

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING DIVISION

APPLICATION PROCESSING AND CALCULATIONS

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528330	3/2/12
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Equipment Location

Rapid Rack Industries, Inc.
14421 Bonelli Street.
City of Industry, California 91746

Title V revision

Application no.528331

**PERMIT TO OPERATE
(Change of Condition)**

Equipment Description:

Application No. 528330

OVEN, IMF, 8'-5" W. X 22'-8" L. X 8'-5" H., 800,000 BTU PER HOUR, NATURAL GAS FIRED WITH ONE 1 1/2 H.P. EXHAUST FAN.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
3. THIS OVEN SHALL NOT BE OPERATED ABOVE 450 DEGREES FAHRENHEIT.
[RULE 1303 (a)(1)-BACT]
4. THE OPERATOR SHALL LIMIT THE FUEL USAGE FOR THIS EQUIPMENT TO 230,000 CUBIC FEET OF NATURAL GAS PER MONTH.
[Rule 1147]
5. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE TOTALIZING FUEL METER TO INDICATE THE AMOUNT OF NATURAL GAS USED.
[Rule 1147]
6. THE OPERATOR SHALL KEEP ADEQUATE RECORDS FOR THIS EQUIPMENT TO VERIFY THE CALENDAR MONTHLY NATURAL GAS USAGE IN CUBIC FEET.
[Rule 1147]
7. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF RULE 1147. PRIOR TO MODIFICATION OF THIS EQUIPMENT, THE OPERATOR SHALL SUBMIT AN APPLICATION AND RECEIVE APPROVAL FOR CONSTRUCTION OR MODIFICATION AND BE IN COMPLIANCE WITH THE 30PPMV NOX EMISSION LIMIT BY JULY 1, 2017.
[RULE 1147]

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Periodic Monitoring:

- 8. THE OPERATOR SHALL INSTALL AND MAINTAIN A TEMPERATURE READING DEVICE TO ACCURATELY INDICATE THE TEMPERATURE OF THE OVEN. THE OPERATOR SHALL ALSO DETERMINE AND RECORD THE TEMPERATURE OF THE OVEN ONCE EVERY DAY.
[RULE 3004(a)(4)]

Emissions And Requirements:

- 9. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

CO: 2000 PPMV, RULE 407
 PM: 0.1 GR/SCF, RULE 409
 PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
 NOx: 30 PPMV, RULE 1147

Background

Rapid Rack Industries submitted application no. 528330 as a change of condition to add a monthly NOx limit to the existing oven permit, D80562, a/n 289354, to postpone the Rule 1147 requirements of meeting a 30 ppm NOx for five years as stipulated under Rule 1147(c)(6)(C). The compliance date as stated in Table 2 of Rule 1147 is July 1, 2012. The oven has a totalizing fuel meter and will be using a default NOx emission concentration of 101 ppm at 3% oxygen. The oven will be subject to a NOx limit of 30 pound per month which will allow an extension of the compliance date to July 1, 2017 under (c)(6)(C).

Rapid Rack Industries is a Title V facility and has submitted application no. 528331 for the revision of the facility permit. The proposed project is considered as a “minor” permit revision to this facility Title V permit. A review of District compliance records indicates that there are no Public Complaints, Notices to Comply or Notices of Violations issued against this facility over the last two years as of March 2, 2012.

Emissions Calculations:

Previous Emissions a/n 289354
 AEIS:
 NOx R1 = R2 = 0.08 lbs/hr

NSR:

NOx 30 day average = 2.0 lbs/day
 The equipment will be limited to 30 lbs NOx/month and will be calculated using the following equation from Rule 2012A-3(D)(2)(a)(i):

$$\text{NOx emission/day} = 101\text{ppm}(20.9/(20.9-3.0)) \times 1.195\text{E-}07(8710)(\text{mmcf})(1050\text{btu/cf})$$

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With a maximum NOx emission of 30 lbs/month, the monthly gas usage would be limited to 0.23 mmcuft/month

Back calculating 0.23 mmcuft/month to a BTU/hr ;

$$0.23\text{mmcuft/month}(1050\text{btu/cuft})(\text{month}/30\text{day})(\text{day}/24\text{hr}) = 0.339460\text{mmbtu/hr}$$

Operating Schedule: 24hr/day, 7day/wk, 52 wk/yr

Adjusted Burner Rating: 0.339 mmbtu per hour

3.233x10E-4mmcuft/hr

Combustion Emissions

	Emission Factor	Hourly Emissions	Daily Emissions	Annual Emissions	30 day average*	Previous 30 day
	average	lbs/hr	lbs/day	lbs/yr	lbs/day	lbs/day
ROG	7.0	0.0023	0.054	19.77	0.0	0.0
NOX*	130	0.042	1.0	367.15	2.0	2.0
SOX	0.83	0.0003	0.006	2.34	0.0	0.0
CO	35	0.0114	0.272	98.85	0.0	0.0
PM10	7.5	0.00242	0.058	21.18	0.0	0.0

*previous NOx emission entered in NSR was 2.0 lbs/day. The previous emissions will be entered in NSR due to the fact that once the equipment is modified with a low-NOx burner, the above fuel limit will be removed from the permit.

Evaluation & Rule Review

Rule 212 (c)(1):This section requires a public notice for all new or modified permit units that emit air contaminants located within 1,000 feet from the outer boundary of a school.

No public notice is required since no school is located within 1,000 ft from the above site.

Rule 212 (c)(2):This section requires a public notice for all new or modified facilities that have on-site emission increases exceeding any of the daily maximums as specified by Rule 212(g).

The proposed project will not result in an emission increase from the facility in excess of the limits specified in Rule 212(g). Therefore, a public notice requirement will not be required under this section of the rule.

Rule 212(c)(3):This section requires a public notice for all new or modified permit unit with increases in emissions of toxic air contaminants listed in Table I of Rule 1401 resulting in MICR greater than 1E-6 per permit unit or greater than 10E-6 per facility.

The proposed project will not result in an emission increase of toxic emissions since a limit will be placed on the monthly NOx emissions. Therefore, a public notice is not required under this section of the rule.

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Rule 212(g): This section requires a public notice for all new or modified sources that result in emission increases exceeding any of the daily maximums as specified by Rule 212(g).

No emission increase will occur with monthly NOx emission limit put in place as summarized below:

	Maximum Daily Emissions					
	<u>ROG</u>	<u>NO_x</u>	<u>PM₁₀</u>	<u>SO₂</u>	<u>CO</u>	<u>Pb</u>
Emission increase	0	0.0	0	0	0	0
MAX Limit (lb/day)	30	40	30	60	220	3
Compliance Status	Yes	Yes	Yes	Yes	Yes	Yes

A Rule 212(g) notice will not be required since the emissions from this equipment will not exceed the maximum limit of this rule.

Rule 401: Compliance with this rule is expected.

Rule 402: Compliance with this rule is expected.

Rule 1147: The applicant has opted to take a monthly limit on the NOx emissions from this oven to postpone the Rule 1147 requirements of meeting a 30 ppm NOx for five years as stipulated under Rule 1147(c)(6)(C). The compliance date as stated in Table 2 of Rule 1147 is July 1, 2012. The oven has a totalizing fuel meter and will be using a default NOx emission concentration of 101 ppm at 3% oxygen (130lbs NOx/mmcf). The oven will be subject to a fuel limits of 230,000 cubic feet of natural gas per month which will allow an extension of the compliance date to July 1, 2017 under (c)(6)(C).

REG XIII: New Source Review.
The proposed change of conditions will not result in an emission increase. Therefore, the requirements of Reg XIII are not triggered.

Rule 1401: Toxics
The proposed change of conditions will not result in an emission increase. Therefore, the requirements of this rule are not triggered.

REGULATION XXX:

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

Rule 3000(b)(6) defines a “minor 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:

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

To determine if a project is considered as a “minor 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 renewal Title V permit shall be accumulated and compared to the above threshold levels. This proposed project is the **1st permit revision** to the renewed Title V permit issued to this facility on **April 27, 2011**. The following table summarizes the cumulative emission increases resulting from all permit revisions since the renewed Title V permit was issued:

Revision	HAP	VOC	NO _x	PM ₁₀	SO _x	CO
1 st Permit Revision; Addition of a monthly fuel limit A/N 528330	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 “minor permit revision”.

RECOMMENDATION

The proposed project is expected to comply with all applicable District Rules and Regulations. Since the proposed project is considered as a “minor 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

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does not have any objections within the review period, a revised Title V permit will be issued to this facility.