

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE APPLICATION PROCESSING AND CALCULATIONS	# of Pages	Page #
	10	1
	Appl. No. 542209	Date 9/24/12
	Processed by AM	File name

PERMIT TO CONSTRUCT/OPERATE

LA City, Sanitation Bureau (HTP)
 12000 Vista del Mar
 Playa del Rey, CA 90293

EQUIPMENT LOCATION:

12000 Vista del Mar
 Playa del Rey, CA 90293

EQUIPMENT DESCRIPTION

APPLICATION NO. 542209

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. DUST COLLECTOR, UNITED AIR SPECIALISTS, MODEL NO. SFC32-4, WITH A FILTRATION SYSTEM CONSISTING OF 32 CARTRIDGE TYPE FILTERS WITH TOTAL FILTER AREA OF 8,128 SQ. FT. WITH A PULSE JET CLEANING SYSTEM.
2. HEPA CABINET SYSTEM, BLC INDUSTRIES, MODEL SL26HLI0X04, 10'-6" W. X 4'-3" H. WITH 24" H. X 24" W. X 2" D. PREFILTERS, AND TEN 24" H. X 24" W. X 12" D. HEPA FILTERS.
3. EXHAUST SYSTEM WITH A 75 H.P. BLOWER VENTING AN ABRASIVE BLASTING ROOM.

APPLICATION NO. 542210

TITLE V REVISION.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE APPLICATION PROCESSING AND CALCULATIONS	# of Pages	Page #
	10	2
	Appl. No.	Date
	542209	9/24/12
	Processed by	File name
	AM	

HISTORY

Applications 542209 & 542210 were initially filed on 6/22/12 for construction of a new baghouse to replace the existing baghouse with a P/O # P68553 venting an existing abrasive blasting room with an active P/O # P68554, and Title V Permit revision, respectively. It should be noted that the existing abrasive blasting system will not be modified.

HTP is a Title V facility. HTP has proposed to revise their Title V Permit under application 542210. This permit revision is considered as a “de minimus significant permit revision” since the emissions are below the emission threshold levels in Table 1. The initial Title V permit was issued on 5/20/2011. The latest facility permit revision (revision No. 15) was completed on January 2013.

PROCESS DESCRIPTION

The proposed baghouse will be used to control PM10 emissions from an existing abrasive blasting room (P/O # P68554) at this facility. The abrasive blasting system consists of an abrasive blasting room, 25’ W. x 30’ L. x 12’ H., and a 3/8” dia. abrasive blasting nozzle.

Note (based on email dated 12/7/12):

- 1) The process weight is 1,500 lbs/hr.
- 2) The pressure across the filters is monitored & recorded on a weekly basis.
- 3) The enclosed containers stated in the permit for the old baghouse have been removed.

EMISS. CALCULATIONS:

Given:

Max. process rate: 1,500 lbs/hr
 Operating Schedule (max.): 8 hrs/day
 5 days/wk
 52 wks/yr

Emiss. Factor for garnet as abrasive blast media: 0.023 lb of particulates/lb of process material
 Cartridge filters unit (primary filtration) efficiency: 98% (based on the previous evaluation)
 HEPA filters unit (secondary filtration) efficiency: 99.97% (based on manufacturer data)

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE APPLICATION PROCESSING AND CALCULATIONS	# of Pages	Page #
	10	3
	Appl. No. 542209	Date 9/24/12
	Processed by AM	File name

PM10:

$$\begin{aligned}
 R1 &= 0.023 \text{ lb of particulates/lb of process material} \times 1500 \text{ lbs/hr} \\
 &= 34.5 \text{ lbs/hr}
 \end{aligned}$$

$$\begin{aligned}
 R2 &= 34.5 \text{ lbs/hr} \times (1 - 0.98) \times (1 - 0.9997) \\
 &= 0.00021 \text{ lb/hr} \\
 &= 0.002 \text{ lb/day}
 \end{aligned}$$

