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ENGINEERING AND COMPLIANCE	APPL. NO 424381	DATE 8/16/2012
ENGINEERING EVALUATION AND REPORT	PROCESSED BY CL02	REVIEWED BY

Part 1: PC to PO Evaluation

Modification to Existing Asphalt Manufacturing Process Heater

APPLICANT'S NAME: OWENS CORNING ROOFING AND ASPHALT, LLC
(Fac. ID 35302)

MAILING ADDRESS: 1501 NORTH TAMARIND AVE.
COMPTON, CA 90222

EQUIPMENT LOCATION: 1501 NORTH TAMARIND AVE.
COMPTON, CA 90222

EQUIPMENT DESCRIPTION (Facility Permit)

See facility permit (Section D) and the following description

Application 456914

Application to reissue Reclaim Facility Permit with the modification requested under ANs 424381 (**Part 1**), 456922 (Part 2).

Application 424381 (Permit to Operate modification to an existing heater with previous application No. 278371, P/O F5317)

Process 3: ASPHALT ROOFING MANUFACTURING					
Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions	Conditions
HEATER, NATURAL GAS WITH LOW NOX BURNER, 2.7 MMBTU/HR WITH	D41		NOx: PROCESS UNIT**	CO: 400 PPMV (5); NOX: 47.75 LBS/MMSCF NATURAL GAS (1); NOX: 30 PPMV (5); SOx: 0.83 LBS/MMSCF NATURAL GAS(1)	D332.2
BURNER, NATURAL GAS, MAXON, MODEL M-PAKT, 2.7 MMBTU/HR	D144				

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BACKGROUND

Owens Corning, a Title V, and RECLAIM (NOx and SOx) facility, id #35302, filed application No.424381 on January 14, 2004 for permit to construct. This application is for modifying the process heater D41 by replacing the existing 3.5 mmbtu/hr NOx burner with a new 2.7 mmbtu/hr natural gas fired low NOx burner. Permit to Construct was issued on Feb 27, 2004. Construction has been completed as described in section H (permit to construct).

Permitting History

AN C27329 (Permit M37509) -- The first heater rated at 2.843 mmbtu/hr, natural gas and oil fired burner. The permit to operate was issued on 4/24/184.

AN 278371 (Permit F5317) -- Modification to comply with Rule 1146.1 by replacing the existing burner under Permit M37509 with a low NOx, rated 3.5 mmbtu/hr, nature gas fired, burner. The permit to operate was issued on 2/17/1997.

AN 424381 -- Modification by replacing the existing b3.5 mmbtu/hr burner under AN278371 with a new 2.7 mmbtu/hr natural gas fired low NOx burner. The permit to construct was issued on 2/27/2004.

Source Testing

1. Emissions of NOx and CO, Compliance to Rule 1146.1

The heater has been source tested two times on June 24, 2009 and August 20, 2009 for the purpose of determination compliance for CO and NOx in accordance with SCAQMD Rule 1146.1. The NOx and CO emission limits are achieved to less than 30 ppmv and 400 ppmv, respectively. The test reports have been reviewed by the Inspector, and accepted the results. See attached report under AKI12930 dated 8/20/2009.

Removal of SOx Emission Factor and Process Unit, D41

Since this device is fueled by natural gas, the device is no longer in title of Process Unit (see TV renewal Version, AN 495901 and TV revision, AN 478562); the SOx emission factor shall be removed per Rule 2000(c) 62 and will be shown in TV revision, AN 456914.

PROCESS DESCRIPTION

Owens Corning produces blown asphalt and asphalt roofing shingles at this facility. A process heater is used to heat crushed limestone used in the manufacturing operation. This heater, D41, is equipped with a new 2.7 mmbtu/hr NOx burner, and will be fueled exclusively with natural gas.

OPERATION SCHEDULE

Maximum and Average: 24 hrs/day, 7 days/wk, 50 wks/yr

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EMISSION CALCULATIONS

PC Evaluation

Table 1 below summarizes the criteria pollutant emission rates estimated in Appendix B from the new heater.

Table 1 Summary of Criteria Pollutant Emissions Estimated for AN424381 in Appendix B

Emissions	Pollutant				
	NOx	CO	ROG	PM ₁₀	SOx
R1 (Uncontrolled) = R2(Controlled), lb/hr	0.10	0.20	0.01	0.02	0.0022
R1 (Uncontrolled) = R2(Controlled), lb/day	2.4	4.8	0.3	0.3	0.1
30-Day Average, lb/day	2.4	4.8	0.3	0.3	0.1
Annual, lb/yr	840	1680	105	175	36

PO Evaluation

Source Tests – Test Report AKI 12930 test date Aug. 20, 2009

The permit to construct has a condition (D332.2) that requests a source test for determination of CO to comply with rule 1146.1. The test results show 0.93 ppm of CO and 21 ppm of NOx both at 3% Oxygen. The test results demonstrate the concentrations of NOx and CO below the rule limits (400 ppm for CO, 30 ppm for NOx).

Emission Calculation

The source test results are accepted by the Inspector, so the emissions will be carried over from the PC evaluation see Table 1.

RULES AND REGULATIONS EVALUATION

Operation of the process heater, D41, is expected to comply with all applicable District rules and regulations. Specific compliance with the following rules is as follows:

- Rule 407 Liquid and Gaseous Air Contaminants**
This rule limits CO emission from combustion sources to less than 2000 ppmv measured on a dry basis over a 15 minute period. However, since the new burner emissions are guaranteed to be less than 400 ppmv. Compliance is expected.
- Rule 409 Combustion Contaminants**
This rule limits the combustion contaminants to 0.1 grain per cubic feet. With natural gas fueled, the concentration of PM from this operation is expected to be less than 0.1 gr/scf. Compliance with this rule is expected.

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Rule 1146.1 CO Emissions

The CO emission from the new burner is expected to be less than 400 ppmv. The concentration of CO emission has been verified to be 0.93 ppm at 3% oxygen per test report AKI12930 which is less than rule limits. The equipment complies with this rule.

Rule 1303 New Source Review

Since there is a reduction of maximum firing rate from 3.5 mmbtu/hr to 2.7 mmbtu/hr, the emissions of ROG, CO, and PM10 is expected to decrease, and there is no BACT or Offset analysis required.

Reg. 2005 RECLAIM

Since there will be a reduction of maximum firing rate, and the NOx concentration limit of 30 ppmv will be retained, the hourly rate of NOx emissions expected to decrease. Therefore, there is no NSR required under rule 2005. The concentration of NOx emission has been verified to be 21 ppmv at 3% oxygen per source test report AKI12930 and which is less than 30 ppmv. The equipment complies with this rule.

RECOMMENDATION

Approve application No. 424381 for permit to operate with the proposed permit description and conditions. The device shall be moved from Section H to Section D in facility permit.

CONDITIONS

The operator shall comply with the terms and conditions set forth below:

D332.2 The operator shall determine compliance with the CO emission limit(s) by conducting a test at least **every five years** using a portable analyzer and AQMD approved test method or, if not available, a non-AQMD approved test method. The test shall be conducted when the equipment is operating under normal conditions to demonstrate compliance with Rule 1146.1 concentration limit. The operator shall comply with all general testing, reporting, and recordkeeping requirements in Sections E and K of the facility permit.

ATTACHEMENT

1. SOURCE TEST REPORT, AKI12930.