PERMIT TO CONSTRUCT/OPERATE

(FACILITY ID# 15504)

Applicant Name: SCHLOSSER FORGE COMPANY

Mailing Address: 11711 ARROW ROUTE.
RANCHO CUCAMONGA, CA 91730

Equipment Location: 11711 ARROW ROUTE.
RANCHO CUCAMONGA, CA 91730

EQUIPMENT DESCRIPTIONS:

APPLICATION NO. 562217

NEW: FURNACE, METAL HEATING, GOLD COAST REFRACTORY, NATURAL GAS, 5.2 MMBTU/HR TOTAL, WITH TWO 2.6 MMBTU/HR MAXON KINEDIZER-LE BURNERS.

APPLICATION NO. 562219

NEW: FURNACE, METAL HEATING, GOLD COAST REFRACTORY, NATURAL GAS, 5.2 MMBTU/HR TOTAL, WITH TWO 2.6 MMBTU/HR MAXON KINEDIZER-LE BURNERS.

APPLICATION NO. 562220

NEW: FURNACE, METAL HEATING, GOLD COAST REFRACTORY, NATURAL GAS, 5.2 MMBTU/HR TOTAL, WITH TWO 2.6 MMBTU/HR MAXON KINEDIZER-LE BURNERS.

APPLICATION NO. 552222

NEW: FURNACE, METAL HEATING, GOLD COAST REFRACTORY, NATURAL GAS, 5.2 MMBTU/HR TOTAL, WITH TWO 2.6 MMBTU/HR MAXON KINEDIZER-LE BURNERS.

APPLICATION NO. 562223

TITLE V/RECLAIM REVISION

PERMIT CONDITIONS: (SEE TITLE V PERMIT)

BACKGROUND:

Schlosser Forge is a Title V/RECLAIM facility. The facility specializes in the forging of seamless rolled rings, primarily for the aerospace industry.

On April 2, 2014, Schlosser Forge Company submitted an application package for the installation of four new metal furnaces to be operated under A/N's 562217, 562219, 562220, and 562222. In addition, they submitted a Title V/RECLAIM revision under A/N 562223.

PROCESS DESCRIPTION:

The facility specializes in the forging of seamless rolled rings, primarily for the aerospace industry. The rings are forged from an extensive array of alloys. The metal is pressed, pounded, or squeezed under pressure to create high strength parts. Schlosser Forge natural gas fired furnace units will be used to heat parts prior to forging. The new equipment will be part of an existing facility wide fuel usage cap for all permitted furnaces.

PERMIT CONDITIONS: (SEE PERMIT)

EMISSION CALCULATIONS

A/N's 562217, 562219, 562220, 562222– Four Metal Heating Furnaces

Process Emissions:

Process emissions from furnaces are negligible. No metal melting in furnaces.

Combustion Emissions

Furnace Rating: 5.2 MMbtu/hr
Operation: 24 hours, 7 days, 52 weeks

Emission factors (AQMD General Instruction Book Appendix A Table 1):
CO = 35 lb/MMCF
NOx = 50 PPMV (BACT limit)
PM10 = 7.5 lb/MMCF
ROG = 7 lb/MMCF
SOx = 0.83 lb/MMCF

Emissions Summary for One Metal Heating Furnace

	VOC	*NOx*	*SOx*	*CO*	*PM/PM10*
Factor (lb/MM BTU)	0.0067	0.0607	0.0008	0.0333	0.0071
lb/hr	0.03	0.32	0.004	0.17	0.04
lb/day					
Max.	0.83	7.58	0.10	4.16	0.89
Avg.	0.83	7.58	0.10	4.16	0.89
lb/yr	302.85	2,757.56	35.91	1,514.24	324.48

NSR balance for fuel limit bubble:

The existing facility fuel limit bubble is 64 MMscf/month (See Condition F1.1).

PM10 Emission Factor: 7.5 lb/MMCF

Max PM10 Emissions

64 mmcf/mo x 7.5 lb PM10/mmcf /30 days/mo = **16 lbs/day**

ROG Emission Factor: 7.0 lb/MMCF

Maximum ROG emissions

64 mmcf/month x 7.0 lb ROG/mmcf /30 days/mo = **15 lbs/day**

RULES EVALUATION:

RULE 212: (c) (1): This section requires a public notice for all new or modified permit units that emit air contaminants located within 1000 feet from the outer boundary of a school.

The nearest school is not located within 1,000 feet of the facility boundary; therefore, public notice is not required.

(c)(2): This section requires a public notice for all new or modified facilities having onsite emission increases exceeding any of the daily maximums specified in Rule 212(g).

This project is not expected to result to result in increases exceeding daily maximums. Public notice is not necessary.

(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 IOE-6 per facility.

This project is not expected to result in increased toxic pollutant emissions, therefore, public notice is not required.

(g): Project emissions do not exceed daily max thresholds. Public Notice is not required.

RULE 401: Visible emissions are not expected with proper operation of this equipment.

