of business contracts, job cuts, and even the potential closure of the facility.

Arbitrary or Unreasonable Taking of Property:

Requiring immediate compliance under these circumstances would amount to an arbitrary and unreasonable taking of property. The thermal oxidizer to control the emissions is a complex and specialized machine. If Mann+Hummel was to shut down or reduce the hours of operation, the company's assets would depreciate significantly. We would also be forced to incur financial penalties or fees under the rule.

Practical Closing and Elimination of a Lawful Business:

Immediate compliance with Rule 206 would result in the closure of our business. Additionally, it would result to layoffs, loss of clients and jeopardizing the livelihood of all M+H employees. Penalties incurred and closing the facility for repairs could lead to the closure of the business permanently. M+H contributes to the economy and provides jobs to the community which could be jeopardized if immediate compliance was to occur.

F. If you were required to immediately comply with the District rule, regulation or order the subject of this variance request, please describe what impact, if any, that would have on air contaminants.

If M+H were required to immediately comply with District Rule 206, there may be a slight decrease from actual conditions in ROC emissions from the source. Condition 2 (d) IV mandates a 98% reduction in ROCs through the thermal oxidizer, which is the required control efficiency. Currently, it is estimated that the thermal oxidizer is running at 97%. The latest Source Test show emissions less than 10 ppm by volume which is the lowest allowable limit. If we operate with an emission of 97%, M+H will adjust production such that we don't exceed the permit limits prescribed in Table 1 and 2 of the current facility permit.

Currently, M+H does not meet the emission standards outlined in the most recent Source Test. Compliance with the stricter limits in the permit would necessitate the repair of the existing thermal oxidizer unit or the upgrading to a more efficient model. Repair of the unit would require offsite fabrication and require a one-month shutdown of the facility. An actual upgrade (i.e. new unit) will require time and resources for the permitting process and actual installation. The installation would have to occur during a complete shutdown of our Casting Department. Additionally, the immediate closure of casting operations would be a big financial burden to M+H.

The facility makes many different products through three distinct casting operations prescribed in our permit 16120. The ACM Process is an integral part of our production and without that it would complete shut us down. This is because the ACM process is a necessary step in the far majority of products of the facility. Shutting down the ACM process would essentially shut down the other processes. The ACM process emissions are controlled by the thermal oxidizer sole as prescribed in the permit. Excess emissions are less than the taking of this lawful business.

M+H's goal is to achieve full compliance and minimize emissions, but immediate compliance would impact air quality until the necessary control measures are in place.

G. Please describe what consideration you have given to curtailing operations in lieu of obtaining a variance.

M+H would consider the option of curtailing operations as an alternative to seeking variance under District Rule 206. It reduces emissions generated by the facility but at the same time could have a negative impact economically (reduced revenue), will have workforce implications (layoffs or reduced number of working

hours), and environmental impacts if less efficient machines are used during the downtime.

The facility makes many different products through three distinct casting operations prescribed in our permit 16120. The ACM Process is an integral part of our production and without that it would complete shut us down. This is because the ACM process is a necessary step in the far majority of products of the facility. Shutting down the ACM process would essentially shut down the other processes. The ACM process emissions are controlled by the thermal oxidizer sole as prescribed in the permit. Excess emissions are less than the taking of this lawful business

H. Please describe what steps and measures you will take to reduce excess pollutant emissions the maximum extent feasible during the requested variance period.

M+H will manipulate production schedules and orders to minimize excess emissions. The includes delaying long term orders with membrane customers and/or slowing down production and operate so daily limits are not surpassed. The increased emissions from the thermal oxidizer would be balanced by decrease in emissions from the other three permitted processes so that the facility daily limits are not in exceedances as prescribed by attachment B.

M+H will conduct periodic internal testing to verify the control in efficiency of the unit if not degrading and perform increased preventative maintenance within the ACM process and the thermal oxidizer. Production schedules and order timelines will be adjusted to reduce excess emissions and slow down production to ensure daily emissions limits are not exceeded. Periodic internal testing refers to scheduled evaluations conducted to assess the performance and efficiency of equipment. Samples will be collected to measure pollutants (e.g. volatile organic compounds)

and determine are within regulatory limits. Flow rates of the oxidizer will also be verified to ensure that they are within the limitations. We will also conduct operational checks of the system, ensuring the equipment is working as intended without failure or degradation. This way, we identify potential issues and ensure that the thermal oxidizer is operating properly and in compliance within our Permit To Operate.

M+H will delay implementation of additional contracts until a long-term solution (e.g. repair of the unit offsite or replacement of oxidizer).

I. If requested to do so by the District, please describe how you will monitor or otherwise quantify and report to the District any pollutant emissions associated with the granting of your variance.

M+H will keep the District updated with the repairs and/or replacement of the thermal oxidizer. We will maintain thorough records during the variance period and send copies to the District. To ensure we are on tract, we will also use a third party to gather emissions data during the variance period. Periodic internal testing refers to scheduled evaluations conducted to assess the performance and efficiency of equipment. Samples will be collected to measure pollutants (e.g. volatile organic compounds) and determine are within regulatory limits. Flow rates of the oxidizer will also be verified to ensure that they are within the limitations. We will also conduct operational checks of the system, ensuring the equipment is working as intended without failure or degradation. This way, we identify potential issues and ensure that the thermal oxidizer is operating properly and in compliance within our Permit To Operate. (what are they going to collect, what are they going to do with that data)

In addition, we will conduct for more thorough monitoring such as weekly recordkeeping of solvents and maintain a weekly calculation of emissions of the ACM and calculated excess emissions due to the reduced control efficiency of the oxidizer. ACM solvent emissions and other processes will be calculated using the methodologies in Attachment B of the permit (See Attached). We will monitor other casting operations to ensure the resultant emissions are reduced correspondingly by the increase from the ACM process. The reduced controlled efficiency of the thermal oxidizer is increasing ACM emissions by approximately 1 to 2 pounds per day of ROC.

Attachment B:

Permit to Operate 16120

ATTACHMENT B
Emission Equations

CA-V1, PSF-V1 and PSF-V2 Solvent Emission Equations

Equation 1 : Emissions of solvent X from the sewer = $[(NU_{Sx} \times SFx) + (NU_{Hx}(1 - SFx) \times CPe) \times Ce] \times Fe_x$

Equation 2 : Emissions of solvent X from casting = $[NU_{Sx} \times (1 - SF_x) \times (1 - CPe)] + [NU_{Hx} \times (1 - SF_x) \times (CPe) \times (1 - Ce)]$

Total Solvent Emissions (lb/Month) = Equation 1 + Equation 2

Where

C_e	=	Control efficiency of wet scrubber, equal to 0.30 (90%) for PSF-V1 and CA-V1 casting emissions, and 0.95 (95%) for PSF-V2 casting emissions
CPe	=	Capture efficiency, equal to 0.95 (95%)
Fe_x	=	Fraction of solvent x in sewer emitted as fugitives
SF_x	=	Fraction of solvent x that is disposed to the sewer in the casting process
NU_{Hx}	=	Net monthly usage of solvent x in either the CA-V1, PSF-V1 or PSF-V2 line (lbs) [(Beginning of Month Inventory + Monthly Purchase Amount) - (End of Month Inventory + HWM)]
HWM	=	Amount of solvent x from the CA-V1, PSF-V1 or PSF-V2 line that is recycled by hazardous waste manifest monthly (lbs)

Solvent x	Fe, Value
[redacted]	[redacted]

Solvent x	SF, Value
[redacted]	0.9
	0.9648
	0.9618
	0.9648
	0.975
	0.975

Notes:
1. All equations represent emission values as lbs on a monthly basis. Sum equations 1 and 2 for each solvent to obtain the total emissions of solvent x on a monthly basis.
2. Equation 1 calculates the fugitive emissions from solvents that have been sent to the sewer and includes solvent sent to sewer from the wet scrubber. Fraction Emitted (Fe) values found in the SOCMI Wastewater NSPS Appendix I
3. Equation 2 calculates the evaporative emissions of solvents during the casting process and takes into account the unexhausted emissions as well as the fraction of unreduced emissions from the control device
4. To obtain daily emissions of solvent x, divide the monthly emissions by 21.7 days per month. To obtain the annual emissions in TPY, sum the monthly emissions and divide by 2000 lbs/ton
5. Due to the low vapor pressures of [redacted] and [redacted], it is assumed that no [redacted] or [redacted] reported by sewer is emitted into the atmosphere
6. Amount of solvent sent to sewer in casting process (SFx) for each casting line is assumed to be equal to the ratio used in PTO 14521
7. The amount of solvent that is recycled by hazardous waste manifest shall be verified by weighing each drum and analyzing for ROC content according to the facility's APCD-approved Solvent Recovery Plan.
8. No ROC credit shall be received for recycling any drum containing cloth, paper or other solids
9. When calculating emissions for [redacted] HWM shall be equal to 0.

6. N/A

7. Will the operation of the equipment subject to this variance result in violation of District Rule 303, Nuissance?

   No, it will not result in violation of District Rule 303. We will maintain air Quality standards to prevent any impact in the environment and public Health.

8. Please State whether or not any civil or criminal case involving the equipment subject to this variance is pending any court.

   There are no civil or criminal cases pending in any court involving the equipment.