South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

July 9, 2009
via electronic submittal

Mr. Gerardo Rios
USEPA – Region IX
Mail Stop A-5-2
75 Hawthorne Blvd.
San Francisco, CA 94105

Dear Mr. Rios:

Proposed De Minimus Significant Revision to Title V Permit for Eastern Municipal Water District (EMWD), Moreno Valley Regional Water Reclamation Facility (ID# 13088)

Enclosed for your review is the proposed revisions to the Title V Permit for EMWD, Moreno Valley Facility located at 17140 Kitching Street, Moreno Valley, CA. This revision is considered to be a De Minimus Significant permit revision, and a public notice is not required. EMWD has received financing from the State of California and is ready to move forward with improvement projects including construction of secondary clarifier and tertiary treatment (SCATT) and preliminary acid phase and anaerobic digestion (P-APAD) treatment. Due to the urgency of this construction project, we respectfully request your expedited review of this proposal on or before July 17, 2009. As agreed for expedited review, we are enclosing complete proposed Sections D & H, including the revised permit as shown below, and the engineering evaluation.

SECTION H, PERMIT TO CONSTRUCT

Appl. No.	Equipment	Description
474814	Sewage Treatment Facility (> 5 MGD), Anaerobic	Alternation of Sewage Treatment Plant to improve efficiency, and performance (SCATT and P-APAD projects).

SECTION D, PERMIT TO OPERATE

Appl. No.	Equipment	Description
485923, & 485924	Two Internal Combustion Engines	Change of Condition to operate at a single load, and Modification of Permit Description to add Air to Fuel Ratio Controller.

The initial Title V permit for this facility was issued on April 3, 2009. Since then, the the Title V permit was modified once to reflect installation of a digester gas treatment system and a 900 Kw fuel cell (April 14, 2009).

The proposed changes will result in a negligible increase of emissions from the alteration to the sewage process (less than one 0.5 pound per day). There will be no change in the emissions from the proposed modification to the internal combustion engines.

This request is being made via electronic submittal in order to facilitate your review. If you have any questions or need additional information, please contact Mr. Ken Matsuda at (909) 396-2656 or by email at kmatsuda@aqmd.gov.

Sincerely,

Jay Chen, P.E.
Senior AQ Engineering Manager
Refinery and Waste Management Permitting

JC: CDT: KKM
cc Appl.No. 479449
Ed Filadelfa, EMWD

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

Facility Equipment and Requirements
(Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, copies of all individual Permits to Operate issued 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
EASTERN MUNICIPAL WATER DIST.

PERMITTED EQUIPMENT LIST

The following is a list of all permits to operate at this facility:

Application number	Permit number	Equipment description	Page #
173389	F46562	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	4
335117	N8740	SERV STAT STORAGE & DISPENSING GASOLINE	7
357664	F36089	I C E (>500 HP) EM ELEC GEN-NAT GAS	10
357665	F36095	I C E (>500 HP) EM ELEC GEN-NAT GAS	11
407839	F58148	SCRUBBER, PARTICULATES VENTING M.S.	12
414294	F66584	I C E (50-500 HP) DIGESTER GAS	14
414452	F63608	I C E (>500 HP) N-EM STAT NAT GAS ONLY	16
446530		FLARE, ENCLOSED LANDFILL/DIGESTER GAS	19
451325	F83244	ODOR CONTROL UNIT	22
455648		SEWAGE TREATMENT(>5 MG/D)ANAEROBIC	24
473542	G2337	DIGESTER GAS TREATMENT SYSTEM W/ FUEL CELL	27
485923		I C E (50-500 HP) N-EM STAT NAT-GAS	30
485924		I C E (>500 HP) N-EM STAT NAT GAS ONLY	33

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
EASTERN MUNICIPAL WATER DIST.

FACILITY WIDE CONDITION(S)

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:

   A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGELMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
   B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION.
   [RULE 401]

2. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 0.05 PERCENT BY WEIGHT. AFTER JUNE 1, 2004, THE OPERATOR SHALL NOT PURCHASE ANY DIESEL FUEL UNLESS THE FUEL IS LOW SULFUR DIESEL FOR WHICH THE SULFUR CONTENT SHALL NOT EXCEED 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER.
   [RULE 431.2]

3. THE FACILITY SHALL NOT EMIT MORE THAN 5 LBS/DAY OF TOTAL SULFUR COMPOUNDS, CALCULATED AS H2S, FROM BURNING OF GASEOUS FUELS OTHER THAN NATURAL GAS.
   [RULE 431.1]

4. THE OWNER/OPERATOR SHALL NOT DISCHARGE FROM ANY SINGLE SOURCE SULFUR COMPOUNDS IN ANY STATE OR COMBINATION IN EXCESS OF 0.05 PERCENT BY VOLUME AS S02.
   [RULE 53, 407]

5. ACCIDENTAL RELEASE PREVENTION REQUIREMENTS OF SECTION 112(R)(7):
   THE OPERATOR SHALL COMPLY WITH THE ACCIDENTAL RELEASE PREVENTION REQUIREMENTS PURSUANT TO 40 CFR PART 68 AND SHALL SUBMIT TO THE EXECUTIVE OFFICER, AS PART OF ANNUAL COMPLIANCE CERTIFICATION, A STATEMENT THAT CERTIFIES COMPLIANCE WITH ALL THE REQUIREMENTS OF 40 CFR PART 68, INCLUDING THE REGISTRATION AND SUBMISSION OF A RISK MANAGEMENT PLAN (RMP).

   THE OPERATOR SHALL SUBMIT ANY ADDITIONAL RELEVANT INFORMATION REQUESTED BY THE EXECUTIVE OFFICER OR DESIGNATED AGENCY.
   [40 CFR68-ACCIDENTAL RELEASE PREVENTION]

6. THE OPERATOR SHALL COMPLY WITH ALL APPLICABLE MITIGATION MEASURES STIPULATED IN THE "FINAL MITIGATED NEGATIVE DECLARATION AND INITIAL STUDY AND MITIGATION MONITORING PROGRAM" DOCUMENT DATED MAY 2007 FOR THIS FACILITY.

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. F46562
A/N 173389

Equipment Description:

DIGESTER GAS FLARING SYSTEM CONSISTING OF:

1. ONE (1) ENCLOSED FLARE, HIRT, MODEL F, 7,000,000 BTU/HR, 3'-8" DIA. X 19'-0" H.
2. NATURAL GAS PILOT SYSTEM WITH ELECTRIC IGNITION.
3. ULTRA-VIOLET FLAME DETECTOR.

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 AND MAINTAINED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]
4. THE FLARE SHALL BE EQUIPPED WITH A TEMPERATURE INDICATOR AND RECORDER WHICH MEASURES AND RECORDS THE GAS TEMPERATURE IN THE FLARE STACK WHENEVER THE FLARE IS IN OPERATION.
   [RULE 1303]
5. WHENEVER THE FLARE IS IN OPERATION AND FIRED ON DIGESTER GAS, A TEMPERATURE OF NOT LESS THAN 1400 DEGREES F, EXCEPT DURING START-UP NOT EXCEEDING 20 MINUTES, AS MEASURED BY AN APPROVED TEMPERATURE INDICATOR, SHALL BE MAINTAINED IN THE FLARE STACK. THE THERMOCOUPLE SHALL BE ABOVE THE FLAME ZONE AND AT LEAST 3 FEET BELOW THE TOP OF THE FLARE SHROUD AND AT LEAST 0.6 SECONDS DOWNSTREAM OF THE BURNER.
   [RULE 1303]
6. A FLOW INDICATOR AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE FLARE TO MEASURE AND RECORD THE DAILY GAS FLOW RATE (IN SCFD) WHENEVER THE FLARE IS IN OPERATION.
   [RULE 1303]

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7. THE TOTAL VOLUME OF DIGESTER GAS BURNED IN THE FLARE SHALL NOT EXCEED 240,500 STANDARD CUBIC FEET PER DAY.
[RULE 1303]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF DAY.
[RULE 1303]

9. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF ANY RAW DIGESTER GAS INTO THE ATMOSPHERE. ANY BREAKDOWNS OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF RAW DIGESTER GAS SHALL BE REPORTED TO THE SCAQMD TOXICS AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 1303]

10. ALL DIGESTER GAS COLLECTED SHALL BE DIRECTED TO INTERNAL COMBUSTION ENGINES, DIGESTER GAS STORAGE FACILITY, MICROTURBINES AND/OR DIGESTER GAS FLARE WHICH ARE IN FULL USE AND HAVE SCAQMD PERMITS TO CONSTRUCT OR OPERATE OR TO SCAQMD RULE 219 EXEMPT EQUIPMENT WHICH ARE IN FULL USE.
[RULE 1303]

11. THE AUTOMATIC SHUT-DOWN SAFETY SYSTEM FOR HIGH AND LOW TEMPERATURES SHALL BE TESTED MONTHLY FOR PROPER OPERATION AND THE RESULTS RECORDED.
[RULE 1303]

12. A SAMPLING PORT SHALL BE MAINTAINED AT THE INLET GAS LINE TO THE FLARE TO ALLOW COLLECTION OF GAS SAMPLES.
[RULE 1303]

13. THE FLARE SHALL BE EQUIPPED WITH AN AUTOMATIC SHUT-DOWN SYSTEM WITH A FAILURE ALARM, WHICH HAS BEEN APPROVED BY THE SCAQMD, TO AUTOMATICALLY ISOLATE THE FLARE FROM THE DIGESTER GAS SUPPLY LINE AND TO IMMEDIATELY NOTIFY A RESPONSIBLE PARTY OF THE SHUT-DOWN.
[RULE 1303]

14. THE OPERATOR SHALL USE ANALYTICAL METHODS APPROVED BY THE AQMD TO ANALYZE AND RECORD THE H2S CONCENTRATION IN THE DIGESTER GAS DAILY.
[RULE 1303]

15. THE FLARE SHALL BE EQUIPPED WITH A SUFFICIENT NUMBER OF VIEW PORTS TO ALLOW VISUAL INSPECTION OF THE FLAME HEIGHT WITHIN THE FLARE AT ALL TIMES. THE VIEW PORTS SHALL BE LOCATED AT THE ELEVATION OF THE TEMPERATURE SENSOR LOCATIONS. SAFE AND ADEQUATE ACCESS SHALL BE PROVIDED FOR ALL VIEW PORTS UPON REQUEST BY SCAQMD PERSONNEL.
[RULE 1303]

16. THE MAXIMUM FLARE SKIN TEMPERATURE AT ANY LOCATION SHALL NOT EXCEED 250 DEGREES F.
[RULE 1303]

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Emissions and Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM:	RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
PM:	0.1 GR/SCF, RULE 409
PM10:	0.11 LBS/HR, RULE 1303
NOX:	0.63 LBS/HR, RULE 1303
VOC:	0.016 LBS/HR, RULE 1303
CO:	0.11 LBS/HR, RULE 1303

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. N8740
A/N 335117

Equipment Description:

FUEL STORAGE AND DISPENSING FACILITY CONSISTING OF:

1. 1 – DUAL COMPARTMENT ABOVE GROUND GASOLINE/DIESEL STORAGE TANK, CONVAULT TYPE (G-70-116-F), 11'-3" L. x 8'-0" W. x 5'- 6" H., 2,000 GALLON CAPACITY, CONCRETE INSULATION, EQUIPPED WITH A PRESSURE/VACUUM RELIEF VALVE, AND A SUBMERGED FILL TUBE, CONSISTING OF:

   A) ONE 1,000 GALLON GASOLINE COMPARTMENT TANK, EQUIPPED WITH PHASE I VAPOR RECOVERY SYSTEM.

   B) ONE 1,000 GALLON DIESEL COMPARTMENT TANK, NOT EQUIPPED WITH PHASE I VAPOR RECOVERY SYSTEM.

2. 1 - GASOLINE DISPENSING NOZZLE ON A TANK TOP MOUNTED DISPENSER, EQUIPPED WITH PHASE II VAPOR RECOVERY SYSTEM, BALANCE RETRACTOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT WAS 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. EXCEPT FOR DIESEL TRANSFERS, PHASE I VAPOR RECOVERY SYSTEMS SHALL BE IN FULL OPERATION WHENEVER FUEL IS BEING TRANSFERRED INTO STORAGE TANKS.
   [RULE 461

4. EXCEPT FOR DIESEL TRANSFERS, PHASE II VAPOR RECOVERY SYSTEMS SHALL BE IN FULL OPERATION WHENEVER FUEL IS BEING TRANSFERRED INTO MOTOR VEHICLES, AS DEFINED IN RULE 461.
   [RULE 461]

5. ALL PHASE I AND PHASE II VAPOR RECOVERY EQUIPMENT AT THIS FACILITY SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEET ALL CALIFORNIA AIR RESOURCES BOARD CERTIFICATION REQUIREMENTS.
   [RULE 461]

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6. PHASE II VAPOR RECOVERY SYSTEMS SHALL BE INSTALLED, OPERATED, AND MAINTAINED SUCH THAT THE MAXIMUM ALLOWABLE PRESSURE THROUGH THE SYSTEM INCLUDING NOZZLE, VAPOR HOSE, SWIVELS, AND UNDERGROUND PIPING DOES NOT EXCEED THE DYNAMIC BACK PRESSURES DESCRIBED BY THE CALIFORNIA AIR RESOURCES BOARD EXECUTIVE ORDER BY WHICH THE SYSTEM WAS CERTIFIED:

NITROGEN FLOWRATES (CFH)	DYNAMIC BACK PRESSURE (INCHES OF WATER)
20	0.15
40	0.16
60	0.35
80	0.62
100	0.95

DYNAMIC BACK PRESSURE TESTS SHALL BE CONDUCTED TO DETERMINE THE PHASE II SYSTEM VAPOR RECOVERY BACK PRESSURES. THE TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH CARB TEST PROCEDURE METHOD TP-201.4. RESULTS SHALL BE SUBMITTED TO THE DISTRICT, OFFICE OF ENGINEERING AND COMPLIANCE, WITHIN FORTY-EIGHT (48) HOURS OF TESTS.

THE AQMD SHALL BE NOTIFIED BY E-MAIL AT R461TESTING@AQMD.GOV OR AT TELEPHONE NUMBER (909) 396-3886 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO TESTING. SUCH NOTIFICATION SHALL INCLUDE THE NAME OF THE OWNER OR OPERATOR; THE NAME OF THE CONTRACTORS; THE LOCATION OF THE FACILITY; AND THE SCHEDULED START AND COMPLETION DATES OF THE DYNAMIC BACK PRESSURE TEST.
[RULE 461]

7. A STATIC PRESSURE LEAK DECAY TEST SHALL BE CONDUCTED TO DEMONSTRATE THAT THE STORAGE TANKS, THE REMOTE AND/OR NOZZLE VAPOR RECOVERY CHECK VALVES, ASSOCIATED VAPOR RETURN PIPING AND FITTINGS ARE FREE FROM VAPOR LEAKS. THE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH CARB TEST PROCEDURE METHOD TP-201.3. RESULTS SHALL BE SUBMITTED TO THE AQMD, OFFICE OF ENGINEERING AND COMPLIANCE, WITHIN FORTY-EIGHT (48) HOURS OF TEST.

THE AQMD SHALL BE NOTIFIED BY E-MAIL AT R461TESTING@AQMD.GOV OR AT TELEPHONE NUMBER (909) 396-3886 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO TESTING. SUCH NOTIFICATION SHALL INCLUDE THE NAME OF THE OWNER OR OPERATOR; THE NAME OF THE CONTRACTORS; THE LOCATION OF THE FACILITY; AND THE SCHEDULED START AND COMPLETION DATES OF THE STATIC PRESSURE LEAK DECAY TEST.
[RULE 461]

8. IF THE CARB EXECUTIVE ORDER REQUIRES THE INSTALLATION OF A LIQUID REMOVAL DEVICE, A LIQUID REMOVAL RATE TEST SHALL BE CONDUCTED TO DEMONSTRATE THE REMOVAL OF GASOLINE FROM THE VAPOR PASSAGE OF THE COAXIAL HOSE. THE TEST SHALL BE CONDUCTED IN ACCORDANCE WITH CARB TEST PROCEDURE METHOD TP-201.6. RESULTS SHALL BE SUBMITTED TO THE AQMD, OFFICE OF ENGINEERING AND COMPLIANCE, WITHIN FORTY-EIGHT (48) HOURS OF TEST.

FACILITY PERMIT TO OPERATE
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THE SCAQMD SHALL BE NOTIFIED BY E-MAIL AT R461TESTING@AQMD.GOV OR AT TELEPHONE NUMBER (909) 396-3886 AT LEAST SEVENTY-TWO (72) HOURS PRIOR TO TESTING. SUCH NOTIFICATION SHALL INCLUDE THE NAME OF THE OWNER OR OPERATOR; THE NAME OF THE CONTRACTORS; THE LOCATION OF THE FACILITY; AND THE SCHEDULED START AND COMPLETION DATES OF THE LIQUID REMOVAL RATE TEST.
[RULE 461]

9. THE TESTING FREQUENCY FOR THE ABOVE MENTIONED TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE MOST RECENT RULE 461 AMENDMENT OR CARB EXECUTIVE ORDER REQUIREMENTS, WHICHEVER IS MORE STRINGENT.
[RULE 461]

10. ALL RECORDS AND TEST RESULTS THAT ARE REQUIRED TO BE MAINTAINED BY RULE 461 SHALL BE KEPT ON SITE AND MADE AVAILABLE TO DISTRICT REPRESENTATIVES UPON REQUEST.
[RULE 461]

11. THE MAXIMUM QUANTITY OF GASOLINE DISPENSED FROM THE STORAGE TANKS AT THIS FACILITY SHALL NOT EXCEED 5000 GALLONS IN ANY ONE CALENDAR MONTH NOR 60000 GALLONS IN ANY ONE CALENDAR YEAR.
[RULE 461]

Periodic Monitoring:

12. THE OPERATOR SHALL HAVE A PERSON THAT HAS BEEN TRAINED IN ACCORDANCE WITH RULE (461)(d)(5) CONDUCT AN ANNUAL INSPECTION IN ACCORDANCE WITH RULE 461(d)(1)(B) OF THE GASOLINE TRANSFER AND DISPENSING EQUIPMENT. THE INSPECTION SHALL BE IN ACCORDANCE WITH RULE 461, ATTACHMENT C. THE OPERATOR SHALL KEEP RECORDS OF THE INSPECTION AND THE REPAIRS IN ACCORDANCE WITH RULE 461 AND SECTION K OF THIS PERMIT.
[RULE 3004(a)(4)]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. F36089
A/N 357664

Equipment Description:

INTERNAL COMBUSTION ENGINE, ENGINE NO. 2, WAUKESHA, MODEL NO. P9390GL, SERIAL NO. 401936, SIXTEEN CYLINDERS, TURBOCHARGED, INTERCOOLED, 2200 BHP, LEAN BURN, NATURAL GAS AND LIQUID PROPANE GAS FIRED, WITH AN ENGELHARD OXIDATION CATALYST, MODEL C-41092, DRIVING A 1,540 KW EMERGENCY GENERATOR.

