PERMIT TO OPERATE

(FACILITY ID# 136)

Applicant Name: PRESS FORGE COMPANY

Mailing Address: 7700 JACKSON STREET
PARAMOUNT, CA 90723

Equipment Location: 7700 JACKSON STREET
PARAMOUNT, CA 90723

EQUIPMENT DESCRIPTIONS:

APPLICATION NO. 566668

MONTHLY BUBBLE FUEL LIMIT FOR THREE FURNACES:

D23: FORGING FURNACE, NO. 21, NATURAL GAS, 20.0 MMBTU/HR, WITH 10 ECLIPSE BURNERS, MODEL NUMBER FN0200, EACH 2.0 MMBTU/HR.

APPLICATION NO. 566669

MONTHLY BUBBLE FUEL LIMIT FOR THREE FURNACES:

D25: FORGING FURNACE, NO. 22, NATURAL GAS, 20.0 MMBTU/HR, WITH 10 ECLIPSE BURNERS, MODEL NUMBER FN0200, EACH 2.0 MMBTU/HR.

APPLICATION NO. 566670

MONTHLY BUBBLE FUEL LIMIT FOR THREE FURNACES:

D35: FORGING FURNACE, NO. 1101, NATURAL GAS, 20.0 MMBTU/HR, WITH 10 ECLIPSE BURNERS, MODEL NUMBER FN0200, EACH 2.0 MMBTU/HR.

APPLICATION NO. 566671

TITLE V/RECLAIM REVISION

PERMIT CONDITIONS: (SEE TITLE V PERMIT)

BACKGROUND:

Press Forge Co. is a Title V/RECLAIM facility. The facility specializes in the forging of parts for aerospace, nuclear, oil, and industrial industries.

A/N's 566668, 566669, and 566670 were filed on July 16, 2014 for a modification to three existing furnaces to create a monthly bubble fuel limit. In addition, they submitted a Title V/RECLAIM revision under A/N 566671. Fees for expedited processing were submitted as required per Rule 301(v).

PROCESS DESCRIPTION:

Metal is pressed under pressure to create high strength parts in desired shapes. Press Forge natural gas fired furnaces units are used to heat parts prior to forging.

PERMIT CONDITIONS: (SEE PERMIT)

EMISSION CALCULATIONS

A/N's 566668-566670 – Monthly Bubble Fuel Limit for 3 Furnaces

The existing furnaces each have an individual fuel limit of 6.00 mm cu. ft. per month. The monthly bubble permit condition will be based on a monthly natural gas fuel usage limit of 24.0 mmcf per month. As a result, the potential gas usage for all three furnaces will increase from 18 mmcf per month to 24.0 mmcf per month. The new fuel limit bubble will result in a net emission increase for all criteria pollutants.

Combustion Emissions

PRE-MOD

Operation: 24 hours, 7 days, 52 weeks
Furnace Rating Total: 60.0 MMbtu/hr (Three Furnaces Total)
Fuel Usage Total: 25,000 cu.ft./hr (Three Furnaces Total)

The only emissions in this process are from the combustion of natural gas.

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

NOx = 64.1 lbs/10^6 – ft^3 x 25,000 ft^3/hr =1.6025 lbs/hr
= 1.6025 lbs/hr x 24 hrs/day = 38.46 lbs/day
= 38.46 x 7 days/week x 52 wks/yr = 13,999 lbs/year

CO = 35 lbs/10^6 – ft^3 x 25,000 ft^3/hr = 0.875 lbs/hr
= 0.875 lbs/hr x 24 hrs/day = 21 lbs/day
= 21 lbs/day x 7 days/wk x 52 wks/yr = 7,644 lbs/year

PM10 = 7.5 lbs/10^6 – ft^3 x 25,000 ft^3/hr = 0.1875 lbs/hr
= 0.1875 lbs/hr x 24 hrs/day = 4.5 lbs/day
= 4.5 lbs/day x 7 days/wk x 52 wks/yr = 1,638 lbs/year

ROG = 7.0 lbs/10^6 – ft^3 x 25,000 ft^3/hr = 0.175 lbs/hr
= 0.175 lbs/hr x 24 hrs/day = 4.2 lbs/day
= 4.2 lbs/day x 7 days/wk x 52 wks/yr = 1,529 lbs/year

SOx = 0.6 lbs/10^6 – ft^3 x 25,000 ft^3/hr = 0.015 lbs/hr
= 0.015 lbs/hr x 24 hrs/day = 0.36 lbs/day
= .36 lbs/day x 7 days/wk x 52 wks/yr = 131 lbs/year

POST-MOD

Operation: 24 hours, 7 days, 52 weeks
Furnace Rating Total: 60.0 MMbtu/hr (Three Furnaces Total)
Fuel Usage Total: 33,333,33 cu.ft./hr (Three Furnaces Total)

The only emissions in this process are from the combustion of natural gas.

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

NOx = 64.1 lbs/10^6 – ft^3 x 33,333.33 ft^3/hr =2.14 lbs/hr
= 2.14 lbs/hr x 24 hrs/day = 51.36 lbs/day
= 51.36 x 7 days/week x 52 wks/yr = 18,695 lbs/year

CO = 35 lbs/10^6 – ft^3 x 33,333.33 ft^3/hr = 1.17 lbs/hr
= 1.17 lbs/hr x 24 hrs/day = 28.08 lbs/day
= 28.08 lbs/day x 7 days/wk x 52 wks/yr = 10,221.12 lbs/year

PM10 = 7.5 lbs/10^6 – ft^3 x 33,333.33 ft^3/hr = 0.25 lbs/hr
= 0.25 lbs/hr x 24 hrs/day = 6 lbs/day
= 6 lbs/day x 7 days/wk x 52 wks/yr = 2,184 lbs/year

ROG = 7.0 lbs/10^6 – ft^3 x 33,333.33 ft^3/hr = 0.23 lbs/hr
= 0.23 lbs/hr x 24 hrs/day = 5.52lbs/day
= 5.52 lbs/day x 7 days/wk x 52 wks/yr = 2,009 lbs/year

SOx = 0.6 lbs/10^6 – ft^3 x 33,333.33 ft^3/hr = 0.02 lbs/hr
= 0.015 lbs/hr x 24 hrs/day = 0.48 lbs/day
= .38 lbs/day x 7 days/wk x 52 wks/yr = 175 lbs/year

Emissions Summary for One Metal Heating Furnace

	VOC	*NOx*	*SOx*	*CO*	*PM10*
Pre-MOD lbs/day	4.2	38.46	0.36	21	4.5
Post-MOD lbs/day	5.52	51.36	0.48	28.08	6
Increase in Emissions	1.32	12.9	0.12	7.08	1.5

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: No change in Particulate Matter Concentration. Equipment is expected to operate in compliance.

RULE 1303:

OFFSETS: The bubbled fuel usage limit will result in net emission increase for all criteria pollutants. The facility's PM, ROG, and SOx emissions are less than 4 tons/year and therefore no emission offset is required. CO is in attainment and therefore no offset is required. The increase in NOx emissions will be offset through the company's RECLAIM NOx allocation.

BACT: The furnaces have LOW NOX burners with concentration limit of 50 ppmv at 3% O2 which is BACT for this type of equipment.

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 7.6 lbs/hr and NOx limit is 1.26 lbs/hr. PM10 hourly emissions increased by .0625 lbs/hr. NOx hourly emissions increased by 0.5375 lbs/hr. Modeling passes.

RULE 2005: Sufficient NOx allocation has been obtained under provisions of Rule 2005.

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 operate be issued to this equipment as described in this report.