Air-to-Cloth Ratio (A/C) or Filtering Velocity:

- a. Total Filter Area = 8,128 sq. ft.
- b. Air Flow = 20,000 ft³/min
- c. A/C = Blower cfm/Filter Area
 = 20,000 cfm/8,128 sq. ft.
 = 2.5:1

Note: The manufacturer recommended A/C ratio range is 2.25:1 – 2.75:1 (see attached email dated 12/7/12)

Exhaust Gas Particulate Concentration (PC)

$$PC = R2(\text{PM}) \times 7000 \text{ gr/lb} \times 60 \text{ min/hr} \times \text{blower cfm}$$

$$\begin{aligned}
 PC &= 0.00021 \text{ lb/hr} \times 7000 \text{ gr/lb} \times \text{hr}/60 \text{ min} \times \text{min}/20000 \text{ ft}^3 \\
 &= 0.0000012 \text{ gr/cf}
 \end{aligned}$$

Risk Screening Analysis:

Given:

Residential Receptor Dist.: 600 ft.
 Commercial Receptor Dist.: 5,280 ft.

Based on the data provided (see email dated 12/7/12), some of the items being abrasive blasted have some industrial coatings consisting of heavy metals. However, since the abrasive blasting room will be vented to the proposed dust collector with primary filtration unit consisting of cartridge filters and secondary filtration unit consisting of HEPA filters, no significant amount of hazardous materials (if any) are expected to be emitted to the air. In a similar operation at another facility where rehabilitation of old pipes which had previously been coated with paints containing TACs, the results of HRA Analysis had shown compliance with Rule 1401 screening and modeling analysis (A/N 523119 & 523930). Therefore, cancer risk level from this operation can be safely assumed to be insignificant.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE APPLICATION PROCESSING AND CALCULATIONS	# of Pages	Page #
	10	4
	Appl. No.	Date
	542209	9/24/12
	Processed by	File name
	AM	

EVALUATION

RULE 212: No schools within 1000 ft from the facility. Therefore, public notice shall not be required.

RULE 401: With proper operation and maintenance, this equipment is expected to comply with Rule 401.

RULE 402: No nuisance is expected.

RULE 404: For air flow of 20000 cfm rule allows for a maximum pm concentration of 0.0611 gr/cf. Calculations show a concentration of 0.0000012 gr/cf. Compliance with this rule is expected

RULE 405: For a process wt of 1500 lbs/hr the rule allows a maximum discharge rate of 3.17 lbs/hr for PM. Compliance with this rule is expected.

RULE 1140: The concentration of PM in the dust collector effluent is far lower than that which would produce visible emissions, indicating compliance with this rule.

RULE 1155: Exempt per (g)(13) with the exception of paragraph (d)(1). The proposed system will be equipped with a HEPA filters unit. Based on experience with similar equipment, compliance with paragraph (d)(1) regarding visible emissions during operation is expected.

REG XIII: BACT: The dust collector constitutes BACT for this abrasive blasting room.

 Offsets: No external offsets required.

 Modeling: PM10 emissions are determined to be below the limit (0.41 lb/hr) stated in Rule 1303, Table A-1. Therefore, no modeling is required.

RULE 1401: Compliance is expected.

RULE 1401.1: Not applicable. The facility is an existing facility. No schools within 1,000 ft. of the facility.

REG XXX: Compliance with all applicable provisions of Reg. XXX is expected (see A/N 544210).

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ENGINEERING AND COMPLIANCE APPLICATION PROCESSING AND CALCULATIONS	# of Pages	Page #
	10	5
	Appl. No.	Date
	542209	9/24/12
	Processed by	File name
	AM	

RECOMMENDATIONS

This equipment is expected to comply with all applicable District Rules and Regulations. A Permit to Construct/Operate issuance is recommended based on the conditions stated in the Sample Permit.