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. A TIMER SHALL BE INSTALLED AND MAINTAINED SO AS TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

4. THIS ENGINE SHALL NOT OPERATE MORE THAN 199 HOURS IN ANY ONE YEAR.
[RULE 1110.2, 1304(a)]

5. THE IGNITION TIMING OF THIS ENGINE SHALL BE INSPECTED, ADJUSTED AND CERTIFIED AT A MINIMUM ONCE EVERY THREE YEARS OF OPERATION. INSPECTIONS, ADJUSTMENTS AND CERTIFICATIONS SHALL BE PERFORMED BY A QUALIFIED MECHANIC AND ACCORDING TO THE ENGINE MANUFACTURER'S PROCEDURES.
[RULE 1110.2]

6. THE OPERATOR SHALL ONLY USE LIQUID PROPANE GAS AS AN EMERGENCY BACKUP FUEL FOR THIS EQUIPMENT.
[RULE 1110.2]

Emissions and Requirements:

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

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. F36095
A/N 357665

Equipment Description:

INTERNAL COMBUSTION ENGINE, ENGINE NO. 1, WAUKESHA, MODEL NO. P9390GL, SERIAL NO. 401935, SIXTEEN CYLINDERS, TURBOCHARGED, INTERCOOLED, 2200 BHP, LEAN BURN, NATURAL GAS AND LIQUID PROPANE GAS FIRED, WITH AN ENGELHARD OXIDATION CATALYST, MODEL C-41092, DRIVING A 1,540 KW EMERGENCY GENERATOR.

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. A TIMER SHALL BE INSTALLED AND MAINTAINED SO AS TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2]

4. THIS ENGINE SHALL NOT OPERATE MORE THAN 199 HOURS IN ANY ONE YEAR.
   [RULE 1110.2, 1304(a)]

5. THE IGNITION TIMING OF THIS ENGINE SHALL BE INSPECTED, ADJUSTED AND CERTIFIED AT A MINIMUM ONCE EVERY THREE YEARS OF OPERATION. INSPECTIONS, ADJUSTMENTS AND CERTIFICATIONS SHALL BE PERFORMED BY A QUALIFIED MECHANIC AND ACCORDING TO THE ENGINE MANUFACTURER'S PROCEDURES.
   [RULE 1110.2]

6. THE OPERATOR SHALL ONLY USE LIQUID PROPANE GAS AS AN EMERGENCY BACKUP FUEL FOR THIS EQUIPMENT.
   [RULE 1110.2]

Emissions and Requirements:

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

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. F58148
A/N 407839

Equipment Description:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. SCRUBBER, CUSTOM, VERTICAL FLOW WET PACKED TYPE, 10'-0" DIA. X 27'-0" H., PACKED, WITH A 500 GPM CIRCULATION PUMP.

2. STORAGE TANK, SODIUM HYDROXIDE, 2,500 GALLONS, WITH ASSOCIATED PUMPS.

3. STORAGE TANK, SODIUM HYPOCHLORITE, 2,500 GALLONS, WITH ASSOCIATED PUMPS.

4. EXHAUST SYSTEM WITH A 100 H.P. BLOWER VENTING THE HEADWORKS.

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 WHENEVER THE HEADWORKS IS IN OPERATION. HOWEVER, THIS EQUIPMENT MAY BE SHUT DOWN FOR A PERIOD NOT EXCEEDING 72 HOURS FOR MAINTENANCE AND NOT EXCEEDING 60 MINUTES DURING ELECTRICAL POWER SOURCE CHANGEOVER DUE TO HIGH POWER DEMAND. SHUTDOWNS DUE TO ELECTRICAL POWER SOURCE CHANGEOVERS SHALL NOT OCCUR MORE THAN ONCE DURING ANY CALENDAR MONTH. EACH SHUTDOWN MUST BE RECORDED WITH DATE, TIME, DURATION AND PURPOSE OF THE SHUTDOWN.
   [RULE 1303]

4. WHEN THE EQUIPMENT IS SHUT DOWN FOR MAINTENANCE, PERIMETER MONITORING SHALL BE PERFORMED DOWN WIND OF THE SCRUBBER AND IN THE DIRECTION OF THE RESIDENTIAL AREAS AT LEAST ONCE EVERY 4 HOURS FROM 6:30 AM TO 4 PM (OTHERWISE ON CALL) UNTIL THE SCRUBBER IS IN OPERATION.
   [RULE 1303]

5. HYDROGEN SULFIDE FROM THE OUTLET OF THIS AIR POLLUTION CONTROL SYSTEM SHALL NOT EXCEED 1.0 PARTS PER MILLION.
   [RULE 402]

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6. A FLOWMETER INDICATING GALLONS PER MINUTE (G.P.M.) SHALL BE INSTALLED IN THE SCRUBBER SOLUTION RECIRCULATION LINE. NOT LESS THAN 350 GALLONS PER MINUTE OF SOLUTION SHALL BE RECIRCULATED THROUGH THE SCRUBBER WHEN THE SCRUBBER IS IN OPERATION.
[RULE 1303]

7. SODIUM HYDROXIDE AND SODIUM HYPOCHLORITE USAGE SHALL BE MAINTAINED. STORAGE TANK FILLING LOGS OR PURCHASE ORDERS FOR THE TANK SOLUTIONS MAY BE USED TO ESTIMATE THE HOURLY USAGE.
[RULE 1303]

8. A PH METER SHALL BE INSTALLED TO MONITOR THE SCRUBBER SOLUTION. THE PH OF THE SCRUBBER SOLUTION SHALL NOT BE LESS THAN 10.5 OR GREATER THAN 13.5 PH WHEN THE SCRUBBER IS IN OPERATION.
[RULE 1303]

9. COMPLIANCE WITH CONDITION NO. 5 SHALL BE DETERMINED WEEKLY, USING DRAEGER TEST TUBES OR ANOTHER TEST METHOD APPROVED BY THE SCAQMD.
[RULE 402]

Periodic Monitoring:

10. OPERATOR SHALL RECORD THE SCRUBBER SOLUTION FLOWRATE AT LEAST ONCE PER DAY.
[RULE 3004(a)(4)]

11. OPERATOR SHALL RECORD THE PH OF THE SCRUBBER SOLUTION AT LEAST ONCE PER DAY.
[RULE 3004(a)(4)]

12. A DIFFERENTIAL PRESSURE GAUGE SHALL BE INSTALLED TO MONITOR THE SCRUBBER PRESSURE DROP. THE PRESSURE DROP SHALL NOT EXCEED 9.0 INCHES OF WATER WHEN THE SCRUBBER IS IN OPERATION.
[RULE 3004(a)(4)]

13. OPERATOR SHALL RECORD THE PRESSURE DROP OF THE SCRUBBER AT LEAST ONCE PER DAY.
[RULE 3004(a)(4)]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. F66584
A/N 414294

Equipment Description:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, MODEL G398-SI-TA-HCR, SERIAL NO. 73B02093, TWELVE CYLINDERS, 400 BHP, TURBOCHARGED AND AFTERCOOLED, DIGESTER GAS FIRED, WITH A PRE-STRATIFIED CHARGE SYSTEM AND AN EXHAUST HEAT RECOVERY SYSTEM, DRIVING AN AERATION BLOWER.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT 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. A NON-RESETTABLE TOTALIZING TIMER METER SHALL BE INSTALLED AND MAINTAINED TO INDICATE THE FUEL USAGE OF THE ENGINE.
   [RULE 1110.2]

4. THIS EQUIPMENT IS TO BE FIRED ONLY ON DIGESTER GAS.
   [RULE 1303]

5. THE IGNITION TIMING OF THIS ENGINE SHALL BE INSPECTED, ADJUSTED AND CERTIFIED AT A MINIMUM ONCE EVERY THREE YEARS OF OPERATION. INSPECTIONS, ADJUSTMENTS AND CERTIFICATIONS SHALL BE PERFORMED BY A QUALIFIED MECHANIC AND ACCORDING TO THE ENGINE MANUFACTURER'S PROCEDURES.
   [RULE 1303]

6. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH ALL PROVISIONS OF RULE 1110.2.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

Emissions and Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM:	RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
NOX:	45 PPM AT 15% 02, RULE 1110.2
NOX:	0.6 GM/BHP-HR, RULE 1303
VOC:	250 PPM AT 15% 02, RULE 1110.2
VOC:	0.8 GM/BHP-HR, RULE 1303
CO:	2000 PPM AT 15% 02, RULE 1110.2
CO:	2.5 GM/BHP-HR, RULE 1303

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. F63608
A/N 414452

Equipment Description:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, NATURAL GAS AND LIQUID PROPANE GAS FIRED, MODEL NO. G399-SI-TA, SERIAL NO. 49C01555, EIGHT CYLINDERS, TURBOCHARGED, AFTERCOOLED, RICH BURN, 930 BHP, WITH A JOHNSON MATTHEY CATALYST, MODEL NO. MX-80, AND AN AIR/FUEL RATIO CONTROLLER, DRIVING AN ELECTRICAL GENERATOR.

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. THE CATALYTIC CONVERTER SHALL BE MAINTAINED IN GOOD WORKING CONDITION. THE OPERATOR SHALL MAINTAIN RECORDS OF CATALYST CLEANING PERIODS AND REPLACEMENT FREQUENCY.
[RULE 1110.2, 1303]

4. A MANOMETER SHALL BE INSTALLED TO MEASURE THE PRESSURE DROP ACROSS THE CATALYST. THE PRESSURE DROP SHALL NOT EXCEED 5 INCHES OF WATER COLUMN (W.C.).
[RULE 1110.2, 1303]

5. AN AIR TO FUEL RATIO CONTROLLER SHALL BE INSTALLED ON THIS ENGINE AND SET TO MAINTAIN THE AIR TO FUEL RATIO WITHIN TOLERANCE LIMITS AS SPECIFIED BY THE CATALYTIC CONVERTER SUPPLIER OR AS DEMONSTRATED BY A SOURCE TEST TO MAINTAIN THE SUPPLIER GUARANTEED EMISSION REDUCTION EFFICIENCIES OR LIMITS.

6. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 1110.2.
[RULE 1110.2]

7. A TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

8. THIS ENGINE SHALL BE FIRED ON LIQUID PROPANE GAS ONLY DURING NATURAL GAS CURTAILMENT OR DURING PERIODS OF TESTING NOT TO EXCEED A TOTAL OF 24 HOURS PER YEAR.
[RULE 1303]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

Periodic Monitoring

8. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 3004 (a)(4)]

9. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOX EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 3004 (a)(4)]

10. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE VOC EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 3004 (a)(4)]

11. THIS ENGINE SHALL NOT BE OPERATED WITHOUT THE USE OF AN AUTOMATIC AIR TO FUEL RATIO CONTROLLER WHICH SHALL BE MAINTAINED AND KEPT IN PROPER OPERATING CONDITIONS AT ALL TIMES AS SPECIFIED BY THE MANUFACTURER. [RULE 3004 (a)(4)]

12. THE OXYGEN CONCENTRATION AT THE OUTLET OF THE ENGINE SHALL NOT EXCEED 0.5 PERCENT OXYGEN. [RULE 3004 (a)(4)]

13. THIS ENGINE SHALL BE EQUIPPED WITH AN OXYGEN SENSOR AT THE EXHAUST OF THE ENGINE. A RECORDING SYSTEM SHALL BE INSTALLED TO VERIFY COMPLIANCE WITH CONDITION 12. PARAMETRIC OPERATING DATA MAY BE USED IN LIEU OF DIRECT OXYGEN MEASUREMENTS, BUT RECORDS OF HOW THE PARAMETRIC DATA RELATES TO OXYGEN CONTENT MUST BE RETAINED AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. [RULE 3004 (a)(4)]

14. THE OPERATOR SHALL INSTALL AND MAINTAIN A TEMPERATURE GAUGE AND RECORDING SYSTEM TO ACCURATELY INDICATE THE TEMPERATURE AT THE INLET OF THE CATALYST. [RULE 3004 (a)(4)]

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15. THE OPERATOR SHALL INSTALL AND MAINTAIN A TEMPERATURE GAUGE AND RECORDING SYSTEM TO ACCURATELY INDICATE THE TEMPERATURE AT THE OUTLET OF THE CATALYST. [RULE 3004 (a)(4)]

16. THE TEMPERATURE AT THE OUTLET OF THE CATALYST SHALL NOT EXCEED 1350 DEGREES FAHRENHEIT. [RULE 3004 (a)(4)]

17. THE MINIMUM TEMPERATURE AT THE INLET OF THE CATALYST SHALL BE ABOVE 750 DEGREES FAHRENHEIT, EXCEPT DURING AN ENGINE COLD START NOT TO EXCEED 30 MINUTES. [RULE 3004 (a)(4)]

Emissions and Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

NOX: 36 PPM AT 15% 02, RULE 1110.2
NOX: 1.5 G/BHP-HR, RULE 1303
VOC: 250 PPM AT 15% 02, RULE 1110.2
VOC: 1.5 G/BHP-HR, RULE 1303
CO: 2000 PPM AT 15% 02, RULE 1110.2
CO: 2.0 G/BHP-HR, RULE 1303

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. _____
A/N 446530

Equipment Description:

DIGESTER GAS FLARING SYSTEM CONSISTING OF:

1. ONE (1) ENCLOSED FLARE, JOHN ZINK, MODEL ZTOF, 18,000,000 BTU/HR, 5'-0" DIA. X 50'-0" H.
2. NATURAL GAS PILOT SYSTEM WITH ELECTRIC IGNITION.
3. ULTRA-VIOLET FLAME DETECTOR.
4. KNOCKOUT VESSEL.
5. ONE (1) COMBUSTION AIR BLOWER, ¾ H.P.

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 AND MAINTAINED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THE FLARE SHALL BE EQUIPPED WITH A TEMPERATURE INDICATOR AND A RECORDING DEVICE WHICH MEASURES AND RECORDS THE GAS TEMPERATURE IN THE FLARE STACK. WHENEVER THE FLARE IS IN OPERATION. THE TEMPERATURE SHALL BE MEASURED AT A LOCATION ABOVE THE FLAME ZONE, AT LEAST 0.6 SECOND DOWNSTREAM OF THE BURNER AND NOT LESS THAN FIVE (5) FEET FROM THE TOP OF THE STACK.
   [RULE 1303]

5. WHENEVER THE FLARE IS IN OPERATION, A TEMPERATURE OF NOT LESS THAN 1400 DEGREES F, EXCEPT DURING START-UP NOT EXCEEDING 20 MINUTES, AS MEASURED BY AN APPROVED TEMPERATURE INDICATOR, SHALL BE MAINTAINED IN THE FLARE STACK. THE THERMOCOUPLE SHALL BE ABOVE THE FLAME ZONE AND AT LEAST 3 FEET BELOW THE TOP OF THE FLARE SHROUD AND AT LEAST 0.6 SECONDS DOWNSTREAM OF THE BURNER.
   [RULE 1303]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

6. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE FLARE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BEING BURNED IN THE FLARE.
[RULE 1303]

7. THE TOTAL VOLUME OF DIGESTER GAS BURNED IN THE FLARE SHALL NOT EXCEED 480 STANDARD CUBIC FEET PER MINUTE.
[RULE 1303]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF DAY.
[RULE 1303]

9. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF ANY RAW DIGESTER GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF RAW DIGESTER GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF PUBLIC FACILITIES BRANCH WITHIN ONE HOUR AFTER OCCURRENCE AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 1303]

10. THE FLARE SHALL BE EQUIPPED WITH AN AUTOMATIC SHUT-DOWN SYSTEM WITH A FAILURE ALARM, WHICH HAS BEEN APPROVED BY THE SCAQMD, TO AUTOMATICALLY ISOLATE THE FLARE FROM THE DIGESTER GAS SUPPLY LINE, SHUT OFF THE BLOWER AND IMMEDIATELY NOTIFY A RESPONSIBLE PARTY OF THE SHUT-DOWN.
[RULE 1303]

11. THE AUTOMATIC SHUT-DOWN SAFETY SYSTEM SHALL BE TESTED MONTHLY FOR PROPER OPERATION AND THE RESULTS RECORDED.
[RULE 1303]

12. A SAMPLING PORT SHALL BE INSTALLED AT THE INLET GAS LINE TO THE FLARE TO ALLOW THE COLLECTION OF A DIGESTER GAS SAMPLE.
[RULE 1303]

13. THE HEAT INPUT THROUGH THE FLARE SHALL NOT EXCEED 18 MILLION BTU'S PER HOUR.
[RULE 1303]

14. WEEKLY READINGS OF BTU CONTENT OF THE GAS AT THE INLET TO THE FLARE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 1303]

15. ALL DIGESTER GAS COLLECTED SHALL BE DIRECTED EITHER TO THE FLARE FOR COMBUSTION OR TO A TREATMENT FACILITY WHICH HAS A VALID PERMIT TO CONSTRUCT OR OPERATE, AS APPLICABLE, FROM THE SCAQMD.
[RULE 1303]

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EASTERN MUNICIPAL WATER DIST.

16. THE FLARE SHALL BE EQUIPPED WITH A SUFFICIENT NUMBER OF VIEW PORTS TO ALLOW VISUAL INSPECTION OF THE FLAME HEIGHT WITHIN THE FLARE AT ALL TIMES. THE VIEW PORTS SHALL BE LOCATED AT THE ELEVATION OF THE TEMPERATURE SENSOR LOCATIONS. SAFE AND ADEQUATE ACCESS SHALL BE PROVIDED FOR ALL VIEW PORTS UPON REQUEST BY SCAQMD PERSONNEL.
[RULE 1303]

17. THE FLARE SHALL BE DESIGNED AND OPERATED SO THAT THE FLAME IN THE FLARE REMAINS BELOW THE HEIGHT OF THE FLARE'S OPERATING THERMOCOUPLE AT ALL TIMES.
[RULE 1303]

18. THE MAXIMUM FLARE SKIN TEMPERATURE AT ANY LOCATION SHALL NOT EXCEED 250 DEGREES F.
[RULE 1303]

Emissions and Requirements:

THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
PM: 0.1 GR/SCF, RULE 409
PM10: 0.52 LB/HR, RULE 1303
NOX: 1.08 LB/HR, RULE 1303
CO: 3.6 LB/HR, RULE 1303
VOC: 0.65 LB/HR, RULE 1303
SOX: 0.31 LB/HR, RULE 1303

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. F83244
A/N 451325

Equipment Description:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

1. SCRUBBER, ODOR CONTROL, VERTICAL, PACKED BED, 18'-0" H. X 8'-0" DIA., WITH A 330 GPM CIRCULATION PUMP.

2. STORAGE TANK, SODIUM HYDROXIDE, 175 GALLONS, WITH ASSOCIATED PUMPS.

3. EXHAUST SYSTEM WITH A 30 H.P. BLOWER VENTING A CENTRIFUGE OR TWO BELT PRESSES.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT 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 WHENEVER THE CENTRIFUGE OR THE BELT PRESSES ARE IN OPERATION. HOWEVER, THIS EQUIPMENT MAY BE SHUT DOWN FOR A PERIOD NOT EXCEEDING 72 HOURS FOR MAINTENANCE AND NOT EXCEEDING 60 MINUTES DURING ELECTRICAL POWER SOURCE CHANGEOVER DUE TO HIGH POWER DEMAND. SHUTDOWNS DUE TO ELECTRICAL POWER SOURCE CHANGEOVERS SHALL NOT OCCUR MORE THAN ONCE DURING ANY CALENDAR MONTH. EACH SHUTDOWN MUST BE RECORDED WITH DATE, TIME DURATION AND PURPOSE OF THE SHUTDOWN.
   [RULE 1303]

4. HYDROGEN SULFIDE FROM THE OUTLET OF THIS AIR POLLUTION CONTROL SYSTEM SHALL NOT EXCEED 1.0 PARTS PER MILLION.
   [RULE 402]

5. A FLOWMETER INDICATING GALLONS PER MINUTE (G.P.M.) SHALL BE INSTALLED IN THE SCRUBBER SOLUTION RECIRCULATION LINE. NOT LESS THAN 330 GALLONS PER MINUTE OF SOLUTION SHALL BE RECIRCULATED THROUGH THE SCRUBBER WHEN THE SCRUBBER IS IN OPERATION.
   [RULE 1303]

FACILITY PERMIT TO OPERATE
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6. A PH METER SHALL BE INSTALLED TO MONITOR THE SCRUBBER SOLUTION. THE PH OF THE SCRUBBER SOLUTION SHALL NOT BE LESS THAN 10.0 OR GREATER THAN 13.5 PH WHEN THE SCRUBBER IS IN OPERATION.
[RULE 1303]

7. COMPLIANCE WITH CONDITION NO. 4 SHALL BE DETERMINED WEEKLY, USING DRAEGER TEST TUBES OR ANOTHER TEST METHOD APPROVED BY THE SCAQMD.
[RULE 402]

8. STORAGE TANK FILLING LOGS OR PURCHASE ORDERS FOR THE TANK SOLUTIONS MUST BE MAINTAINED TO SHOW USAGE OF THE SOLUTIONS.
[RULE 1303]

Periodic Monitoring:

9. OPERATOR SHALL RECORD THE SCRUBBER SOLUTION FLOWRATE AT LEAST ONCE PER DAY.
[RULE 3004(a)(4)]

10. OPERATOR SHALL RECORD THE PH OF THE SCRUBBER SOLUTION AT LEAST ONCE PER DAY.
[RULE 3004(a)(4)]

11. A DIFFERENTIAL PRESSURE GAUGE SHALL BE INSTALLED TO MONITOR THE SCRUBBER PRESSURE DROP. THE PRESSURE DROP SHALL NOT EXCEED 9.0 INCHES OF WATER WHEN THE SCRUBBER IS IN OPERATION.
[RULE 3004(a)(4)]

12. OPERATOR SHALL RECORD THE PRESSURE DROP OF THE SCRUBBER AT LEAST ONCE PER DAY.
[RULE 3004(a)(4)]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. _____
A/N 455648

Equipment Description:

SEWAGE TREATMENT PLANT, 17.1 MGD CAPACITY, CONSISTING OF:

I PRELIMINARY TREATMENT PROCESS COMPRISED OF:

1. ONE 22-MGD INFLUENT PUMP STATION VENTED TO ODOR CONTROL EQUIPMENT CONSISTING OF:
   A. FOUR BAR SCREENS
   B. ONE GRIT CHAMBER, 18' DIA. X 18' H.

II. CONVENTIONAL ACTIVATED SLUDGE (ANAEROBIC) PLANT NO.1, 10 MGD CAPACITY CONSISTING OF:

1. SIX GRIT CHAMBERS, EACH 12' L. X 9' W. X 10' D.
2. EIGHT PRIMARY CLARIFIERS, EACH 65' L. X 15' W. X 10' D.
3. SIX AERATION BASINS, EACH 150' L. X 30' W. X 15' D.
4. SIX SECONDARY CLARIFIERS, EACH 88' L. X 16' W. X 10' D.
5. EIGHT SECONDARY CLARIFIERS, EACH 84' L. X 12' W. X 10' D.
6. TWO DISSOLVED AIR FLOATATION TANKS, EACH 30' DIA. X 6' D.
7. ONE INFLUENT EQUALIZATION BASIN, 150' L. x 150' W. x 15' D.

III. AEROBIC SEWAGE TREATMENT, PLANT NO. 2 CONSISTING OF:

1. ANOXIC ZONE 1, 0.3 MG CAPACITY.
2. AEROBIC ZONE 1, 0.49 MG CAPACITY.
3. ANOXIC ZONE 2, 0.22 MG CAPACITY.
4. AEROBIC ZONE 2, 0.77 MG CAPACITY.
5. ANOXIC ZONE 3, 0.4 MG CAPACITY.
6. AEROBIC ZONE 3, 0.54 MG CAPACITY.
7. TWO SECONDARY CLARIFIERS, 125'-0" DIA. X 14'-0" H.

IV. TERTIARY SEWAGE TREATMENT PLANT CONSISTING OF:

1. TWO FLOW EQUALIZATION BASINS, 2.4 MILLION GALLON TOTAL CAPACITY.
2. ONE FLOCCULATION BASIN, 43,758 GALLONS CAPACITY.
3. TWELVE TERTIARY FILTERS, SAND BED TYPE, EACH WITH 200 SQ.FT. FILTER AREA.
4. ONE CHLORINE INJECTION/SPLITTER BOX.
5. TWO CHLORINE CONTACT BASINS, FIVE PASS, EACH 110'-0" L X 64'-0" W. X 11'-0" D. WITH TOTAL OF 16 MILLION GALLONS CAPACITY.
6. ONE TERTIARY EFFLUENT PUMP STATION.
7. TWO 30-TON CHLORINE COMPRESSED LIQUID/GAS STORAGE VESSELS VENTED TO AN EMERGENCY VENTILATION AND CONTROL SYSTEM (RULE 219 (d)(9) EXEMPT).

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V. SEWAGE SLUDGE HANDLING AND STORAGE FACILITY CONSISTING OF:

1. FOUR FIXED ROOF ANAEROBIC DIGESTERS, EACH 48'-0" DIA. X 22'-0" D
2. ONE FIXED ROOF ANAEROBIC DIGESTER, 75'-0" X 29'-0" H.
3. ONE ENCLOSED, BELOW GRADE, SLUDGE HOLDING TANK, 35'-0" DIA. X 15'-0" D., VENTED TO DIGESTER GAS COLLECTION SYSTEM.
4. ONE DIGESTER GAS STORAGE SPHERE, 35'-0" DIA. AND 22,449 CUBIC FEET CAPACITY
5. TWO FILTER BELT PRESSES, ENCLOSED AND ASSOCIATED POLYMER SYSTEM, VENTED TO ODOR CONTROL EQUIPMENT.
6. ONE SLUDGE OFFLOADING STATION WITH ASSOCIATED CONVEYOR SYSTEM.
7 EIGHTEEN SEWAGE SLUDGE DRYING BEDS, EACH 100' L. X 40' W. X 1' D.
8. BOILER, NATURAL GAS-FIRED, RALPH B. CARTER CO., MODEL NO. H1500C41-GX, 1.5 MMBTU/HR (RULE 219 EXEMPT)
9. THREE ROTARY DRUM THICKENERS, 240 GALLON PER MINUTE CAPACITY.
10. ONE CENTRIFUGE

VII. TREATED SEWAGE EFFLUENT EVAPORATION/PERCOLATION STORAGE PONDS CONSISTING OF:

1. TWO EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 31.0 MG CAPACITY, 670'-0" ' L. X 326' W. X 375'-0" W. X 21'-0" D.
2. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 30 MG CAPACITY, 662'-0" L. X 353'-0" W. X 22'-0" D.
3. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 31 MG CAPACITY, 662'-0" L. X 353'-0" W. X 22'-0" D.
4. TWO EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 12.65 MG CAPACITY, 370'-0" L. X 331'-0" W. X 22'-0" D. (EXISTING- NO CHANGE)
5. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.23 MG CAPACITY, 362'-0" L. X 329'-0" W. X 22'-0" D.
6. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.01 MG CAPACITY, 359'-0" L. X 327'-0" W. X 22'-0" D.
7. ONE L-SHAPED EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 44.20 MG CAPACITY, 1,080'-0" L. X 250'-0" W. X 745'-0" L. X 413'-0" W. X 335'-0" L. X 663'-0" W. X 22' - 0" D.
8. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.30 MG CAPACITY, 357'-0" L. X 335'-0" W. X 22'-0" D.
9. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.99 MG CAPACITY, 363'-0" L. X 323'-0" W. X 22' -0"D.
10. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.62 MG CAPACITY, 356'-0" L. X 321'-0" W. X 22' -0"D.
11. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.16 MG CAPACITY, 391'-0" L. X 363'-0" W. X 22'-0" D.
12. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.00 MG CAPACITY, 393'-0" L. X 358'-0" W. X 22'-0" D.

VII STORM WATER POND

1. ONE STORM WATER COLLECTION POND,358'-0" X 344'-0" L. X 20'-0" D.

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

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. THE DIGESTERS SHALL ONLY BE VENTED TO THE PERMITTED EQUIPMENT SUCH AS, I.C. ENGINES, DIGESTER GAS STORAGE FACILITY, DIGESTER GAS FLARE, AND/OR EQUIPMENT EXEMPTED BY RULE 219.
[RULE 1303]

5. HEADWORKS, AND BELT PRESSES, SHALL BE ONLY VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE SCAQMD
[RULE 1303]

6. THE MAXIMUM QUANTITY OF WASTEWATER TREATED BY THIS PLANT SHALL NOT EXCEED 17.1 MILLION GALLONS PER DAY (MGD).
[RULE 1303]

7. AT LEAST ONE SAMPLE OF THE TREATED DIGESTER GAS DOWNSTREAM OF THE GAS PURIFIER SHALL BE ANALYZED DAILY FOR H2S AND RECORDED. ANALYTICAL METHOD SHALL BE APPROVED BY THE EXECUTIVE OFFICER.
[RULE 431.1]

8. COVERS APPROVED BY THE EXECUTIVE OFFICER SHALL BE INSTALLED ON ALL NEW PRIMARY SEDIMENTATION TANKS AND HEADWORKS. THIS EQUIPMENT SHALL BE VENTED TO AN AIR POLLUTION CONTROL DEVICE WHICH IS IN FULL USE AND HAS BEEN ISSUED A PERMIT TO CONSTRUCT OR OPERATE BY THE SCAQMD.
[RULE 1303]

9. ALL SLUDGE SHALL BE PIPED AND STORED IN AN ENCLOSED MANNER TO PREVENT THE RELEASE OF AIR CONTAMINANTS UNTIL AFTER IT IS DEWATERED.
[RULE 1303]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DIST.

PERMIT TO OPERATE

Permit No. G2337
A/N 474814

Equipment Description:

DIGESTER GAS TREATMENT SYSTEM AND FUEL CELL POWER PLANT CONSISTING OF:

1. KNOCKOUT TANK,
2. TWO HYDROGEN SULFIDE REMOVAL VESSELS, APPLIED FILTER TECHNOLOGY, MODEL SULFRPACK, 8'-0" DIA. X 8'-0" H., EACH WITH 24,960 POUNDS MEDIA.
3. PARTICULATE FILTER.
4. PRE-COOLER WITH DEMISTER.
5. TWO COMPRESSORS, EACH 300 SCFM, ELECTRICALLY DRIVEN.
6. GAS PRE-COOLER AND GAS RE-HEATER.
7. GAS COOLER AND DEMISTER.
8. TWO SILOXANE REMOVAL VESSELS, APPLIED FILTER TECHNOLOGY, MODEL SAGPACK, 3'-6" DIA. X 8'-0" H. BED DEPTH, EACH CONTAINING 2300 POUNDS MEDIA.
9. PARTICULATE FILTER.
10. THREE FUEL CELLS, FUEL-CELL ENERGY, MODEL DFC300MA, 900 KW TOTAL MAXIMUM POWER OUTPUT.
11. THREE HEAT RECOVERY UNITS, EACH WITH AN ELECTRIC HEATER.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE 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 USED ONLY FOR THE TREATMENT/CONTROL OF DIGESTER GAS, AND THE GENERATION OF ELECTRICITY AND HOT WATER, EXCEPT WHEN NATURAL GAS IS REQUIRED AS FUEL TO MAINTAIN FUEL CELL OPERATION.
   [RULE 204]

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4. THE OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW DIGESTER GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSION OF DIGESTER GAS SHALL BE REPORTED TO THE SCAQMD WITHIN ONE HOURS AFTER OCCURRENCE OR WITHIN ONE HOURS OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLE SHOULD HAVE KNOW OF THE OCCURRENCE AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.
[RULE 402, AND 431.1]

5. A NON-RESETTABLE TOTALIZING FLOW METER SHALL BE INSTALLED AND MAINTAINED TO MEASURE AND RECORD THE TOTAL QUANTITY OF GAS TREATED.
[RULE 1303 (a)(1)][RULE 1303 (a)(4)]

6. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET GAS LINE TO THE DIGESTER GAS TREATMENT SYSTEM AND TO THE FUEL-CELL PRE-CONVERTER TO ALLOW THE COLLECTION OF DIGESTER GAS SAMPLES.
[RULE 218]

7. TWO SAMPLING PORTS SHALL BE PROVIDED IN THE FUEL-CELL EXHAUST DUCT, 8-10 DUCT DIAMETERS DOWNSTREAM, AND TWO DUCT DIAMETERS UPSTREAM. THE SAMPLING PORT SHALL CONSIST OF TWO 4 INCH WELDED NIPPLES WITH PLUGS, SET 90 DEGREES APART. AN ALTERNATE SAMPLING LOCATION OR EQUIVALENT METHOD FOR EMISSION SAMPLING MAY BE USED UPON WRITTEN APPROVAL OF THE SCAQMD. ADEQUATE AND SAFE ACCESS TO THE TEST PORTS SHALL BE SUPPLIED BY THE APPLICANT.
[RULE 218]

8. THE OPERATOR SHALL MEASURE THE CONCENTRATION OF TOTAL SULFUR AT THE INLET AND OUTLET OF THE DIGESTER GAS TREATMENT SYSTEM ONCE EACH QUARTER, USING METHODS APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED AND REPORTED IN PPMV AS H2S.
[RULE 431.1]

9. THE CONCENTRATION OF SULFUR COMPOUNDS MEASURED AS HYDROGEN SULFIDE (H2S) AT THE INLET TO THE FUEL CELL PRE-CONVERTER SHALL NOT EXCEED 6.1 PPMV.
[RULE 1303]

10. THE SPENT MEDIA WHICH IS REMOVED FROM THE SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM THE FACILITY.
[RULE 402]

11. THE SULFUR AND SILOXANE TREATMENT MEDIA SHALL BE REPLACED AT A FREQUENCY NECESSARY TO MAINTAIN COMPLIANCE WITH THE EMISSION LIMITS IN THIS PERMIT AND TO OPERATE THE FUEL CELL IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 431.1, 1303]

12. THE TOTAL NOX EMISSIONS FROM THE FUEL CELLS SHALL NOT EXCEED 0.02 LB/HR (0.48 LB/DAY).
[RULE 1303 – OFFSET]

13. THE TOTAL VOC EMISSIONS FROM THE FUEL CELLS SHALL NOT EXCEED 0.02 LB/HR (0.48 LB/DAY).
[RULE 1303 – OFFSET]

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14. ONCE EVERY FIVE YEARS, THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH SCAQMD APPROVED TEST PROCEDURES AND FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN THIRTY (30) DAYS AFTER TESTING. WRITTEN NOTICE OF THE SOURCE TEST SHALL BE PROVIDED TO THE SCAQMD AT LEAST 7 DAYS PRIOR TO TESTING SO THAT AN OBSERVER MAY BE PRESENT. A PROPOSAL OF SOURCE TEST PROCEDURES AND ANALYTICAL METHODS TO BE USED SHALL BE SUBMITTED TO THE SCAQMD FOR APPROVAL AT LEAST 60 DAYS PRIOR TO THE START OF THE TEST. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE OUTLET EXHAUST OF EACH FUEL CELL, AND THE TREATED DIGESTER GAS, UNLESS OTHERWISE INDICATED BELOW. THE TEST SHALL INCLUDE THE FOLLOWING RESULTS AND PROCESS DATA:

    A. METHANE CONTENT OF THE TREATED DIGESTER GAS,

    B. TOTAL NON-METHANE ORGANIC COMPOUNDS AT EACH FUEL CELL EXHAUST OUTLET,

    C. OXIDES OF NITROGEN AT EACH FUEL CELL EXHAUST OUTLET, IN PPM, AND LB/HR,

    D. CARBON MONOXIDE, AT EACH FUEL CELL EXHAUST OUTLET, IN PPM, AND LB/HR,

    E. OXYGEN CONTENT,

    F. MOISTURE CONTENT,

    G. TEMPERATURE OF THE FUEL CELL,

    H. TEMPERATURE AT INLET AND OUTLET OF THE PRE-CONVERTER,

    I. FLOW RATE OF EACH FUEL CELL EXHAUST OUTLET,

    J. POWER OUTPUT OF THE FUEL CELL,

    K. BTU CONTENT OF THE TREATED DIGESTER GAS,

    L. FUEL UTILIZATION OF THE FUEL CELL,

    M. TREATED DIGESTER GAS FEED RATE TO THE PRE-CONVERTER.

    [RULE 1303 OFFSET, RULE 3004(a)(4)]

15. IF THE OPERATION OF THIS EQUIPMENT RESULTS IN ODOR COMPLAINTS, THE WORK SHALL CEASE AND MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL THE EMISSIONS CAUSING THE COMPLIANCE IS MITIGATED AND THE APPROVAL TO RESUME WORK IS RECEIVED FROM THE AQMD.
    [RULE 402]

16. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL KEEP RECORDS OF OPERATING AND MONITORING DATA, AND TREATMENT MEDIA REPLACEMENT DATES. THESE RECORDS SHALL BE MAINTAINED FOR A MINIMUM OF FIVE YEARS AND MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.
    [RULE 3004(a)(4)]

Emissions and Requirements:

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

FACILITY PERMIT TO OPERATE
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PERMIT TO OPERATE

Permit No. _____
A/N 485923

Equipment Description:

INTERNAL COMBUSTION ENGINE, ENGINE NO. 3, CATERPILLAR, MODEL NO. G398-TA-HCR, SERIAL NO. 73B02095, TWELVE CYLINDERS, TURBOCHARGED, AFTERCOOLED, 700 BHP, RICH-BURN, NATURAL GAS FIRED, WITH A JOHNSON MATTHEY CATALYST, MODEL NO. MX80, AND AN AIR/FUEL RATIO CONTROLLER, WITH AN EXHAUST HEAT RECOVERY SYSTEM AND DRIVING AN AERATION BLOWER.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT 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. THE IGNITION TIMING OF THIS ENGINE SHALL BE INSPECTED, ADJUSTED AND CERTIFIED AT A MINIMUM ONCE EVERY THREE YEARS OF OPERATION. INSPECTIONS, ADJUSTMENTS AND CERTIFICATIONS SHALL BE PERFORMED BY A QUALIFIED MECHANIC AND ACCORDING TO THE ENGINE MANUFACTURER'S PROCEDURES.
   [RULE 1110.2]

4. THE OPERATOR SHALL SERVICE AND/OR REPLACE THE CATALYST AS NEEDED PER MANUFACTURER'S RECOMMENDATIONS.
   [RULE 1303]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE TOTALIZING FUEL METER TO ACCURATELY INDICATE THE FUEL USAGE IN THE FUEL SUPPLY LINE TO THE ENGINE.
   [RULE 1110.2]

6. THE ENGINE SHALL OPERATE BETWEEN 1044 AND 1276 RPM, EXCEPT DURING START-UP OR SHUT-DOWN OPERATION WHICH DOES NOT EXCEED 30 MINUTES PER EVENT.
   [RULE 1110.2]

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Periodic Monitoring

7. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 3004 (a)(4)]

8. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOX EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 3004 (a)(4)]

9. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE VOC EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 3004 (a)(4)]

10 THIS ENGINE SHALL NOT BE OPERATED WITHOUT THE USE OF AN AUTOMATIC AIR TO FUEL RATIO CONTROLLER WHICH SHALL BE MAINTAINED AND KEPT IN PROPER OPERATING CONDITIONS AT ALL TIMES AS SPECIFIED BY THE MANUFACTURER. [RULE 3004 (a)(4)]

11. THE OXYGEN CONCENTRATION AT THE OUTLET OF THE ENGINE SHALL NOT EXCEED 0.5 PERCENT OXYGEN. [RULE 3004 (a)(4)]

12. THIS ENGINE SHALL BE EQUIPPED WITH AN OXYGEN SENSOR AT THE EXHAUST OF THE ENGINE. A RECORDING SYSTEM SHALL BE INSTALLED TO VERIFY COMPLIANCE WITH CONDITION 12. PARAMETRIC OPERATING DATA MAY BE USED IN LIEU OF DIRECT OXYGEN MEASUREMENTS, BUT RECORDS OF HOW THE PARAMETRIC DATA RELATES TO OXYGEN CONTENT MUST BE RETAINED AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST. [RULE 3004 (a)(4)]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A TEMPERATURE GAUGE AND RECORDING SYSTEM TO ACCURATELY INDICATE THE TEMPERATURE AT THE INLET OF THE CATALYST. [RULE 3004 (a)(4)]

FACILITY PERMIT TO OPERATE
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14. THE OPERATOR SHALL INSTALL AND MAINTAIN A TEMPERATURE GAUGE AND RECORDING SYSTEM TO ACCURATELY INDICATE THE TEMPERATURE AT THE OUTLET OF THE CATALYST. [RULE 3004 (a)(4)]

15. THE TEMPERATURE AT THE OUTLET OF THE CATALYST SHALL NOT EXCEED 1350 DEGREES FAHRENHEIT. [RULE 3004 (a)(4)]

16. THE MINIMUM TEMPERATURE AT THE INLET OF THE CATALYST SHALL BE ABOVE 750 DEGREES FAHRENHEIT, EXCEPT DURING AN ENGINE COLD START NOT TO EXCEED 30 MINUTES. [RULE 3004 (a)(4)]

Emissions and Requirements:

17. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
NOX: 11 PPM AT 15% 02, RULE 1110.2
NOX: 0.15 G/BHP-HR, RULE 1303
VOC: 30 PPM AT 15% 02, RULE 1110.2
VOC: 0.15 G/BHP-HR, RULE 1303
CO: 70 PPM AT 15% 02, RULE 1110.2
CO: 0.6 G/BHP-HR, RULE 1303

FACILITY PERMIT TO OPERATE
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Permit No. F68934
A/N 485924

Equipment Description:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, MODEL NO. G398-TA-HCR, SERIAL NO. 73B02093, TWELVE CYLINDERS, TURBOCHARGED, AFTERCOOLED, 700 BHP, RICH-BURN, NATURAL GAS FIRED , WITH A JOHNSON MATTHEY CATALYST, MODEL NO. MX80, AND AN ALTRONIC EPC-100 AIR/FUEL RATIO CONTROLLER, DRIVING AN AERATION BLOWER.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT 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. THE IGNITION TIMING OF THIS ENGINE SHALL BE INSPECTED, ADJUSTED AND CERTIFIED AT A MINIMUM ONCE EVERY THREE YEARS OF OPERATION. INSPECTIONS, ADJUSTMENTS AND CERTIFICATIONS SHALL BE PERFORMED BY A QUALIFIED MECHANIC AND ACCORDING TO THE ENGINE MANUFACTURER'S PROCEDURES.
[RULE 1110.2]

4. THIS ENGINE SHALL NOT BE OPERATED WITHOUT THE USE OF AN AUTOMATIC AIR TO FULEL RATIO CONTROLLER WHICH SHALL BE MAINTAINED AND KEPT IN PROPER OPERATING CONDITIONS AT ALL TIMES AS SPECIFIED BY THE MANUFACTURER.
[RULE 1110.2]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN A TEMPERATURE GAUGE AND RECORDING SYSTEM TO ACCURATELY INDICATE THE TEMPERATURE AT THE INLET OF THE CATALYST.
[RULE 1110.2]

6. THE OPERATOR SHALL INSTALL AND MAINTAIN A TEMPERATURE GAUGE AND RECORDING SYSTEM TO ACCURATELY INDICATE THE TEMPERATURE AT THE OUTLET OF THE CATALYST.
[RULE 1110.2]

7. THE TEMPERATURE AT THE OUTLET OF THE CATALYST SHALL NOT EXCEED 1350 DEGREES FAHRENHEIT.
[RULE 1110.2]

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8. THE MINIMUM TEMPERATURE AT THE INLET OF THE CATALYST SHALL BE ABOVE 750 DEGREES FAHRENHEIT, EXCEPT DURING START-UP OR SHUT-DOWN OPERATION WHICH DOES NOT EXCEED 30 MINUTES PER EVENT.
[RULE 1110.2]

9. THE OPERATOR SHALL USE THIS EQUIPMENT IN SUCH A MANNER THAT THE OXYGEN CONCENTRATION BEING MONITORED, AS INDICATED BELOW, DOES NOT EXCEED 0.5% EXCEPT DURING START-UP OR SHUT-DOWN OPERATION WHICH DOES NOT EXCEED 30 MINUTES PER EVENT. TO COMPLY WITH THIS CONDITION, THE OPERATOR SHALL INSTALL AND MAINTAIN A SENSOR TO ACCURATELY INDICATE THE OXYGEN CONCENTRATION OF THE EXHAUST GAS ENTERING THE CATALYST. THE OPERATOR SHALL ALSO INSTALL AND MAINTAIN A DEVICE TO CONTINUOUSLY RECORD THE PARAMETER BEING MEASURED.
[RULE 1110.2]

10. THE OPERATOR SHALL SERVICE AND/OR REPLACE THE CATALYST AS NEEDED PER MANUFACTURER'S RECOMMENDATIONS.
[RULE 1303]

11. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE TOTALIZING FUEL METER TO ACCURATELY INDICATE THE FUEL USAGE IN THE FUEL SUPPLY LINE TO THE ENGINE.
[RULE 1110.2]

12. THE ENGINE SHALL OPERATE BETWEEN 1044 AND 1276 RPM, EXCEPT DURING START-UP OR SHUT-DOWN OPERATION WHICH DOES NOT EXCEED 30 MINUTES PER EVENT.
[RULE 1110.2]

Periodic Monitoring

13. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE CO EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 3004 (a)(4)]

14. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOX EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 3004 (a)(4)]

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15. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE VOC EMISSION LIMIT(S) BY CONDUCTING A SOURCE TEST AT LEAST ONCE EVERY 3 YEARS USING THE TEST METHOD AS STATED IN RULE 1110.2. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1110.2 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT. [RULE 3004 (a)(4)]

Emissions and Requirements:

16. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
NOX: 12 PPM AT 15% 02, RULE 1303
NOX: 36 PPM AT 15% O2, RULE 1110.2
VOC: 34 PPM AT 15% 02, RULE 1303
VOC: 250 PPM AT 15% O2, RULE 1110.2
CO: 77 PPM AT 15% 02, RULE 1303
CO: 2000 PPM AT 15% O2, RULE 1110.2

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, BOILER, > 400,000 BTU/HR BUT < 2 MMBTU/HR.

Emissions and Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

PM:	0.1 gr/scf, RULE 409
NOx:	30 PPMV, RULE 1146.2
CO:	400 PPMV, RULE 1146.2
CO:	2000 PPMV, RULE 407

FACILITY PERMIT TO OPERATE
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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS.

Periodic Monitoring:

1. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):

   FOR ARCHITECTURAL APPLICATIONS WHERE NO THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN SEMI-ANNUAL RECORDS OF ALL COATINGS CONSISTING OF:

   A. COATING TYPE,
   B. VOC CONTENT AS SUPPLIED IN GRAMS PER LITER (g/l) OF MATERIALS FOR LOW-SOLIDS COATINGS'
   C. VOC CONTENT AS SUPPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

   FOR OTHER ARCHITECTURAL APPLICATIONS WHERE THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN DAILY RECORDS FOR EACH COATING CONSISTING OF:

   A. COATING TYPE,
   B. VOC CONTENT AS APPLIED IN GRAMS PER LITER (g/l) OF MATERIALS USED FOR LOW-SOLIDS COATINGS'
   C. VOC CONTENT AS APPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.
   [RULE 3004 (a) (4)]

Emissions And Requirements:

2. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1113, SEE APPENDIX B FOR EMISSION LIMITS
   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, HAND WIPING OPERATIONS.

Emissions And Requirements:

1. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

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Permit to Construct and Temporary Permit to Operate
(Section H)

This section consists of a table listing all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions, including periodic monitoring requirements and applicable emission limits and requirements. Also included are the rule origin and authority of each emission limit and permit condition.

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PERMITTED EQUIPMENT LIST

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

Application number	Equipment Description	Page Number
474814	SEWAGE TREATMENT (> 5 MG/D) ANAEROBIC	3

NOTE: EQUIPMENT LISTED ABOVE ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT WILL NOT BE FOUND IN THIS TITLE V PERMIT.

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PERMIT TO CONSTRUCT

GRANTED AS OF: draft
A/N 474814

Equipment Description:

ALTERATION OF PERMIT TO OPERATE _____ (APPL.NO.455648):

[EXISTING DESCRIPTION]
SEWAGE TREATMENT PLANT, 17.1 MGD CAPACITY, CONSISTING OF:

I PRELIMINARY TREATMENT PROCESS COMPRISED OF:

1. ONE 22-MGD INFLUENT PUMP STATION VENTED TO ODOR CONTROL EQUIPMENT CONSISTING OF:
   A. FOUR BAR SCREENS
   B. ONE GRIT CHAMBER, 18' DIA. X 18' H.

II. CONVENTIONAL ACTIVATED SLUDGE (ANAEROBIC) PLANT NO.1, 10 MGD CAPACITY CONSISTING OF:

1. SIX GRIT CHAMBERS, EACH 12' L. X 9' W. X 10' D.
2. EIGHT PRIMARY CLARIFIERS, EACH 65' L. X 15' W. X 10' D.
3. SIX AERATION BASINS, EACH 150' L. X 30' W. X 15' D.
4. SIX SECONDARY CLARIFIERS, EACH 88' L. X 16' W. X 10' D.
5. EIGHT SECONDARY CLARIFIERS, EACH 84' L. X 12' W. X 10' D.
6. TWO DISSOLVED AIR FLOATATION TANKS, EACH 30' DIA. X 6' D.
7. ONE INFLUENT EQUALIZATION BASIN, 150' L. x 150' W. x 15' D.

III. AEROBIC SEWAGE TREATMENT, PLANT NO. 2 CONSISTING OF:

1. ANOXIC ZONE 1, 0.3 MG CAPACITY.
2. AEROBIC ZONE 1, 0.49 MG CAPACITY.
3. ANOXIC ZONE 2, 0.22 MG CAPACITY.
4. AEROBIC ZONE 2, 0.77 MG CAPACITY.
5. ANOXIC ZONE 3, 0.4 MG CAPACITY.
6. AEROBIC ZONE 3, 0.54 MG CAPACITY.
7. TWO SECONDARY CLARIFIERS, 125'-0" DIA. X 14'-0" H.

IV. TERTIARY SEWAGE TREATMENT PLANT CONSISTING OF:

1. TWO FLOW EQUALIZATION BASINS, 2.4 MILLION GALLON TOTAL CAPACITY.
2. ONE FLOCCULATION BASIN, 43,758 GALLONS CAPACITY.
3. TWELVE TERTIARY FILTERS, SAND BED TYPE, EACH WITH 200 SQ.FT. FILTER AREA.
4. ONE CHLORINE INJECTION/SPLITTER BOX.

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5. TWO CHLORINE CONTACT BASINS, FIVE PASS, EACH 110'-0" L X 64'-0" W. X 11'-0" D. WITH TOTAL OF 16 MILLION GALLONS CAPACITY.
6. ONE TERTIARY EFFLUENT PUMP STATION.
7. TWO 30-TON CHLORINE COMPRESSED LIQUID/GAS STORAGE VESSELS VENTED TO AN EMERGENCY VENTILATION AND CONTROL SYSTEM (RULE 219 (d)(9) EXEMPT).

V. SEWAGE SLUDGE HANDLING AND STORAGE FACILITY CONSISTING OF:

1. FOUR FIXED ROOF ANAEROBIC DIGESTERS, EACH 48'-0" DIA. X 22'-0" D
2. ONE FIXED ROOF ANAEROBIC DIGESTER, 75'-0" X 29'-0" H.
3. ONE ENCLOSED, BELOW GRADE, SLUDGE HOLDING TANK, 35'-0" DIA. X 15'-0" D., VENTED TO DIGESTER GAS COLLECTION SYSTEM.
4. ONE DIGESTER GAS STORAGE SPHERE, 35'-0" DIA. AND 22,449 CUBIC FEET CAPACITY
5. TWO FILTER BELT PRESSES, ENCLOSED AND ASSOCIATED POLYMER SYSTEM, VENTED TO ODOR CONTROL EQUIPMENT.
6. ONE SLUDGE OFFLOADING STATION WITH ASSOCIATED CONVEYOR SYSTEM.
7. EIGHTEEN SEWAGE SLUDGE DRYING BEDS, EACH 100' L. X 40' W. X 1' D.
8. BOILER, NATURAL GAS-FIRED, RALPH B. CARTER CO., MODEL NO. H1500C41-GX, 1.5 MMBTU/HR (RULE 219 EXEMPT)
9. THREE ROTARY DRUM THICKENERS, 240 GALLON PER MINUTE CAPACITY.
10. ONE CENTRIFUGE

VII. TREATED SEWAGE EFFLUENT EVAPORATION/PERCOLATION STORAGE PONDS CONSISTING OF:

1. TWO EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 31.0 MG CAPACITY, 670'-0" ' L. X 326' W. X 375'-0" W. X 21'-0" D.
2. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 30 MG CAPACITY, 662'-0" L. X 353'-0" W. X 22'-0" D.
3. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 31 MG CAPACITY, 662'-0" L. X 353'-0" W. X 22'-0" D.
4. TWO EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 12.65 MG CAPACITY, 370'-0" L. X 331'-0" W. X 22'-0" D. (EXISTING- NO CHANGE)
5. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.23 MG CAPACITY, 362'-0" L. X 329'-0" W. X 22'-0" D.
6. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.01 MG CAPACITY, 359'-0" L. X 327'-0" W. X 22'-0" D.
7. ONE L-SHAPED EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 44.20 MG CAPACITY, 1,080'-0" L. X 250'-0" W. X 745'-0" L. X 413'-0" W. X 335'-0" L. X 663'-0" W. X 22' - 0" D.
8. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.30 MG CAPACITY, 357'-0" L. X 335'-0" W. X 22'-0" D.
9. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.99 MG CAPACITY, 363'-0" L. X 323'-0" W. X 22' -0"D.
10. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.62 MG CAPACITY, 356'-0" L. X 321'-0" W. X 22' -0"D.
11. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.16 MG CAPACITY, 391'-0" L. X 363'-0" W. X 22'-0" D.
12. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.00 MG CAPACITY, 393'-0" L. X 358'-0" W. X 22'-0" D.

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DISTRICT

VII STORM WATER POND
1. ONE STORM WATER COLLECTION POND,358'-0" X 344'-0" L. X 20'-0" D.

BY THE ADDITION OF:
1. ONE GRIT CHAMBER, VORTEX, 18'-0" DIA. (Preliminary Treatment)
2. TWO SECONDARY CLARIFIERS, EACH 125'-0" DIA. X 14'-0" D. (Plant 2)
3. ONE DIGESTER, ACID PHASE, 4 CHAMBERS, EACH 20'-0" W. X 20'-0" L. X 21'-0" H. (Sludge Handling and Storage)
4. ONE DIGESTER, METHANE-PHASE, 70'-0" DIA. X 29'-0" H. (Sludge Handling and Storage)
5. TWO DIGESTED SLUDGE STORAGE TANKs, 48'-0" DIA. X 18'-0" H. (Sludge Handling and Storage)
6. ONE LOW PRESSURE DIGESTER GAS STORAGE TANK, 7,500 CUBIC FEET CAPACITY. (Sludge Handling and Storage)
7. ONE FERRIC ACID STORAGE TANK, 2,600 GALLON CAPACITY
8. FOUR TERTIARY FILTERS, ROTARY DISC CLOTH, EACH 636 SQ.FT. (Tertiary Sewage Treatment)
9. SLUDGE OVERFLOW STORAGE TANK (CONVERTED FROM SLUDGE HOLDING TANKS (VI)(3)
10. ONE CHLORINE CONTACT BASIN, FIVE PASS, EACH 110'-0" L. X 64'-0" W. X 11'-0" D. WITH TOTAL CAPACITY OF 8 MG.

BY THE REMOVAL OF:
1. TWO DIGESTERS, METHANE-PHASE, 48'-0" DIA. X 21'-0" H.
2. ONE DIGESTED SLUDGE STORAGE TANKS, 30'-0" DIA. X 14'-6" H.

AND BY THE INCREASE OF INFLUENT FLOW CAPACITY TO 17.4 MGD (EXECPT DURING WET WEATHER CONDITIONS)

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. THE MAXIMUM DAILY INFLUENT WASTEWATER TREATED BY THIS EQUIPMENT, ON AN ANNUAL BASIS, SHALL NOT EXCEED 17.4 MILLION GALLONS PER DAY (MGD), EXCEPT DURING WET WEATHER CONDITIONS.
[RULE 1303]

FACILITY PERMIT TO OPERATE
EASTERN MUNICIPAL WATER DISTRICT

5. HEADWORKS AND DIGESTER GAS SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL OPERATION AND WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE SCAQMD.
[RULE 1303]

6. ALL SLUDGE SHALL BE PIPED AND STORED IN AN ENCLOSED MANNER TO PREVENT THE RELEASE OF AIR CONTAMINANTS UNTIL AFTER IT IS DEWATERED.
[RULE 1303]

7. AT LEAST ONE SAMPLE OF THE TREATED DIGESTER GAS DOWNSTREAM OF THE GAS PURIFIER SHALL BE ANALYZED DAILY FOR H2S AND RECORDED. ANALYTICAL METHOD SHALL BE APPROVED BY THE EXECUTIVE OFFICER.
[RULE 431.1]

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

ENGINEERING AND COMPLIANCE DIVISION

APPLICATION PROCESSING AND CALCULATIONS

Date: 06-18-09
Appl#:See Below
Processor: KKM
Reviewer: AD

COMPANY NAME

Eastern Municipal Water District
Moreno Valley

AEIS NUMBERS:

13088

PERMITEE/OPERATOR

SAME AS FORM 400A

EQUIPMENT LOCATION

SAME AS FORM 400A

Applications(s): **See Below**

EQUIPMENT DESCRIPTION

APPLICATION NO. 479449

APPLICATION FOR A DEMINIMUS SIGNIFICANT REVISION TO THE FACILITY PERMIT ISSUED ON DECEMBER 20, 2006.

APPLICATION NO. 479455 [MODIFICATION TO P/O F68934 (A/N 342013)]

[TO BE CANCELLED (SUPERSEDED BY APPLICATION NO. 485924)]

APPLICATION NO. 485924 [MODIFICATION TO P/O F68934 (A/N 342013)]

INTERNAL COMBUSTION ENGINE, CATERPILLAR, MODEL NO. G398-TA-HCR, SERIAL NO. 73B02093, TWELVE CYLINDERS, TURBOCHARGED, AFTERCOOLED, 700 BHP, RICH-BURN, NATURAL GAS FIRED , WITH A JOHNSON MATTHEY CATALYST, MODEL NO. MX80, AND AN DRIVING AN AERATION BLOWER.

APPLICATION NO. 479454 (MODIFICATION TO PO F68933, APPL.NO.416840)

[TO BE CANCELLED (SUPERSEDED BY APPLICATION NO. 485923)]

APPLICATION NO. 485923 (MODIFICATION TO PO F68933, APPL.NO.416840)

INTERNAL COMBUSTION ENGINE, ENGINE NO. 3, CATERPILLAR, MODEL NO. G398-TA-HCR, SERIAL NO. 73B02095, TWELVE CYLINDERS, TURBOCHARGED, AFTERCOOLED, 700 BHP, RICH-BURN, NATURAL GAS FIRED, WITH A JOHNSON MATTHEY CATALYST, MODEL NO. MX80, AND AN AIR/FUEL RATIO CONTROLLER, WITH AN EXHAUST HEAT RECOVERY SYSTEM AND DRIVING AN AERATION BLOWER.

APPLICATION NO. 446530 [PC TO PO]

DIGESTER GAS FLARING SYSTEM CONSISTING OF:

1. ONE (1) ENCLOSED FLARE, JOHN ZINK, MODEL ZTOF, 18,000,000 BTU/HR, 5'-0" DIA. X 50'-0" H.
2. NATURAL GAS PILOT SYSTEM WITH ELECTRIC IGNITION.
3. ULTRAVIOLET FLAME DETECTOR.
4. KNOCKOUT VESSEL.
5. ONE (1) COMBUSTION AIR BLOWER, 3/4 HP
6. FLAME ARRESTOR.

APPLICATION NO. 455648 (MODIFICATION TO PO F44238, APPL.NO. 389583)
[PC TO PO]

SEWAGE TREATMENT PLANT, 17.1 MGD CAPACITY, CONSISTING OF:

I. PRELIMINARY TREATMENT PROCESS COMPRISED OF:
   1. ONE 22-MGD INFLUENT PUMP STATION VENTED TO ODOR CONTROL EQUIPMENT CONSISTING OF:
      A. FOUR MECHANICAL BAR SCREENS
      B. ONE GRIT CHAMBER, 18'-0" DIA. X 18'-0" H.

II. CONVENTIONAL ACTIVATED SLUDGE (ANAEROBIC), PLANT NO.1, 10 MGD CAPACITY, CONSISTING OF:
   1. SIX GRIT CHAMBERS, EACH 12'-0" L. X 9'-0" W. X 10'-0" D.
   2. EIGHT PRIMARY CLARIFIERS, EACH 65'-0"L. X 15'-0"W. X 10'-0"D.
   3. SIX AERATION BASINS, EACH 150'-0" L. X 30'-0" W. X 15'-0" D.
   4. SIX SECONDARY CLARIFIERS, EACH 88'-0"L. X 16'-0"W. X 10'-0"D.
   5. EIGHT SECONDARY CLARIFIERS, EACH 84'-0"L. X 12'-0"W. X 10'-0"D.
   6. TWO DISSOLVED AIR FLOATATION TANKS, EACH 30'-0" DIA. X 6'-0"D.
   7. ONE INFLUENT EQUALIZATION BASIN, 150'-0"L. x 150'-0"W. x 15'-0"D.

III. AEROBIC SEWAGE TREATMENT, PLANT NO. 2 CONSISTING OF:
   1. ANOXIC ZONE 1, 0.3 MG CAPACITY.
   2. AEROBIC ZONE 1, 0.49 MG CAPACITY.
   3. ANOXIC ZONE 2, 0.22 MG CAPACITY.
   4. AEROBIC ZONE 2, 0.77 MG CAPACITY.
   5. ANOXIC ZONE 3, 0.4 MG CAPACITY.
   6. AEROBIC ZONE 3, 0.54 MG CAPACITY.
   7. TWO SECONDARY CLARIFIERS, 125'-0" DIA. X 14'-0" H.

IV. TERTIARY SEWAGE TREATMENT PLANT, CONSISTING OF:
   1. TWO FLOW EQUALIZATION BASINS, 2.4 MILLION GALLONS TOTAL CAPACITY.
   2. ONE FLOCCULATION BASIN, 43,758 GALLONS CAPACITY.
   3. TWELVE TERTIARY FILTERS, SAND BED TYPE, EACH WITH 200 SQ.FT. FILTER AREA.
   4. ONE CHLORINE INJECTION/SPLITTER BOX.
   5. TWO CHLORINE CONTACT BASINS, EACH 110'-0" L X 64'-0" W. X 11'-0" D. WITH TOTAL CAPACITY OF 16 MILLION GALLONS.
   6. ONE TERTIARY EFFLUENT PUMP STATION
   7. TWO 30-TON CHLORINE COMPRESSED LIQUID/GAS STORAGE VESSELS VENTED TO AN EMERGENCY VENTILATION AND CONTROL SYSTEM (RULE 219 (d)(9) EXEMPT).

V. SLUDGE HANDLING AND STORAGE FACILITY CONSISTING OF:

1. FOUR FIXED ROOF ANAEROBIC DIGESTERS, 48'-0" DIA. X 22'-0" H.
2. ONE FIXED ROOF ANAEROBIC DIGESTERS, 75'-0" DIA. X 29'-0" H.
3. ONE ENCLOSED, BELOW GRADE, SLUDGE HOLDING TANK, 35'-0" DIA. X 15'-0" D., (VENTED TO DIGESTER GAS COLLECTION SYSTEM)
4. ONE DIGESTER GAS STORAGE SPHERE, 35'-0" DIA, 22,449 CU.FT. CAPACITY.
5. TWO FILTER BELT PRESSES, ENCLOSED AND ASSOCIATED POLYMER SYSTEM, VENTED TO ODOR CONTROL EQUIPMENT.
6. ONE SLUDGE OFFLOADING STATION WITH ASSOCIATED CONVEYOR SYSTEM.
7. EIGHTEEN SEWAGE SLUDGE DRYING BEDS, EACH 100'-0" L. X 40'-0" W. X 1'-0" D.
8. BOILER, NATURAL GAS-FIRED, RALPH B. CARTER CO., MODEL NO. H1500C41-GX, 1.5 MMBTU/HR (RULE 219 EXEMPT)
9. THREE ROTARY DRUM THICKENERS.
10. ONE CENTRIFUGE.

VI. TREATED SEWAGE EFFLUENT EVAPORATION/PERCOLATION STORAGE PONDS CONSISTING OF:

1. TWO EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 31 MILLION GALLONS CAPACITY, 670'-0" L. X 375'-0" W. X 21'-0" D.
2. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 30 MILLION GALLONS CAPACITY, 662'-0" L. X 353'-0" W. X 22'-0" D.
3. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 31 MILLION GALLONS CAPACITY, 662'-0" L. X 365'-0" W. X 22'-0" D.
4. TWO 12.65 MG EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 370' L. X 331' W. X 22' D.
5. ONE 12.23 MG EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 362' L. X 329' W. X 22' D.
6. ONE 12.01 MG EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 359' L. X 327' W. X 22' D.
7. ONE L-SHAPED EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 44.20 MILLION GALLON CAPACITY, 1,080'-0" L.X 250'-0" W. X 745'-0" L. X 413'-0" W. X 335'-0" L. X 663'-0" W. X 22'-0" D.
8. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.30 MG CAPACITY, 357' L. X 335' W. X 22' D.

9. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.99 MG CAPACITY, 363' L. X 323' W. X 22' D.
10. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.62 MILLION GALLON CAPACITY, 356'-0" L. X 321'-0" W.X 22'-0" D.
11. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.16 MILLION GALLON CAPACITY, 391'-0" L. X 363'-0" W. X 22'-0" D.
12. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.00 MILLION GALLON CAPACITY, 393'-0" L. X 358'-0" W. X 22'-0" D.

VII. STORM WATER PONDS

1. ONE STORM WATER COLLECTION POND,324'-0" X 202'-0" L. X 8'-0" D.

APPLICATION NO. 474814 (MODIFICATION TO PO F44238, APPL.NO. 389583)

[EVALUATION FOR PERMIT TO CONSTRUCT - SECTION H]

ALTERATION PERMIT TO OPERATE _____ APPL.NO.455648:

SEWAGE TREATMENT PLANT, CONSISTING OF:

I. PRELIMINARY TREATMENT PROCESS COMPRISED OF:

1. ONE 22-MGD INFLUENT PUMP STATION VENTED TO ODOR CONTROL EQUIPMENT CONSISTING OF:
   A. FOUR MECHANICAL BAR SCREENS
   B. ONE GRIT CHAMBER, 18'-0" DIA. X 18'-0" H.

II. CONVENTIONAL ACTIVATED SLUDGE (ANAEROBIC), PLANT NO.1,

1. SIX GRIT CHAMBERS, EACH 12'-0" L. X 9'-0" W. X 10'-0" D.
2. EIGHT PRIMARY CLARIFIERS, EACH 65'-0"L. X 15'-0"W. X 10'-0"D.
3. SIX AERATION BASINS, EACH 150'-0" L. X 30'-0" W. X 15'-0" D.
4. SIX SECONDARY CLARIFIERS, EACH 88'-0"L. X 16'-0"W. X 10'-0"D.
5. EIGHT SECONDARY CLARIFIERS, EACH 84'-0"L. X 12'-0"W. X 10'-0"D.
6. TWO DISSOLVED AIR FLOATATION TANKS, EACH 30'-0" DIA. X 6'-0"D.
7. ONE INFLUENT EQUALIZATION BASIN, 150'-0"L. x 150'-0"W. x 15'-0"D.

III.AEROBIC SEWAGE TREATMENT, PLANT NO. 2 CONSISTING OF:

1. ANOXIC ZONE 1, 0.3 MG CAPACITY.
2. AEROBIC ZONE 1, 0.49 MG CAPACITY.
3. ANOXIC ZONE 2, 0.22 MG CAPACITY.
4. AEROBIC ZONE 2, 0.77 MG CAPACITY.
5. ANOXIC ZONE 3, 0.4 MG CAPACITY.
6. AEROBIC ZONE 3, 0.54 MG CAPACITY.
7. TWO SECONDARY CLARIFIERS, 125'-0" DIA. X 14'-0" H.

IV. TERTIARY SEWAGE TREATMENT PLANT, CONSISTING OF:

1. TWO FLOW EQUALIZATION BASINS, 2.4 MILLION GALLONS TOTAL CAPACITY.
2. ONE FLOCCULATION BASIN, 43,758 GALLONS CAPACITY.
3. TWELVE TERTIARY FILTERS, SAND BED TYPE, EACH WITH 200 SQ.FT. FILTER AREA.
4. ONE CHLORINE INJECTION/SPLITTER BOX.
5. TWO CHLORINE CONTACT BASINS, EACH 110'-0" L X 64'-0" W. X 11'-0" D. WITH TOTAL CAPACITY OF 16 MILLION GALLONS.
6. ONE TERTIARY EFFLUENT PUMP STATION
7. TWO 30-TON CHLORINE COMPRESSED LIQUID/GAS STORAGE VESSELS VENTED TO AN EMERGENCY VENTILATION AND CONTROL SYSTEM (RULE 219 (d)(9) EXEMPT).

V. SLUDGE HANDLING AND STORAGE FACILITY CONSISTING OF:

1. FOUR FIXED ROOF ANAEROBIC DIGESTERS, 48'-0" DIA. X 22'-0" H.
2. ONE FIXED ROOF ANAEROBIC DIGESTERS, 75'-0" DIA. X 29'-0" H.
3. ONE ENCLOSED, BELOW GRADE, SLUDGE HOLDING TANK, 35'-0" DIA. X 15'-0" D., (VENTED TO DIGESTER GAS COLLECTION SYSTEM)
4. ONE DIGESTER GAS STORAGE SPHERE, 35'-0" DIA, 22,449 CU.FT. CAPACITY.
5. TWO FILTER BELT PRESSES, ENCLOSED AND ASSOCIATED POLYMER SYSTEM, VENTED TO ODOR CONTROL EQUIPMENT.
6. ONE SLUDGE OFFLOADING STATION WITH ASSOCIATED CONVEYOR SYSTEM.
7. EIGHTEEN SEWAGE SLUDGE DRYING BEDS, EACH 100'-0" L. X 40'-0" W. X 1'-0" D.
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9. THREE ROTARY DRUM THICKENERS.
10. ONE CENTRIFUGE.

VI. TREATED SEWAGE EFFLUENT EVAPORATION/PERCOLATION STORAGE

1. TWO EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 31 MILLION GALLONS CAPACITY, 670'-0" L. X 375'-0" W. X 21'-0" D.
2. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 30 MILLION GALLONS CAPACITY, 662'-0" L. X 353'-0" W. X 22'-0" D.
3. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 31 MILLION GALLONS CAPACITY, 662'-0" L. X 365'-0" W. X 22'-0" D.
4. TWO 12.65 MG EVAPORATION/PERCOLATION EFFLUENT STORAGE PONDS, EACH 370' L. X 331' W. X 22' D.

5. ONE 12.23 MG EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 362' L. X 329' W. X 22' D.
6. ONE 12.01 MG EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 359' L. X 327' W. X 22' D.
7. ONE L-SHAPED EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 44.20 MILLION GALLON CAPACITY, 1,080'-0" L.X 250'-0" W. X 745'-0" L. X 413'-0" W. X 335'-0" L. X 663'-0" W. X 22'-0" D.
8. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 12.30 MG CAPACITY, 357' L. X 335' W. X 22' D.
9. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.99 MG CAPACITY, 363' L. X 323' W. X 22' D.
10. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 11.62 MILLION GALLON CAPACITY, 356'-0" L. X 321'-0" W.X 22'-0" D.
11. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.16 MILLION GALLON CAPACITY, 391'-0" L. X 363'-0" W. X 22'-0" D.
12. ONE EVAPORATION/PERCOLATION EFFLUENT STORAGE POND, 15.00 MILLION GALLON CAPACITY, 393'-0" L. X 358'-0" W. X 22'-0" D.

VII. STORM WATER PONDS

1. ONE STORM WATER COLLECTION POND,324'-0" X 202'-0" L. X 8'-0" D.

BY THE ADDITION OF:

1. ONE GRIT CHAMBER, VORTEX, 18'-0" DIA. (Preliminary Treatment)
2. TWO SECONDARY CLARIFIERS, EACH 125'-0" DIA. X 14'-0" D. (Plant 2)
3. ONE DIGESTER, ACID PHASE, 4 CHAMBERS, EACH 20'-0" W. X 20'-0" L. X 21'-0" H. (Sludge Handling and Storage)
4. ONE DIGESTER, METHANE-PHASE, 70'-0" DIA. X 29'-0" H. (Sludge Handling and Storage)
5. TWO DIGESTED SLUDGE STORAGE TANKS, 48'-0" DIA. X 18'-0" H. (Sludge Handling and Storage)
6. ONE LOW PRESSURE DIGESTER GAS STORAGE TANK, 7,500 CUBIC FEET CAPACITY.
7. ONE FERRIC ACID STORAGE TANK, 2,600 GALLON CAPACITY
8. FOUR TERTIARY FILTERS, ROTARY DISC CLOTH, EACH 636 SQ.FT. (Tertiary Sewage Treatment)
9. SLUDGE OVERFLOW STORAGE TANK (CONVERTED FROM SLUDGE HOLDING TANK (VI)(3).
10. ONE CHLORINE CONTACT BASIN, FIVE PASS, EACH 110'-0" L. X 64'-0" W. X 11'-0" D.

AND BY THE REMOVAL OF:

1. TWO DIGESTERS, METHANE-PHASE, 48'-0" DIA. X 21'-0" H.
2. TWO DIGESTED SLUDGE STORAGE TANKS, 30'-0" DIA. X 14'-6" H.

AND CHANGE OF PERMIT CONDITIONS TO INCREASE FLOW TO 17.4 MGD (EXCEPT DURING WET WEATHER CONDITIONS)

CONDITIONS: (See Sample permit)

BACKGROUND

The Eastern Municipal Water District (EMWD), Moreno Valley Facility, ID No. 13088, filed on October 24, 2007, Application No.474814 for modification of the sewage treatment plant operated under a permit to construct issued under application No. 455648.

The alterations proposed under application No. 455648 have been completed, with minor changes to bar screens, teritiary filters, and evaportation/percolation ponds which do not have a significant emissions impact. Other changes included are the subsitution of three rotory drum thickners for two gravity belt thickeners.

The proposed project under application No. 474814, is subject to CEQA, and a Final Mitigated and Negative Declaration was completed on May 2007. Subsequently, a notice of determination was filed on June 21, 2007. Although the CEQA documents the proposed expansion to a maximum of 18 MGD, the proposed application No. 474814 requests only an increase to 17.4 MGD from 17.1 MGD.

Application No. 479449, was filed on March 19, 2008, for a deminimus significant revision to the Title V facility permit for the modification proposed under application No. 474814, and to add to the facility permit.

Subsequently, Applications No. 479454, and 476455, were filed on March 19, 2008, for change of permit conditions for two existing internal combustion engines, [PO F68933 (416840), and F68934 (A/N 342013)] which were superseded respectively by applications No. 485923, and 485924. The preceding applications request a 30 minute startup condition, which will be evaluated under the subsequent applications.

Subsequent applications No. 485923, and 485924, were filed on July 31, 2008. Applications 485923, and 485924 were filed for change of permit condition to operate at a single RPM.

Application No. 479449, will also be used to issue the final permit to operate for the digester gas fired flare, which has a permit to constuct issued on November 25, 2005, under application No. 446530 .

PROCESS DESCRIPTION

The permit to construct issued under application No. 455648, authorized the conversion of half of the Bardenpho aerobic sewage treatment plant to an anaerobic system, and the construction of four anaerobic digesters, sludge holding tank, and influent equalization basin. The applicant has substituted three rotary drum thickeners, for two gravity belt thickeners listed on the permit to construct. Otherwise, the construction is complete as described in the existing permit to construct. Under the existing permit to construct the daily influent flow capacity was increased to 17.1 MGD. The new application for permit to construct proposes to increase the maximum flow to 17.4 MGD, and construct additional preliminary, secondary, and tertiary water treatment equipment.

The headworks are currently vented to an odor control scrubber (PO F58148, A/N 407839) with a permit condition limiting the H2S concentration at the exhaust to less than 1 ppmv. The maximum venting capacity is 30,000 cfm. The belt presses and centrifuge are currently vented to an odor control scrubber (PO F83244, A/N 451325) with a permit condition limiting the H2S concentration at the exhaust to less than 1 ppmv. The maximum venting capacity of this scrubber is 22,000 cfm. There are no changes proposed to the scrubbers or the equipment vented to the scrubber associated with the applications subject to this evaluation.

The new preliminary treatment equipment consists of an additional grit chamber to supplement the existing grit chamber. Two secondary clarifiers, and four tertiary filters will be added to the existing secondary and tertiary water treatment systems, and two digesters (one acid phase and one methane phase), and two digested sludge storage tanks will be added to the sludge handling system. Two existing digesters, and two sludge storage tanks, will be removed.

The digester gas is used as fuel for the fuel cell (Appl.No. 473542). A digester gas treatment system is used to remove siloxanes, and fuel contaminants, before the fuel is consumed by the fuel cell. For a full description of the fuel cell, see the Engineering Evaluation dated February 1, 2008.

Excess digester gas which is not used as fuel is sent to the existing flare (PO F46562, A/N 173389) or the new flare constructed under application No. 446530. Construction of the new flare is complete and the flare is operational.

According to the applicant, Engine No. 121, (Appl.No. 479454 / 485923) and Engine No. 122 (Application No. 479455 / 485924) are identical engines which are fueled with natural gas and equipped with an air to fuel ratio controller, catalytic converter. A third engine No. 123 (Appl. No. 482262 / 485925) was fueled with digester gas, but this engine currently not in service and these applications will be evaluated under a separate report. Each of these engines are used to drive an aeration blower and operates at about 1160 rpm which is about 96% of maximum load based on a maximum rating of 1200 rpm.

Each engine, requires a start-up period of up to 30 minutes to achieved stable temperatures and oxygen concentration in the exhaust for proper operation of the emission control systems.

EMISSIONS

Since there is no physical modifications of each internal combustion engine, except for the installation of an air to fuel ratio controller, there is no change in emissions. There is also no change in emissions due to the change of permit conditions to designated a operation at 1158 rpm plus or minus 10 percent, which is equivalent to operation at a single load. Therefore, Table 1, summarizes the previous and current emissions for each engine, and the emission previously estimated under previous applications No. 342013, and 416840. Table 1, also summarized the emission reported under 446530, and 455648 for the sewage treatment system, and flare.

The increase in VOC emissions from the modification of the sewage treatment system proposed under application No. 474814, is estimated in Appendix C based on the JEIP factors. The JEIP VOC emission factor used is 1.77 lbday/MGD, which is the same as the factor used to estimate VOC emissions under application No. 455648. For the increase in capacity to 17.4 MGD from 17.1 MGD, the incease of VOC is estimated at 0.49 lb/day, which is less than the original estimate by EMWD (CH2M Hill) because the original application requested an increase to 18 MGD. The Toxic emissions from application No. 474814, are based on the proportional increase associated with the 1.75 % increase in capacity to 17.4 MGD from 17.1 MGD.

Based on the engineering evaluation filed under application no. 455648, TAC emissions were estimated at 0.017 lb/hr for ammonia, 0.0129 lb/hr of Chloroform, 0.0055 lb/hr of Methylene chloride, 0.0193 lb/hr of perchloroethylene, and 0.0018 lb/hr of Trichlroethylene. A risk assessment is located in Appendix D.

Table 1 - Estimated Hourly Emissions

Appl.No.	Rating	NOx lb/hr	CO lb/hr	ROG lb/hr	PM10 lb/hr	SOx lb/hr
485924 (F68934, 342013)	700 bhp	0.43	1.30	0.22	------	------
485923 (F68933, 416840)	700 bhp	0.21	0.92	0.21	------	------
446530 (Flare)	18 mmbtu/hr	1.08	3.60	0.65	0.52	0.19
455648 (F44238, 389583)	17.1 MGD	------	------	1.26	------	------
474814 (F44238, 389583)	17.4 MGD	------	------	1.28	------	------

Table 2 - Estimated Daily Emissions

Appl.No.	Rating	NOx lb/day	CO lb/day	ROG lb/day	PM10 lb/day	SOx lb/day
485924 (F68934, 342013)	700 bhp	10	31	5	0	0
485923 (F68933, 416840)	700 bhp	10	15	4	0	0
446530 (Flare)	18mmbtu/hr	26	86	16	12	5
455648 (F44238, 389583)	17.1 MGD	------	------	30.24	------	------
474814 (F44238, 389583)	17.4 MGD	------	------	30.72	------	

Flare - Based on the results of the source test conducted on May 26, 2008, the Nox emissions were 0.05 lb/MMbtu and less than maximum permit limit of 0.06 lbNOx/Mmbtu. The hourly rate of NOx was 0.228 lb/hr and less than the permit limit of 1.08 lb/hr. The Co Emissions measured in the report were 100 ppmv, and 1.03 lb/hr which is less than the permit limit of 3.6 lb/hr. The measured flow rate was 137 dscfm less than the permit limit of 480 dsfm and the heat rate was 4.56 mmbtu/hr and less than the permit limit of 18 mmbtu/hr. There is no change expected to the emissions PM10 which were estimated at 0.52 lb/hr when the permit to construct was issued under application No. 446530. SOx Emissions were estimated at 0.19 lb/hr in appendix C.

EVALUATION

Rule 212

Rule 212(c)(2)- The emissions increase due to this modification does not exceed the limits specified in subdivision (g) of this Rule, and this facility is not a major source of emissions. Furthermore, the MICR associated with the sewage treatment plant expansion (0.3 MGD) will be less than 1 in a million, and there is no school located within 1000 feet of this facility. No public notice is required and the proposed project complies with Rule 212.

Rule 401

No visible emissions are expected from the normal operation of this equipment. Therefore compliance with Rule 401 is expected.

Rule 402

Since the headworks, belt presses, and centrifuge are vented to air pollution controls, no public nuisance is expected to be generated by normal operation of this equipment. Furthermore, there is no modification to the air pollution control equipment associated with the proposed construction. Based on the permitted H2S concentration of 1 ppmv at the outlet of each scrubber, the maximum ground level concentration at the fence line, was estimated at 3.8 ppbv at the North Fence Line (closest to the Headworks scrubber), and 2.8 ppbv at the west fence line (closest to the solids dewatering building).

Therefore, the maximum ground level concentrations for H2S are much less than 30 ppbv which is the California State Ambient Air Quality Standard at the facility property boundary. This standard was adopted to protect against nuisance odor for the general public. The 3.8, and 2.8 ppbv concentrations are also less than 8 ppbv odor threshold level listed by California Office of Environmental Health Hazard Assessment Office (OEHHA) which can be detected but unlikely to be recognized or found annoying by more than a few people. Therefore, all equipment is expected to comply with Rule 402.

Rule 431.1

The facility is exempt from this Rule because the maximum facility emissions of sulfur compounds (calculated as H2S) are less than 5 pounds per day.

A digester gas treatment system is used to removed the H2S from the fuel supplied to the fuel cells. Therefore, the total SOx emissions from the facility is not expected to increase and it is expected to comply with a 5 lb/day exemption limit. A facility permit condition limiting the H2S (SOX) emissions will be required.

Rule 1110.2

All applications for alteration or change of permit conditions for the engines were filed to comply with the requirements to equip each engine with an ATF ratio controller, or permit condition to operate at a single load, or to designate operation on an emergency basis only. The existing monitoring, source testing, and record keeping requirements in Rule 1110.2 will ensure compliance with the Nox, VOC, and CO, emission limits required by Rule 1110.2. Therefore, compliance with Rule 1110.2 is expected.

In addition, a subsequent applications No. 495594, and 495593, have been filed for a Rule 1110.2, inspection and maintenance plan, and a Title V permit revision. Evaluation of application No. 495594, and 495593 will be conducted in a subsequent report.

Rule 1303 - BACT & Offsets

The installation of an air to fuel ratio controller on the digester gas fired engine, and the modification of the permit condition for the remaining engines subject to this evaluation is not expected to change the criteria emissions recorded in the NSR data base. Therefore, a BACT analysis or Offsets are not required. Therefore, the proposed operation of the engines subject to this evaluation is expected to comply with this Rule.

There is no revision of the VOC emissions estimated for the sewage treatment plant estimated under application No. 455648, or the Criteria emissions estimated for the flare permitted under application No. 446530.

Based on the engineering evaluation dated June 27, 2006, filed under application No. 455648, there was no increase in criteria emissions from the permitted modification of the sewage treatment plant, and consequently neither, a BACT analysis nor offsets were required. The VOC emissions associated with modification proposed under application No. 474814, to increase the capacity to 17.4, is estimated to be less than 0.49 lb/day, and therefore, neither a BACT analysis nor offsets are required. Therefore, the proposed modification of the sewage treatment system, under application No. 474814 is expected to comply with Rule 1303.

Based on the engineering evaluation dated October 20, 2005, the new flare meets the emissions requirement to comply with current BACT limits. A source test conducted on May 16, 2008, confirmed that the emissions of Nox, and CO were less than permit limits. Therefore, the flare complies with BACT. There is no changes from the previously assessed emissions listed in the NSR database. Therefore, no additional offsets required, and the flare complies with the offsets requirements.

Rule 1401

Based on the Tier 2 risk screening filed under application No. 455648, for modification of the sewage treatment system, the increase in risk is estimated at 0.87 in a million, which is less than 1 in a million. Based on Tier 2 risk screening and the increase in permitted plant capacity to 17.4 MGD, the increase in risk from the sewage treatment plant is estimated to increase to 0.88 in a million, which is also less than 1 in a million. Therefore, the existing and proposed operation of the sewage treatment system is expected to comply with Rule 1401.

Since there is no expected increase from the emissions of from each engine, evaluation of compliance with Rule 1401 is not required.

Rule 1401.1

Not applicable because this is an existing facility, and no school is located within 1000 feet of the facility.

Regulation XXX

Since the proposed changes to the Title V facility permit is not expected to cause the increase of the emissions of criteria pollutants above significant levels or HAPs, and does not requires any significant change in monitoring terms or conditions in the permit, nor relaxation of any recordkeeping or reporting requirement, the proposed revision of the Title V permit is expected to meet the revision criteria for de Minimis Significant permit Revision in Table 3-8 of the TGD.

RECOMMENDATION

1. Approve applications No. 485923, and 485924, for permit to operate with the proposed equipment description and conditions.
2. Approve application No. 474814 (Sewage Treatment System) for permit to construct the proposed modifications.
3. Convert P/Cs to PO for modification to sewage treatment system (appl.No. 455648), and flare (appl.No.446530).
4. Cancel applications No. 479454, and 479455.
5. Issue a De Minimus Minor Revision of the Title V Facility Permit for the approval of the above applications, under application No.474814.

APPENDIXES

A. NSR TRANSACTION REPORT
B. PREVIOUS NSR EMISSIONS
C. EMISSION CALCULATIONS
D. RISK ASSESSMENT

APPENDIX A
NSR TRANSACTION REPORT

	EMI_ID	PTE lbs/day	POSBAL	PARENT_ID
1	CO	292	0	13088
2	NOX	62	0	13088
3	PM10	13	0	13088
4	ROG	133	0	13088
5	SOX	8	0	13088

APPENDIX B
PREVIOUS NSR EMISSIONS

NSR DATA SUMMARY SHEET

Superseded by NN 485924 (479455)

Application No: 342013
Application Type: P/O no P/C
Application Status: PENDAPPRV
Previous Apps,Dev,Permit #: NONE

Company Name: EASTERN MUNICIPAL WATER DISTRICT
Company ID: 13088
Address: 17140 KITCHING ST,MORENO VALLEY, CA 92551
RECLAIM: NO
RECLAIM Zone: 02A
Air Basin: SC
[redacted]e: 23
Title V: YES

Device ID: 0 - ICE-PPS
Estimated Completion Date: 06-28-1998
Heat Input Capacity: 1.7 Million BTU/hr
Priority Reserve: ESP - Essential Public Service
Recommended Disposition: 31 - PERMIT TO OPERATE GRANTED
PR Expiration:
School Within 1000 Feet: NO
Operating Weeks Per Year: 52
Operating Days Per Week: 7
Monday Operating Hours: 00:00 to 24:00
Tuesday Operating Hours: 00:00 to 24:00
Wednesday Operating Hours: 00:00 to 24:00
Thursday Operating Hours: 00:00 to 24:00
[redacted]day Operating Hours: 00:00 to 24:00
[redacted]turday Operating Hours: 00:00 to 24:00
Sunday Operating Hours: 00:00 to 24:00

Emittant: CO
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 32
Modeling: N/A
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 1.3 lbs/hr
Max Daily: 31.2 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 1.3 lbs/hr
Max Daily: 31.2 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 32 lbs/day
Annual Emission: 11356.8 lbs/yr
District Exemption: None

Emittant: NOX
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 10
Modeling: PASSED
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 0.43 lbs/hr
Max Daily: 10.32 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 0.43 lbs/hr
Max Daily: 10.32 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 10 lbs/day
Annual Emission: 3756.48 lbs/yr
District Exemption: None

Emittant: ROG
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 5
Modeling: N/A
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 0.22 lbs/hr
Max Daily: 5.28 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 0.22 lbs/hr
Max Daily: 5.28 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 5 lbs/day
Annual Emission: 1921.92 lbs/yr
District Exemption: None

SUPERVISOR'S APPROVAL: CDT SUPERVISOR'S REVIEW DATE: 11/16/04

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NSR DATA SUMMARY SHEET

Superseded by A/N 485925 (482262)

Application No: 414294
Application Type: Alteration
Application Status: PENDAPPRV
Previous Apps,Dev,Permit #: 348801, 0 - , NONE

Company Name: EASTERN MUNICIPAL WATER DISTRICT
Company ID: 13088
Address: 17140 KITCHING ST,MORENO VALLEY, CA 92551
RECLAIM: NO
RECLAIM Zone: 02A
Air Basin: SC
[redacted]e: 23
Title V: YES

Device ID: 0 - ICE-PPS
Estimated Completion Date: 06-26-2003
Heat Input Capacity: 0 Million BTU/hr
Priority Reserve: NONE - No Priority Access Requested
Recommended Disposition: 31 - PERMIT TO OPERATE GRANTED
PR Expiration:
School Within 1000 Feet: NO
Operating Weeks Per Year: 52
Operating Days Per Week: 7
Monday Operating Hours: 00:00 to 24:00
Tuesday Operating Hours: 00:00 to 24:00
Wednesday Operating Hours: 00:00 to 24:00
Thursday Operating Hours: 00:00 to 24:00
[redacted]day Operating Hours: 00:00 to 24:00
[redacted]urday Operating Hours: 00:00 to 24:00
Sunday Operating Hours: 00:00 to 24:00

Emittant: CO
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 0
Modeling: N/A
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 2.2 lbs/hr
Max Daily: 52.8 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 2.2 lbs/hr
Max Daily: 52.8 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 54 lbs/day
Annual Emission: 19219.2 lbs/yr
District Exemption: None

Emittant: NOX
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 0
Modeling: N/A
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 0.53 lbs/hr
Max Daily: 12.72 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 0.53 lbs/hr
Max Daily: 12.72 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 13 lbs/day
Annual Emission: 4630:08 lbs/yr
District Exemption: None

Emittant: ROG
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 0
Modeling: N/A
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 0.71 lbs/hr
Max Daily: 17.04 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 0.71 lbs/hr
Max Daily: 17.04 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 17 lbs/day
Annual Emission: 6202.56 lbs/yr
District Exemption: None

SUPERVISOR'S APPROVAL: CDT SUPERVISOR'S REVIEW DATE: 6/8/04

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NSR DATA SUMMARY SHEET

Superseded by A/N 479453 & 485926

Application No 414452
Application Type Change of Conditions No Engineering Evaluation/Ad
Application Status APPROVED
Previous Apps,Dev,Permit # 299078, 0 - x, F63608

Company Name EASTERN MUNICIPAL WATER DISTRICT
Company ID 13088
Address 17140 KITCHING ST,MORENO VALLEY, CA 92551
RECLAIM NO
RECLAIM Zone 02A
[redacted]asin SC
[redacted]e 23
Title V YES

Device ID 0 -
Estimated Completion Date 06-12-2003
Heat Input Capacity 0 Million BTU/hr
Priority Reserve ESP - Essential Public Service
Recommended Disposition 31 - PERMIT TO OPERATE GRANTED
PR Expiration
School Within 1000 Feet NO
Operating Weeks Per Year 52
Operating Days Per Week 7
Monday Operating Hours 00 00 to 24 00
Tuesday Operating Hours 00 00 to 24 00
Wednesday Operating Hours 00 00 to 24 00
Thursday Operating Hours 00 00 to 24 00
[redacted]ay Operating Hours 00 00 to 24 00
Saturday Operating Hours 00 00 to 24 00
Sunday Operating Hours 00 00 to 24 00

Emittant CO
BACT
Cost Effectiveness NO
Source Type MINOR
Emis Increase 0
Modeling N/A
Public Notice N/A
CONTROLLED EMISSION
Max Hourly 4 1 lbs/hr
Max Daily 98 4 lbs/day
UNCONTROLLED EMISSION
Max Hourly 4 1 lbs/hr
Max Daily 98 4 lbs/day
CURRENT EMISSION
BACT 30 days Avg 100 lbs/day
Annual Emission 35817 6 lbs/yr
District Exemption None

Emittant NOX
BACT
Cost Effectiveness NO
Source Type MINOR
Emis Increase 0
Modeling N/A
Public Notice N/A
CONTROLLED EMISSION
Max Hourly 0 48 lbs/hr
Max Daily 11 52 lbs/day
UNCONTROLLED EMISSION
Max Hourly 0 48 lbs/hr
Max Daily 11 52 lbs/day
CURRENT EMISSION
BACT 30 days Avg 12 lbs/day
Annual Emission 4193 28 lbs/yr
District Exemption None

Emittant ROG
BACT
Cost Effectiveness NO
Source Type MINOR
Emis Increase 0
Modeling N/A
Public Notice N/A
CONTROLLED EMISSION
Max Hourly 1 16 lbs/hr
Max Daily 27 84 lbs/day
UNCONTROLLED EMISSION
Max Hourly 1 16 lbs/hr
Max Daily 27 84 lbs/day
CURRENT EMISSION
BACT 30 days Avg 28 lbs/day
Annual Emission 10133 76 lbs/yr
District Exemption None

SUPERVISOR'S APPROVAL COT SUPERVISOR'S REVIEW DATE 10/9/03

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NSR DATA SUMMARY SHEET

(419454)

Supersedes by A/N 416840

485023

Application No: 416840
Application Type: Alteration
Application Status: PENDAPPRV
Previous Apps,Dev,Permit #: 224055, 0 - x, NONE

Company Name: EASTERN MUNICIPAL WATER DISTRICT
Company ID: 13088
Address: 17140 KITCHING ST,MORENO VALLEY, CA 92551
RECLAIM: NO
RECLAIM Zone: 02A
Air Basin: SC
[redacted]e: 23
Title V: YES

Device ID: 0 - ICE-PPS
Estimated Completion Date: 06-28-2003
Heat Input Capacity: 1.78 Million BTU/hr
Priority Reserve: ESP - Essential Public Service
Recommended Disposition: 31 - PERMIT TO OPERATE GRANTED
PR Expiration:
School Within 1000 Feet: NO
Operating Weeks Per Year: 52
Operating Days Per Week: 7
Monday Operating Hours: 00:00 to 24:00
Tuesday Operating Hours: 00:00 to 24:00
Wednesday Operating Hours: 00:00 to 24:00
Thursday Operating Hours: 00:00 to 24:00
[redacted]day Operating Hours: 00:00 to 24:00
Saturday Operating Hours: 00:00 to 24:00
Sunday Operating Hours: 00:00 to 24:00

Emittant: CO
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 15
Modeling: N/A
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 0.62 lbs/hr
Max Daily: 14.88 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 0.62 lbs/hr
Max Daily: 14.88 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 15 lbs/day
Annual Emission: 5416.32 lbs/yr
District Exemption: None

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Emittant: NOX
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 10
Modeling: PASSED
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 0.43 lbs/hr
Max Daily: 10.32 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 0.43 lbs/hr
Max Daily: 10.32 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 10 lbs/day
Annual Emission: 3756.48 lbs/yr
District Exemption: None

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NSR updated

Emittant: ROG
BACT:
Cost Effectiveness: NO
Source Type: MINOR
Emis Increase: 4
Modeling: N/A
Public Notice: N/A
CONTROLLED EMISSION
Max Hourly: 0.16 lbs/hr
Max Daily: 3.84 lbs/day
UNCONTROLLED EMISSION
Max Hourly: 0.16 lbs/hr
Max Daily: 3.84 lbs/day
CURRENT EMISSION
BACT 30 days Avg: 4 lbs/day
Annual Emission: 1397.76 lbs/yr
District Exemption: None

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SUPERVISOR'S APPROVAL: CDT SUPERVISOR'S REVIEW DATE: 11/16/04

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APPENDIX C
EMISSION CALCULATIONS

Criteria Emission Estimate Flare Appl.No.446530

Data:		Ref.
Btu rating	18 mmbtu/hr	
Operating Schedule	24 hr/day	
	7 day/wk	
	52 wk/year	
Inlet Flow rate	480 cfm	
VOC	0.005 lb/lb	
Nox	0.06 lb/mmbtu	
Sox	40 ppm	
CO	0.2 lb/mmbtu	
PM10	18 lb/mmcf	
	0.98 lb/lb	

Criteria Emissions Calculation
Uncontrolled
VOC Emissions (lb/hr)

[0.005 lb/lb] x [480.0 cfm] x [60 min/hr] x [86 lb/mole / 379 cf/mole)]
[32.68 lb/hr]

VOC Controlled

[Uncontrolled Emissions] x [1 - control eff]
[32.68 lb/hr]x [1- 0.98]
[0.65 lb/hr]

VOC Emissions (lb/day)

[VOC Emissions (lb/hr)] x [hr/day]
[32.6755 lb/hr] x [24 hr/day]
[15.68 lb/day]

Nox Emissions (lb/hr)

[Nox lb/mmbtu] x [Btu rating]
[0.06 lb/mmbtu] x [18.0 mmbtu/hr]
[1.08 lb/hr]

Nox Emissions (lb/day)

[Nox Emissions (lb/hr)] x [hr/day]
[1.0800 lb/hr] x [24 hr/day]
[25.92 lb/day]

CO Emissions (lb/hr)

[CO lb/mmbtu] x [Btu rating]
[0.20 lb/mmbtu] x [18.0 mmbtu/hr]
[3.60 lb/hr]

CO Emissions (lb/day)

[CO Emissions (lb/hr)] x [hr/day]
[3.6000 lb/hr] x [24 hr/day]
[86.40 lb/day]

Sox Emissions (lb/hr)

[40.00 ppm] x [480.0] x [60 min/hr] x [64 lb/mole / 379 cf/mole)]
[0.19 lb/hr]

Sox Emissions (lb/day)

[Sox Emissions (lb/hr)] x [hr/day]
[0.1945 lb/hr] x [24 hr/day]
[4.67 lb/day]

Application 455648 EMWD- Moreno Valley id# 13088

Ammonia Emissions From Waste Water Treatment Plant

Data

Variable		Units	Reference
NH4 E.F.	16.0	lb/Mgal	ARB NH4 Inv.
Capacity	17.1	Mgal/day	Form 400E
Schedule	24.0	hr/day	Form 400E
	7	days/wk	Form 400E
	52	wk/year	Form 400E
	364	days/year	

Calculations:

lbNH4/day = [NH4 E.F.]x[Capacity]
= [16.0 lb/Mgal]x[17.1 Mgal/day]
[273.60 lb/day]

lbNH4/hr = [lbNH4/day]/[hr/day]
= [273.60 lb/day] / [24 hr/day]
= [11.40 lb/hr]

lbNH4/year = [lbNH4/day]x[days/year]
= [273.60 lb/day] x [364 days/year]
= [99590.40 lb/year]

NH4 Avg. Monthly Emiss. = [lbNH4/year]/[Months/Year]
[99590.40 lb/year]/[12 MONTHS/YR]
= [8299.2 lb/month]

NH4 Max. Monthly Emiss. = [NH4 Avg. Monthly Emiss.] (Condition Required)
= [8299.2 lb/month]

NH4 30 DAY AVG. EMISS. = [NH4 Max. Monthly Emiss.]/[30 DAYS/MONTH]
[8299.2 lb/month]/[30 DAYS/MONTH]
= [276.6 LB/DAY]

Application 474814 EMWD- Moreno Valley id# 13088

Ammonia Emissions From Waste Water Treatment Plant

Data

Variable		Units	Reference
NH4 E.F.	16.0	lb/Mgal	ARB NH4 Inv.
Capacity	17.4	Mgal/day	Form 400E
Schedule	24.0	hr/day	Form 400E
	7	days/wk	Form 400E
	52	wk/year	Form 400E
	364	days/year	

Calculations:

lbNH4/day = [NH4 E.F.]x[Capacity]
= [16.0 lb/Mgal]x[17.4 Mgal/day]
[278.40 lb/day]

lbNH4/hr = [lbNH4/day]/[hr/day]
= [278.40 lb/day] / [24 hr/day]
= [11.60 lb/hr]

lbNH4/year = [lbNH4/day]x[days/year]
= [278.40 lb/day] x [364 days/year]
= [101337.60 lb/year]

NH4 Avg. Monthly Emiss. = [lbNH4/year]/[Months/Year]
[101337.60 lb/year]/[12 MONTHS/YR]
= [8444.8 lb/month]

NH4 Max. Monthly Emiss. = [NH4 Avg. Monthly Emiss.] (Condition Required)
= [8444.8 lb/month]

NH4 30 DAY AVG. EMISS. = [NH4 Max. Monthly Emiss.]/[30 DAYS/MONTH]
[8444.8 lb/month]/[30 DAYS/MONTH]
= [281.5 LB/DAY]

Emissions Calculations: EMWD - Moreno Valley

DATA	Odor Scrubber - Headworks, Appl.No. 407839	
Exhaust Flow Rate	30000	CFM
Exhaust Flow Rate	1800000	CuFt/hr
Temperature	60	deg.F
	520	deg.R
Mol.Wt. H2S	34	lb/lbmole
Ideal Gas Const	0.73	atm*ft^3/lbmol*R
Control eff	0.9	lb/lb
H2S Exit Conc.	1	ppmv

By the ideal Gas Law:

Molar Volume = [0.73atm*ft^3/lbmol*R]x[520 deg.R]
= 380 dscf/lbmole
@ 60 F

H2S Emission Rate Calculation Odor Scrubber - Headworks, Appl.No. 407839

Flow Rate = [1800000 CuFt/hr]

H2S Emiss.Rate (Volumetric) = Flow Rate x H2S Exit Conc.
@1ppmv = [1800000 cu.ft./hr]x[1 ppmv]/[1,000,000]
Volumetric Rate = 1.80 cf/hr

Molar Rate = [1.800 cf/hr]/[380 dscf/lbmole]
(@68 deg. F) = 0.00474 lbmole/hr

Mass rate = Molar Rate x Mol.Wt. H2S
(as H2S) = [0.004742 lbmole/hr] x[34.00 lb/lbmole]
= 0.1612 lb/hr
3.8693 lb/day @24 hr/day

H2S (Inlet) = [Mass rate] / (1 - Control eff)]
= [0.1612 lb/hr] / [(1 - 0.90)]
= 1.6122 lb/hr
= 38.6934 lb/day @24 hr/day

Volumetric Rate(Inlet) = [Volumetric Rate] / (1 - Control eff)]
= [1.8000 cf/hr] / [(1 - 0.90)]
= 16.1222 cf/hr

H2S Conc. (Inlet) 8.9568 PPM

Emissions Calculations: EMWD - Moreno Valley

Modeling For Odor Potential

Using SCREEN3 Model

Conc. @ 80 meters	= 33.83 ug/m^3	@ 1 lb/hr Emission Rate
Conc. @ 80 meters	= 5.45 ug/m^3	@0.1612lb/hr
Conc. @ 80 meters	= mg/m3 x 23.7/ MW	
(to fence line)	= [5.45ug/m^3]x[0.001 mg/ug]x[23.7/34]	
	= 0.0038 ppmv	
	= 3.8019 ppbv	

Emissions Calculations: EMWD - Moreno Valley

DATA	Odor Scrubber - Biosolids, Appl.No. 451325 (Existing Equipment)	
Exhaust Flow Rate	22000	CFM
Exhaust Flow Rate	1320000	CuFt/hr
Temperature	60	deg.F
	520	deg.R
Mol.Wt. H2S	34	lb/lbmole
Ideal Gas Const	0.73	atm*ft^3/lbmol*R
Control eff	0.9	lb/lb
H2S Exit Conc.	1	ppmv

By the ideal Gas Law:

Molar Volume = [0.73atm*ft^3/lbmol*R]x[520 deg.R]
= 380 dscf/lbmole
@ 60 F

H2S Emission Rate Calculation

Odor Scrubber - Biosolids, Appl.No. 451325 (Existing Equipment)

Flow Rate = [1320000 CuFt/hr]

H2S Emiss.Rate (Volumetric) = Flow Rate x H2S Exit Conc.
@1ppmv = [1320000 cu.ft./hr]x[1 ppmv]/[1,000,000]
Volumetric Rate = 1.32 cf/hr

Molar Rate = [1.320 cf/hr]/[380 dscf/lbmole]
(@68 deg. F) = 0.00348 lbmole/hr

Mass rate = Molar Rate x Mol.Wt. H2S
(as H2S) = [0.003477 lbmole/hr] x[34.00 lb/lbmole]
= 0.1182 lb/hr
2.8375 lb/day @24 hr/day

H2S (Inlet) = [Mass rate] / (1 - Control eff)]
= [0.1182 lb/hr] / [(1 - 0.90)]
= 1.1823 lb/hr
= 28.3751 lb/day @24 hr/day

Volumetric Rate(Inlet) = [Volumetric Rate] / (1 - Control eff)]
= [1.3200 cf/hr] / [(1 - 0.90)]
= 11.8230 cf/hr

H2S Conc. (Inlet) 8.9568 PPM

Emissions Calculations: EMWD - Moreno Valley

Modeling For Odor Potential

Using SCREEN3 Model

Conc. @ 100 meters	= 34.02 ug/m^3	@ 1 lb/hr Emission Rate
Conc. @ 100 meters	= 4.02 ug/m^3	@0.1182lb/hr
Conc. @ 100 meters	= mg/m3 x 23.7/ MW	
(to fence line)	= [4.02ug/m^3]x[0.001 mg/ug]x[23.7/34]	
	= 0.0028 ppmv	
	= 2.8037 ppbv	

Application 455648 EMWD- Moreno Valley id# 13088

Ammonia Emissions From Waste Water Treatment Plant

Data

Variable		Units	Reference
NH4 E.F.	16.0	lb/Mgal	ARB NH4 Inv.
Capacity	17.1	Mgal/day	Form 400E
Schedule	24.0	hr/day	Form 400E
	7	days/wk	Form 400E
	52	wk/year	Form 400E
	364	days/year	

Calculations:

lbNH4/day = [NH4 E.F.]x[Capacity]
= [16.0 lb/Mgal]x[17.1 Mgal/day]
[273.60 lb/day]

lbNH4/hr = [lbNH4/day]/[hr/day]
= [273.60 lb/day] / [24 hr/day]
= [11.40 lb/hr]

lbNH4/year = [lbNH4/day]x[days/year]
= [273.60 lb/day] x [364 days/year]
= [99590.40 lb/year]

NH4 Avg. Monthly Emiss. = [lbNH4/year]/[Months/Year]
[99590.40 lb/year]/[12 MONTHS/YR]
= [8299.2 lb/month]

NH4 Max. Monthly Emiss. = [NH4 Avg. Monthly Emiss.] (Condition Required)
= [8299.2 lb/month]

NH4 30 DAY AVG. EMISS. = [NH4 Max. Monthly Emiss.]/[30 DAYS/MONTH]
[8299.2 lb/month]/[30 DAYS/MONTH]
= [276.6 LB/DAY]

Application 474814 EMWD- Moreno Valley id# 13088

Ammonia Emissions From Waste Water Treatment Plant

Data

Variable		Units	Reference
NH4 E.F.	16.0	lb/Mgal	ARB NH4 Inv.
Capacity	17.4	Mgal/day	Form 400E
Schedule	24.0	hr/day	Form 400E
	7	days/wk	Form 400E
	52	wk/year	Form 400E
	364	days/year	

Calculations:

lbNH4/day = [NH4 E.F.]x[Capacity]
= [16.0 lb/Mgal]x[17.4 Mgal/day]
[278.40 lb/day]

lbNH4/hr = [lbNH4/day]/[hr/day]
= [278.40 lb/day] / [24 hr/day]
= [11.60 lb/hr]

lbNH4/year = [lbNH4/day]x[days/year]
= [278.40 lb/day] x [364 days/year]
= [101337.60 lb/year]

NH4 Avg. Monthly Emiss. = [lbNH4/year]/[Months/Year]
[101337.60 lb/year]/[12 MONTHS/YR]
= [8444.8 lb/month]

NH4 Max. Monthly Emiss. = [NH4 Avg. Monthly Emiss.] (Condition Required)
= [8444.8 lb/month]

NH4 30 DAY AVG. EMISS. = [NH4 Max. Monthly Emiss.]/[30 DAYS/MONTH]
[8444.8 lb/month]/[30 DAYS/MONTH]
= [281.5 LB/DAY]

Emissions Calculations: EMWD - Moreno Valley

DATA	Odor Scrubber - Headworks, Appl.No. 407839	
Exhaust Flow Rate	30000	CFM
Exhaust Flow Rate	1800000	CuFt/hr
Temperature	60	deg.F
	520	deg.R
Mol.Wt. H2S	34	lb/lbmole
Ideal Gas Const	0.73	atm*ft^3/lbmol*R
Control eff	0.9	lb/lb
H2S Exit Conc.	1	ppmv

By the ideal Gas Law:

Molar Volume = [0.73atm*ft^3/lbmol*R]x[520 deg.R]
= 380 dscf/lbmole
@ 60 F

H2S Emission Rate Calculation Odor Scrubber - Headworks, Appl.No. 407839

Flow Rate = [1800000 CuFt/hr]

H2S Emiss.Rate (Volumetric) = Flow Rate x H2S Exit Conc.
@1ppmv = [1800000 cu.ft./hr]x[1 ppmv]/[1,000,000]
Volumetric Rate = 1.80 cf/hr

Molar Rate = [1.800 cf/hr]/[380 dscf/lbmole]
(@68 deg. F) = 0.00474 lbmole/hr

Mass rate = Molar Rate x Mol.Wt. H2S
(as H2S) = [0.004742 lbmole/hr] x[34.00 lb/lbmole]
= 0.1612 lb/hr
3.8693 lb/day @24 hr/day

H2S (Inlet) = [Mass rate] / (1 - Control eff)]
= [0.1612 lb/hr] / [(1 - 0.90)]
= 1.6122 lb/hr
= 38.6934 lb/day @24 hr/day

Volumetric Rate(Inlet) = [Volumetric Rate] / (1 - Control eff)]
= [1.8000 cf/hr] / [(1 - 0.90)]
= 16.1222 cf/hr

H2S Conc. (Inlet) 8.9568 PPM

Emissions Calculations: EMWD - Moreno Valley

Modeling For Odor Potential

Using SCREEN3 Model

Conc. @ 80 meters	= 33.83 ug/m^3	@ 1 lb/hr Emission Rate
Conc. @ 80 meters	= 5.45 ug/m^3	@0.1612lb/hr
Conc. @ 80 meters	= mg/m3 x 23.7/ MW	
(to fence line)	= [5.45ug/m^3]x[0.001 mg/ug]x[23.7/34]	
	= 0.0038 ppmv	
	= 3.8019 ppbv	