RULE 402: Nuisance is not expected if equipment is properly operated and maintained.

RULE 403: Fugitive dust is not expected if equipment is properly operated and maintained.

RULE 404: Compliance is expected if equipment is properly operated and maintained.

RULE 1303:

OFFSETS: NSR balance for PM10 emissions are capped at 4 tons/year, or 22 lbs/day. The four new furnaces will be included under the same facility condition F1.1, which states the fuel usage may not exceed 64 MM cubic feet in any one calendar month. Therefore, there is no increase in gas usage and no increase in emissions for the proposed project. No offsets are required.

BACT: The four new heating furnaces carry Maxon Kinedizer-LE burners. Theses burners are guaranteed to have NOx concentration of less than 50 ppmv at 3% 02, which meets the BACT requirement of 50 ppmv.

MODELING: Modeling for VOC is not required. CO is in attainment. Modeling for CO not required. According to Table A-1 in Rule 1303, allowable PM10 limit is 2.8 lbs/hr and NOx limit is 0.47 lbs/hr for combustion equipment

5-10 MMbtu/hr. PM10 hourly emissions for new furnaces is .04 lbs/hr. NOx hourly emissions is 0.32 lbs/hr. Modeling passes.

RULE 2005: Sufficient NOx allocation has been obtained under provisions of Rule 2005. The furnace units will be considered NOx process units and will be required to comply with all reporting requirements.

REG XXX: Applications for Title V De Minimis require EPA 45-day review.

RULE 1401: Toxics from natural gas combustion expected to be negligible.

CONCLUSIONS AND RECOMMENDATIONS:

Based on the evaluation contained herein, the subject equipment will comply with all of the District's rules and regulations; therefore, I recommend a Title V permit to construct/operate be issued to this equipment as described in this report.

CALCULATIONS:

Given:

Maximum Heat Input Rating, MM BTU/hr:	5.2	MM BTU/hr
Fuel:	Natural gas	
Equipment Operating Load:	100%	
Conversion Factors, ppm @ 3% O_2 to lb/MM BTU		
NOx	0.00121	[lb/MM BTU]/ppm
CO	0.00074	[lb/MM BTU]/ppm
Operating Schedule:		
hrs/day	24	
days/wk	7	
weeks/yr	52	
NOx Concentration, ppm @ 3% O_2 (dry)	50	
Emission Factors, lb/MM BTU: (Default)		
ROG:	0.0067	
SOx :	0.0008	
CO:	0.0333	
PM:	0.0071	
PM_{10} in total PM:	100%	
HHV of natural gas:	1,050	BTU/ft^3

Computations:

VOC:

lb/hr	0.0067 lb/MM BTU*5.2 MM BTU =	0.03 lb/hr
lb/day Max.	0.03 lb/hr*24 hrs/day =	0.83 lb/day Max.
lb/day, Avg	0.03 lb/hr*24 hrs/day*1.00 (Load factor) =	0.83 lb/day, Avg
lb/yr	0.83 lb/day*7 days/wk*52 wks/yr =	302.85 lb/yr

NOx:

lb/MM BTU	0.00121 lb/MM BTU-ppm*50 ppm =	0.0607 lb/MM BTU
lb/hr	0.0607 lb/MM BTU*5.2 MM BTU/hr =	0.32 lb/hr
lb/day Max.	0.32 lb/hr*24 hrs/day =	7.58 lb/day Max.
lb/day, Avg	0.32 lb/hr*24 hrs/day*1.00 (Load factor) =	7.58 lb/day, Avg
lb/yr	7.58 lb/day*7 days/wk*52 wks/yr =	2757.56 lb/yr

SOx:

lb/hr	0.0008 lb/MM BTU*5.2 MM BTU =	0.004 lb/hr
lb/day Max.	0.004 lb/hr*24 hrs/day =	0.10 lb/day Max.
lb/day, Avg	0.004 lb/hr*24 hrs/day*1.00 (Load factor) =	0.10 lb/day, Avg
lb/yr	0.10 lb/day*7 days/wk*52 wks/yr =	35.91 lb/yr

CO:

lb/hr	0.0333 lb/MM BTU*5.2 MM BTU =	0.17 lb/hr
lb/day Max.	0.17 lb/hr*24 hrs/day =	4.16 lb/day Max.
lb/day, Avg	0.17 lb/hr*24 hrs/day*1.00 (Load factor) =	4.16 lb/day, Avg
lb/yr	4.16 lb/day*7 days/wk*52 wks/yr =	1514.24 lb/yr

PM/PM10

lb/hr	0.0071 lb/MM BTU*5.2 MM BTU =	0.04 lb/hr
lb/day Max.	0.04 lb/hr*24 hrs/day =	0.89 lb/day Max.
lb/day, Avg	0.04 lb/hr*24 hrs/day*1.00 (Load factor) =	0.89 lb/day, Avg
lb/yr	0.89 lb/day*7 days/wk*52 wks/yr =	324.48 lb/yr

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