

## **FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT**

### **Facility Equipment and Requirements (Section D)**

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Operate Number	Equipment Description	Page Number
06049A	M30530	GAS TURBINE, EMERGENCY, >= 0.3 MW	4
06050A	M30531	GAS TURBINE, EMERGENCY, >= 0.3 MW	5
133994	R-D11231	I C E (>500 HP) EM ELEC GEN DIESEL	6
133995	R-D11232	I C E (>500 HP) EM ELEC GEN DIESEL	7
134619	R-D11233	I C E (>500 HP) EM ELEC GEN DIESEL	8
135464	R-D11234	I C E (>500 HP) EM ELEC GEN DIESEL	9
13973X	743973	SPRAY BOOTH PAINT AND SOLVENT	10
223413	F00876	BOILER (5-20 MMBTU/HR) DIGESTER GAS	11
356878	F66565	SEWAGE TREATMENT (>5 MG/D) ANEROBIC	13
386679	F40906	SCRUBBER, ODOR	15
408166	F55982	I C E (>500 HP) EM ELEC GEN DIESEL	17
428945	F68430	I C E (>500 HP) EM ELEC GEN DIESEL	18
429662	F71054	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	19
444109	F99404	SCRUBBER, ODOR	24
459958	F94280	ODOR CONTROL UNIT	26
486760	TBD (will supersede 492039)	I C E (>500 HP) NAT & DIGESTER GAS	28
486792	TBD (will supersede 492038)	I C E (>500 HP) NAT & DIGESTER GAS	31
486793	TBD (will suepercede 492036)	I C E (>500 HP) NAT & DIGESTER GAS	34
492036	G1039	I C E (>500 HP) NAT & DIGESTER GAS	37
492038	G1040	I C E (>500 HP) NAT & DIGESTER GAS	40
492039	G1041	I C E (>500 HP) NAT & DIGESTER GAS	43

**NOTE:** APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. TBD  
A/N 486760

**Equipment Description:**

RESOURCE RECOVERY SYSTEM NO. 3 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

**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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.  
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.  
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.  
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.  
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO<sub>x</sub> AND O<sub>2</sub> CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO<sub>x</sub> TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.  
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O<sub>2</sub>, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
- D. OXIDES OF NITROGEN (EXHAUST ONLY).

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- E. OXYGEN
  - F. FLOW RATE
  - G. MOISTURE
  - H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
  - I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
  - J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
  - K. NITROGEN AND CARBON DIOXIDE
  - L. BTU CONTENTS (FUEL ONLY)
  - M. POWER OUTPUT
- [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]
- 15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]

### **Emissions And Requirements:**

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
- CO: 2000 PPMV, RULE 1110.2
  - NO<sub>x</sub>: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
  - ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
  - PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. TBD  
A/N 486792

#### Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 2 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

#### 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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTING TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.  
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.  
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.  
[RULE 204]
7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 204]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.  
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT

CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
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CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NO<sub>x</sub> AND O<sub>2</sub> CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NO<sub>x</sub> TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub> AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.

[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O<sub>2</sub>, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
- D. OXIDES OF NITROGEN (EXHAUST ONLY).

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- E. OXYGEN
  - F. FLOW RATE
  - G. MOISTURE
  - H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
  - I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
  - J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
  - K. NITROGEN AND CARBON DIOXIDE
  - L. BTU CONTENTS (FUEL ONLY)
  - M. POWER OUTPUT
- [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

- 15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 204]

**Emissions And Requirements:**

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
- CO: 2000 PPMV, RULE 1110.2
  - NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
  - ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
  - PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

### PERMIT TO OPERATE

Permit No. TBD  
A/N 486793

#### Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 1 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

#### Conditions:

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4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.  
[RULE 1110.2]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.  
[RULE 204]
6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.  
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## FACILITY PERMIT TO OPERATE ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.  
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

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[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
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- A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
- D. OXIDES OF NITROGEN (EXHAUST ONLY).

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- E. OXYGEN
  - F. FLOW RATE
  - G. MOISTURE
  - H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
  - I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
  - J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
  - K. NITROGEN AND CARBON DIOXIDE
  - L. BTU CONTENTS (FUEL ONLY)
  - M. POWER OUTPUT
- [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]
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[RULE 204]

**Emissions And Requirements:**

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
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  - PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS