

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE Coating, Printing, Plating, Military and Entertainment Operations Team PERMIT APPLICATION EVALUATION	Page	1 of 5
	App. number	516632-516633
	Processed by	J Pandes Villacorte
	Reviewed by	SMKE
	Date	7/5/12

PERMIT TO OPERATE EVALUATION
Adhesive Coating and Drying System, Modification with Low-NO_x Burners
Rule 1147

Applicant's Name: Mask-Off Company, Inc.
Company ID No.: 800398
Mailing Address: 328 W. Chestnut Ave., Monrovia, CA 91016
Equipment Address: 328 W. Chestnut Ave., Monrovia, CA 91016

EQUIPMENT DESCRIPTION:

Application no. 516632 (Standardized Permit, Modification to PO #F49066, A/N 396429):

ADHESIVE COATING AND DRYING SYSTEM, CONSISTING OF:

1. ROLLER COATER, WITH ONE 3/4 HP. APPLICATOR, ONE 7-1/2 HP. AIR BLOWER, ONE COATING, ONE CHILL ROLL 2 HP., ONE 1 HP. COMPRESSOR, AND ONE 10 HP. REWIND.
2. ~~ONE TWO~~ PREHEATERS, ~~MAXON, CYCLOMAX, LOW-NOX, NATURAL GAS-FIRED, 400,000 720,000 BTU PER HOUR TOTAL, AND ONE 1/2 HP. COMBUSTION AIR BLOWER.~~
3. OVEN, 8'-0" W. X 70'-0" L. X 8'-0" H., ~~WITH ONE MAXON, CYCLOMAX, LOW-NOX, NATURAL GAS-FIRED, 2,700,000 2,000,000 BTU PER HOUR BURNER, WITH ONE 2 3/4 HP. COMBUSTION AIR BLOWER, AND ONE 7-1/2 HP. CIRCULATING BLOWER.~~

Application no. 516633:

TITLE V PERMIT REVISION, DE MINIMIS SIGNIFICANT

HISTORY:

These applications were submitted by Mask-Off Company, Inc. on November 30, 2010 for modification to an existing adhesive coating and drying system. The facility replaced the 2,000,000 BTU per hour main burner in the oven high-temperature zone with a Maxon, Cyclomax, 2,700,000 BTU/hour low-NO_x burner in order to comply with Rule 1147. The new burner has a higher rating than the one being replaced. They also replaced two burners in the pre-heat chamber, 720,000 BTU/hr total, with one Cyclomax, 400,000 BTU/hr natural gas-fired burner.

The facility was required to source test the burners in order to demonstrate that the new burner can meet the NO_x emission requirement of 30 ppm, per Rule 1147(c)(1). The testing conditions were given to the facility in a letter dated April 15, 2011. The facility conducted the source test on July 25, 2011. The source test results report was approved and found to be 'conditionally acceptable' by the Monitoring and Analysis Division.

A/N	Previous		Equipment
	Permit No.	A/N	
516632	F49066	396429	Adhesive coating and drying system, with Maxon, Cyclomax, low-NOx, natural gas-fired 2,700,000 BTU/hr burner replacing a 2,000,000 BTU/hr burner; and a Maxon, Cyclomax, low-NOx, natural gas-fired, 400,000 BTU/hr burner replacing two burners, 720,000 BTU/hr total (450,000 and 270,000 BTU/hr).
516633	-	-	Title V permit revision, de minimis significant

According to the compliance data base, there have been no notices of violation (NOV), notices to comply (NC) or complaints issued to this facility in the past two years. This is the first revision since the Title V renewal issued on January 20, 2008.

PROCESS DESCRIPTION:

Mask-Off Company manufactures various masking products at this facility. This equipment is used for wet adhesive coatings on paper and film. Product is passed through a roll coater followed by drying in a natural gas-fired oven, which has a pre-heat zone and a high-temperature zone. Two natural gas-fired pre-heat burners, 720,000 BTU/hr total, were replaced with one 400,000 BTU/hr burner. This section of the oven operates at temperatures in the range of 150-175°F. The high temperature zone of the oven operates at 250-365°F. The natural gas-fired burner, which was rated at 2.0 mmBTU/hr, was replaced by a Maxon, Cyclomax, low-NOx, 2.7 mmBTU/hr burner. All previous burners were manufactured prior to 1986, so the Rule 1147 compliance date is July 1, 2012.

The typical operating schedule is 9.5 hours per day, 4 days per week and 51 weeks per yr, while the maximum operating schedule is 24 hr/day, 7 day/week, and 52 week/year.

EMISSION CALCULATIONS:

The retrofit of the low-NOx burners in the three ovens will result in lower NOx emissions even though there will be in an overall increase in burner rating. The combined rating of the new burners will be 3.1 mmBTU/hr (2.7 mmBTU/hr and 400,000 BTU/hr), whereas the replaced burners were 2.72 mmBTU/hr (2.0 mmBTU/hr and 720,000 BTU/hr). There will also be an increase of CO and PM₁₀ emissions compared to the previous permit (emissions prior to modification were redone since emissions calculated under previous evaluation used the incorrect emission factors for non-boiler combustion equipment). The emission calculations were done using the spreadsheet in this file as Attachments 1 and 2.

A/N	Burner rating (BTU/hr)	NO _x Emissions		CO Emissions		PM ₁₀ Emissions	
		(lb/hr)	(lb/day)	(lb/hr)	(lb/day)	(lb/hr)	(lb/day)
516632	2,700,000 and 400,000	0.11	2.72	0.17	4.12	0.022	0.53
Previous permit under 396429	2,000,000 and 720,000	0.34	8.08	0.09	2.18	0.019	0.47
Difference		-0.23	-5.36	+0.08	+1.94	+0.003	+0.06

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE Coating, Printing, Plating, Military and Entertainment Operations Team PERMIT APPLICATION EVALUATION	Page	3 of 5
	App. number	516632-516633
	Processed by	J Pandes Villacorte
	Reviewed by	SMKE
	Date	7/5/12

RULES AND REGULATIONS:

RULE 212: SIGNIFICANT PROJECT PUBLIC NOTIFICATION

A public notice is not required for this project since the equipment is not within 1000 feet of a school, and there will be no significant increase in emissions (if any), and no increase in MICR.

RULE 401: VISIBLE EMISSIONS

Visible emissions from the operation of this equipment are not expected. No complaints, N/C or NOV have been issued in the previous two years for visible emissions.

RULE 402: NUISANCE

The operation of this equipment is expected to comply with this rule. Operation of the replacement natural gas-fired burners is not expected to result in any odors.

RULE 407: LIQUID AND GASEOUS AIR CONTAMINANTS

This equipment is required to emit carbon monoxide (CO) not to exceed 2000 ppmv, measured on a dry basis, averaged over 15 consecutive minutes. The burner manufacturer indicated that a maximum of 75 ppmv is emitted by the Maxon, model Cyclomax low-NOx burner. The source test verified compliance at < 20 ppmv CO.

RULE 1147: NOX REDUCTIONS FROM MISCELLANEOUS SOURCES

The burners of the pre-heat and drying equipment under A/N 516632 have been replaced by low-NOx natural gas-fired, 400,000 and 2,700,000 BTU/hr burners, respectively. The facility has source tested the oven in order to demonstrate that the new burners can meet the NOx emission requirement of 30 ppm, per Rule 1147(c)(1). There is only one oven exhaust so the concentration measured is for the combined burner NOx. The facility conducted the source test on July 25, 2011. The source test results report was approved and found to be 'conditionally acceptable' by the Monitoring and Analysis Division. The corrected NOx concentration was tested at 20.9 and 22.6 ppmv @ 3% O2 at normal- and high-fire, respectively.

REGULATION XIII:

BACT: There will be no net increase in NOx, PM10 or ROG emissions (>1 lb/day) as a result of the burner replacements, so, BACT is not triggered. There is an increase in CO over 1 lb/day since the new burner is slightly larger than the existing burner, and the new burner CO concentration is higher than the default CO factor for natural gas combustion from ovens. However, there is no additional BACT for CO from a natural gas fired oven. Compliance is expected.

Offsets: There is no increase in NOx emissions even though the total BTU rating is higher since the new burners are low NOx. There is a slight increase in PM10 and ROG, due to the increase in total BTU rating of the new burners, however since <0.50 lb/day, offsets are not required. The CO increase is 1.94 lb/day but offsets are not required since we are in attainment for CO.

Modeling: There will be no increase of NOx emissions from this project. The maximum CO and PM10 emission increases will be much below the maximum allowable CO and

PM₁₀ emissions for combustion sources <2 mmBTU/hr (Table A-1). See the summary table on the following page. Therefore, no further modeling is required.

Summary of Maximum Emission Increases for Project Modeling Analysis

Burner Rating, (MMBtu/hr)	NO _x Emissions		CO Emissions		PM ₁₀ Emissions	
	Calculated (lb/hr)	Allowed (lb/hr)	Calculated (lb/hr)	Allowed (lb/hr)	Calculated (lb/hr)	Allowed (lb/hr)
<2 (increase)	0.0	0.20	0.08	11.0	0.003	1.2

RULE 1401: MAXIMUM INDIVIDUAL CANCER RISK ASSESSMENT

There will be an insignificant increase in health risk as a result of the burner modifications. The MICR increases from 6.9×10^{-9} to 7.9×10^{-9} , and the HIA/HIC remains $\ll 1.0$. Therefore, compliance with this rule is expected.

REG XXX

This facility is not in the RECLAIM program. The proposed project is considered as a “de minimis significant permit revision” to the Title V permit for this facility.

Rule 3000(b)(6) defines a “de minimis significant permit revision” as any Title V permit revision where the cumulative emission increases of non-RECLAIM pollutants or hazardous air pollutants (HAPs) from these permit revisions during the term of the permit are not greater than any of the following emission threshold levels:

Criteria Pollutant Emission Thresholds

Air Contaminant	Daily Maximum (lbs/day)
HAP	30
VOC	30
NO _x	40
PM ₁₀	30
SO _x	60
CO	220

To determine if a project is considered as a “de minimis significant permit revision” for non-RECLAIM pollutants or HAPs, emission increases for non-RECLAIM pollutants or HAPs resulting from all permit revisions that are made after the issuance of the Title V renewal permit shall be accumulated and compared to the above threshold levels. This proposed project is the 1st permit revision to the Title V renewal permit issued to this facility on January 20, 2008. The following table summarizes the cumulative emission increases resulting from this permit revision, the first since the Title V renewal permit was issued:

Title V Permit Revisions Summary

1st Revision	HAP	VOC	NO_x	PM₁₀	SO_x	CO
Replacement of existing burners with low-NOx burners in adhesive coating and drying system to comply with Rule 1147 requirements (A/N 516632)	0	0	0	0	0	0
Cumulative Total	0	0	0	0	0	0
Maximum Daily	30	30	40	30	60	220

Since the cumulative emission increases resulting from all permit revisions are not greater than any of the emission threshold levels, this proposed project is considered as a “de minimis significant permit revision”.

CONCLUSIONS/RECOMMENDATIONS:

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “de minimis significant permit revision”, it is exempt from the public participation requirements under Rule 3006 (b). A proposed permit incorporating this permit revision will be submitted to EPA for a 45-day review pursuant to Rule 3003(j). If EPA does not have any objections within the review period, a revised Title V permit will be issued to the facility (Section D).