Emissions Calculations: EMWD - Moreno Valley

DATA	Odor Scrubber - Biosolids, Appl.No. 451325 (Existing Equipment)	
Exhaust Flow Rate	22000	CFM
Exhaust Flow Rate	1320000	CuFt/hr
Temperature	60	deg.F
	520	deg.R
Mol.Wt. H2S	34	lb/lbmole
Ideal Gas Const	0.73	atm*ft^3/lbmol*R
Control eff	0.9	lb/lb
H2S Exit Conc.	1	ppmv

By the ideal Gas Law:

Molar Volume = [0.73atm*ft^3/lbmol*R]x[520 deg.R]
= 380 dscf/lbmole
@ 60 F

H2S Emission Rate Calculation

Odor Scrubber - Biosolids, Appl.No. 451325 (Existing Equipment)

Flow Rate = [1320000 CuFt/hr]

H2S Emiss.Rate (Volumetric) = Flow Rate x H2S Exit Conc.
@1ppmv = [1320000 cu.ft./hr]x[1 ppmv]/[1,000,000]
Volumetric Rate = 1.32 cf/hr

Molar Rate = [1.320 cf/hr]/[380 dscf/lbmole]
(@68 deg. F) = 0.00348 lbmole/hr

Mass rate = Molar Rate x Mol.Wt. H2S
(as H2S) = [0.003477 lbmole/hr] x[34.00 lb/lbmole]
= 0.1182 lb/hr
2.8375 lb/day @24 hr/day

H2S (Inlet) = [Mass rate] / (1 - Control eff)]
= [0.1182 lb/hr] / [(1 - 0.90)]
= 1.1823 lb/hr
= 28.3751 lb/day @24 hr/day

Volumetric Rate(Inlet) = [Volumetric Rate] / (1 - Control eff)]
= [1.3200 cf/hr] / [(1 - 0.90)]
= 11.8230 cf/hr

H2S Conc. (Inlet) 8.9568 PPM

Emissions Calculations: EMWD - Moreno Valley

Modeling For Odor Potential

Using SCREEN3 Model

Conc. @ 100 meters	= 34.02 ug/m^3	@ 1 lb/hr Emission Rate
Conc. @ 100 meters	= 4.02 ug/m^3	@0.1182lb/hr
Conc. @ 100 meters	= mg/m3 x 23.7/ MW	
(to fence line)	= [4.02ug/m^3]x[0.001 mg/ug]x[23.7/34]	
	= 0.0028 ppmv	
	= 2.8037 ppbv	

VOC Emissions - Eastern Municipal Water District- Moreno Valley, ID No. 13088, Appl.No. 479451

Existing Controlled Emissions

BASIN WIDE EMISSIONS BY JEIP UNIT PROCESS									Application No.			
Control Factor				=	0.00				5E+05			
Unit Operation	Flow-Related VOC Emissions (lb/yr/MGD)			Plant Number				Controlled ??	Modified Emission Factor (lb/yr/MGD)			
	Avg	Min	Max	I					I	II	III	IV
Preliminary /Primary Treatment												
Headworks - Ducted	86.37	1.08	357.14	1					86.37	0	0	0
Headworks - Non-ducted	0.1	0.03	0.24						0	0	0	0
Inlet Open Channel Flow Meter	0.07	0.02	0.12						0	0	0	0
Septage Dumping Facility	0.29	0.09	0.5						0	0	0	0
Grit Removal - Aerated	7.54	0.27	37.82	1					37.82	0	0	0
Grit Removal - Non-aerated	0.6	0.6	0.6						0	0	0	0
Primary Sedimentation	36.69	6.06	139.35	1					36.69	0	0	0
Flow Equalization - Primary	106.96	61.56	152.35	1					106.96	0	0	0
Biological Treatment												
Activated Sludge Diffused Air	185.75	124.38	1342.3	1					185.75	0	0	0
Activated Sludge Mechanical	27.27	17.81	32.98						0	0	0	0
Activated Sludge HPO	5.55	0.26	10.64						0	0	0	0
Trickling Filters	111.7	46.82	188.2						0	0	0	0
Post - Biological Treatment												
Flow Equalization - Secondary Effluent	29.98	27.36	33.5	1					33.5	0	0	0
Secondary Clarifiers	12.29	3.17	36.64	1					3.17	0	0	0
Gravity Filtration	0.58	0.13	2.72						0	0	0	0
Chlorination	0.94	0.18	2.67	1					2.67	0	0	0
Final Effluent Discharge Weir	0.14	0.01	1.51	1					1.51	0	0	0
Final Effuent Evaporation Ponds	523.56	234.31	1091.1						0	0	0	0

BASIN WIDE EMISSIONS BY JEIP UNIT PROCESS									Application No.			
Control Factor				=	0.00				5E+05			
Unit Operation	Flow-Related VOC Emissions (lb/yr/MGD)			Plant Number				Controlled ??	Modified Emission Factor (lb/yr/MGD)			
Solids Handling												
Dissolved Air Floatation	12.28	0.21	35.32	1					35.32	0	0	0
Primary Sludge Thickening -	0.14	0.14	0.14	1					0.14	0	0	0
Sludge Digestion Aerobic	10.25	10.25	10.25	1					10.25	0	0	0
Sludge Digestion Anaerobic - Fixed	0.04	0.01	0.38	1					0.38	0	0	0
Sludge Dewatering - Centrifuges	6.65	0.93	11.54	1					11.54	0	0	0
Sludge Dewatering - Belt Presses	58.81	3.38	252.56	1					58.81	0	0	0
Sludge Cake Handling-Conv. Belts	0.03	0	0.1	1					0.1	0	0	0
Sludge Cake Storage	6.1	0.05	19.74	1					6.1	0	0	0
Digested Sludge Storage	14.77	14.14	15.02	1					15.02	0	0	0
Sludge Cake Truck Loading	1.73	0	13.17	1					13.17	0	0	0
Sludge Dehydration -	8.14	8.14	8.14						0	0	0	0
Sludge Drying Bed - Static	13.01	1301	13.01						0	0	0	0
Sludge Drying Bed - Mechanically	32.69	32.69	32.69						0	0	0	0
Primary Skimmings Concentration Box	0.07	0	0.07						0	0	0	0
Secondary Sludge Thickening-Mech.	0.02	0.02	0.02						0	0	0	0
Digester Cleaning Storage	0.18	0.18	0.18						0	0	0	0
Sludge Screening	8.53	2.5	6.03						0	0	0	0
Sludge Blending	1.96	1.96	1.96						0	0	0	0
Primary Effluent Screen/ Dewater Station	0.56	0.56	0.56	1					0.56	0	0	0
Digester Clean/ Screen Bldg.	0.45	0.45	0.45	1					0.45	0	0	0

BASIN WIDE EMISSIONS BY JEIP UNIT PROCESS									Application No.			
Control Factor							=	0.00	5E+05			
Unit Operation	Flow-Related VOC Emissions (lb/yr/MGD)			Plant Number				Controlled ??	Modified Emission Factor (lb/yr/MGD)			
Combustion Process												
Combustion - Boilers	1.16	0.1	2.96						0	0	0	0
Combustion - I.C.Engines	277.39	0.31	1571						0	0	0	0
Combustion - Flare	4.01	1	7.12						0	0	0	0
Combustion - Turbine	10.58	1.07	18.45						0	0	0	0
Total Emission Factor (per Plant)									646	0	0	0
Rate Capacity (per Plant) MGD									17.4			

Controlled VOC Emissions (lb/year)

= [Total Emission Factor (per Plant)] x [Rate Capacity (per Plant)]

[646.00] x [17.4]	=	11240	lb/year	(Plant I)
[0.00] x [0.0]	=	0	lb/year	(Plant II)
[0.00] x [0.0]	=	0	lb/year	(Plant III)
[0.00] x [0.0]	=	0	lb/year	(Plant IV)
Total Facility Wide		11240	lb/year	

Controlled Emissions Estimate

VOC Emissions (lb/day)

= [Controlled VOC Emissions (lb/year)] / [365 days/year]

[11240.0 lb/year] / [365 day/yr]

30.79 lb/day

VOC Emissions (lb/hr)

= [VOC Emissions (lb/day)] / [hr/day]

[30.8 lb/day] / [24 hr/day]

1.28 lb/hr

Net Emissions Increase

= Proposed Emissions - Previous Emissions

[30.79 lb/day] - [30.30 lb/day]

0.49 lb/day

VOC Emissions - Eastern Municipal Water District- Moreno Valley, ID No. 13088, Appl.No. 455648

Existing Controlled Emissions

BASIN WIDE EMISSIONS BY JEIP UNIT PROCESS										Application No.			
Control Factor = 0.00										5E+05			
Unit Operation	Flow-Related VOC Emissions (lb/yr/MGD)			Plant Number				Controlled ??	Modified Emission Factor (lb/yr/MGD)			
	Avg	Min	Max	I					I	II	III	IV
Preliminary /Primary Treatment												
Headworks - Ducted	86.37	1.08	357.14	1					86.37	0	0	0
Headworks - Non-ducted	0.1	0.03	0.24						0	0	0	0
Inlet Open Channel Flow Meter	0.07	0.02	0.12						0	0	0	0
Septage Dumping Facility	0.29	0.09	0.5						0	0	0	0
Grit Removal - Aerated	7.54	0.27	37.82	1					37.82	0	0	0
Grit Removal - Non-aerated	0.6	0.6	0.6						0	0	0	0
Primary Sedimentation	36.69	6.06	139.35	1					36.69	0	0	0
Flow Equalization - Primary	106.96	61.56	152.35	1					106.96	0	0	0
Biological Treatment												
Activated Sludge Diffused Air	185.75	124.38	1342.3	1					185.75	0	0	0
Activated Sludge Mechanical	27.27	17.81	32.98						0	0	0	0
Activated Sludge HPO	5.55	0.26	10.64						0	0	0	0
Trickling Filters	111.7	46.82	188.2						0	0	0	0
Post - Biological Treatment												
Flow Equalization - Secondary Effluent	29.98	27.36	33.5	1					33.5	0	0	0
Secondary Clarifiers	12.29	3.17	36.64	1					3.17	0	0	0
Gravity Filtration	0.58	0.13	2.72						0	0	0	0
Chlorination	0.94	0.18	2.67	1					2.67	0	0	0
Final Effluent Discharge Weir	0.14	0.01	1.51	1					1.51	0	0	0
Final Effuent Evaporation Ponds	523.56	234.31	1091.1						0	0	0	0

BASIN WIDE EMISSIONS BY JEIP UNIT PROCESS									Application No.			
Control Factor							=	0.00	5E+05			
Unit Operation	Flow-Related VOC Emissions (lb/yr/MGD)			Plant Number				Controlled ??	Modified Emission Factor (lb/yr/MGD)			
Solids Handling												
Dissolved Air Floatation	12.28	0.21	35.32	1					35.32	0	0	0
Primary Sludge Thickening -	0.14	0.14	0.14	1					0.14	0	0	0
Sludge Digestion Aerobic	10.25	10.25	10.25	1					10.25	0	0	0
Sludge Digestion Anaerobic - Fixed	0.04	0.01	0.38	1					0.38	0	0	0
Sludge Dewatering - Centrifuges	6.65	0.93	11.54	1					11.54	0	0	0
Sludge Dewatering - Belt Presses	58.81	3.38	252.56	1					58.81	0	0	0
Sludge Cake Handling-Conv. Belts	0.03	0	0.1	1					0.1	0	0	0
Sludge Cake Storage	6.1	0.05	19.74	1					6.1	0	0	0
Digested Sludge Storage	14.77	14.14	15.02	1					15.02	0	0	0
Sludge Cake Truck Loading	1.73	0	13.17	1					13.17	0	0	0
Sludge Dehydration -	8.14	8.14	8.14						0	0	0	0
Sludge Drying Bed - Static	13.01	1301	13.01						0	0	0	0
Sludge Drying Bed - Mechanically	32.69	32.69	32.69						0	0	0	0
Primary Skimmings Concentration Box	0.07	0	0.07						0	0	0	0
Secondary Sludge Thickening-Mech.	0.02	0.02	0.02						0	0	0	0
Digester Cleaning Storage	0.18	0.18	0.18						0	0	0	0
Sludge Screening	8.53	2.5	6.03						0	0	0	0
Sludge Blending	1.96	1.96	1.96						0	0	0	0
Primary Effluent Screen/ Dewater Station	0.56	0.56	0.56	1					0.56	0	0	0
Digester Clean/ Screen Bldg.	0.45	0.45	0.45	1					0.45	0	0	0

APPENDIX D
RISK ASSESSMENT

EMISSIONS ARE ENTERED ON THE EMISSIONS SHEET OR ON ONE OF THE THREE COMBUSTION SOURCE SHEETS
INPUT PARAMETERS ENTERED ON THE TIER2 SHEET ARE ALSO USED FOR TIER 1 ANALYSIS

TIER 2 SCREENING RISK ASSESSMENT

Application deemed complete date:	09/12/07

A/N: 474814
Fac: Eastern Muncipal Water District

1. Stack Data

		Units
Hour/Day	24	hr/day
Day/Week	7	day/wk
Week/Year	52	wk/yr
Emission Units	lb/hr	
Control Efficiency		fraction range 0-1
Does source have TBACT?	YES	
Point or Volume Source ?	V	p or v
Stack Height or Building Height		feet
(For Volume Source Only)		ft'
Distance-Residential	275	meters
Distance-Commercial	275	meters
Meteorological Station	Riverside	

Source Type:	O - Other
Screening Mode	NO

Emission Units	lb/hr	
Source output capacity	n/a	n/a

FOR USER-DEFINED CHEMICALS AND
EMISSIONS, FILL IN THE TABLE BELOW

USER DEFINED CHEMICALS AND EMISSIONS				R1 - uncont	Efficiency Factor	R2 - controlled
Code	Compound	lb/hr	Molecular Weight	lbs/hr	fraction range 0-1	lbs/hr
a9	Ammonia	0.017298246	17.03	0.0172982		0.01730
c14	Chloroform(trichlorometh	0.013126316	119.38	0.0131263		0.01313
m13	Methylene chloride(Dichl	0.005596491	84.94	0.0055965		0.00560
p2	Perchloroethylene (or tetr	0.019638596	165.83	0.0196386		0.01964
t8	Trichloroethylene	0.001831579	130.4	0.0018316		0.00183

TIER 2 SCREENING RISK ASSESSMENT

A/N:	474814	Application deemed complete date	09/12/07
Fac:	Eastern Muncipal Water District		

2. Tier 2 Data

MET Factor	0.78
4 hr	0.89
6 or 7 hrs	0.88

Dispersion Factors

5	3A & 3B For Chronic X/Q
7	For Acute X/Q

Dilution Factors (ug/m3)/(tons/yr)

Receptor	X/Q	X/Qmax
Residential	1.295	67.975
Commercial	1.295	67.975

Adjustment and Intake Factors

	Afann	DBR	EVF
Residential	1	302	0.96
Worker	1	149	0.38

3. Rule 1401 Compound Data

Code	Compound	R1 - uncontrolled (lbs/hr)	R2 - controlled (lbs/hr)	CP	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic	REL Acute
a9	Ammonia	1.73E-02	1.73E-02		1	1	1	1	200	3200
c14	Chloroform(trichloromethane)	1.31E-02	1.31E-02	1.90E-02	1	1	1	1	300	150
m13	Methylene chloride(Dichloromethane)	5.60E-03	5.60E-03	3.50E-03	1	1	1	1	400	14000
p2	Perchloroethylene (or tetrachloroethylene)	1.96E-02	1.96E-02	2.10E-02	1	1	1	1	35	20000
t8	Trichloroethylene	1.83E-03	1.83E-03	7.00E-03	1	1	1	1	600	
					1	1	1	1		
					1	1	1	1		
					1	1	1	1		
					1	1	1	1		
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					1	1	1	1		
					1	1	1	1		
					1	1	1	1		

4. Emission Calculations

Compound	uncontrolled R1-lb/hr	controlled R2-lb/hr	R2-lb/yr	R2-ton/yr
Ammonia	1.73E-02	1.73E-02	151.117474	0.07555874
Chloroform(trichloromethane)	1.31E-02	1.31E-02	114.671495	0.05733575
Methylene chloride(Dichloromethane)	5.60E-03	5.60E-03	48.8909474	0.02444547
Perchloroethylene (or tetrachloroethylene)	1.96E-02	1.96E-02	171.562779	0.08578139
Trichloroethylene	1.83E-03	1.83E-03	16.0006737	0.00800034

Total	5.75E-02	5.75E-02	5.02E+02	2.51E-01

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TIER 2 RESULTS

5. MICR

MICR = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) * Afann * Met * DBR * EVF * 1.E-6 * MP

Compound	Residential	Commercial
Ammonia		
Chloroform(trichloromethane)	3.19E-07	6.23E-08
Methylene chloride(Dichloromethane)	2.51E-08	4.89E-09
Perchloroethylene (or tetrachloroethylene)	5.28E-07	1.03E-07
Trichloroethylene	1.64E-08	3.20E-09
Total	**8.88E-07**	**1.73E-07**
	Pass	**Pass**

No Cancer Burden, MICR<1.E-6

5a. Cancer Burden		no
X/Q for one-in-a-million:		
Distance (meter		no data
Area (km2):		
Population:		
Cancer Burden:		

6. Hazard Index

HIA = [Q(lb/hr) * (X/Q)max] * AF / Acute REL

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

Target Organs	Acute	Chronic
Alimentary system (liver) - AL		2.67E-03
Bones and teeth - BN		
Cardiovascular system - CV		6.17E-05
Developmental - DEV	5.23E-03	1.93E-04
Endocrine system - END		
Eye	4.34E-04	1.35E-05
Hematopoietic system - HEM		
Immune system - IMM		1.35E-05
Kidney - KID		2.67E-03
Nervous system - NS	5.33E-03	6.17E-05
Reproductive system - REP	5.23E-03	
Respiratory system - RES	4.34E-04	3.95E-04
Skin		

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6a. Hazard Index Acute HIA = [Q(lb/hr) * (X/Q)max] *AF/ Acute REL

HIA - Residential

Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia				3.67E-04					3.67E-04	
Chloroform(trichloromethan			5.23E-03				5.23E-03	5.23E-03		
Methylene chloride(Dichlorc							2.72E-05			
Perchloroethylene (or tetrach				6.67E-05			6.67E-05		6.67E-05	
Trichloroethylene										
Total			5.23E-03	4.34E-04			5.33E-03	5.23E-03	4.34E-04	

HIA - Commercial

Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Ammonia				3.67E-04					3.67E-04	
Chloroform(trichloromethan			5.23E-03				5.23E-03	5.23E-03		
Methylene chloride(Dichlorc							2.72E-05			
Perchloroethylene (or tetrach				6.67E-05			6.67E-05		6.67E-05	
Trichloroethylene										
Total			5.23E-03	4.34E-04			5.33E-03	5.23E-03	4.34E-04	

6b. Hazard Index Chronic HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

HIC - Residential

Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Ammonia												3.82E-04	

Chloroform(trichloromethan	1.93E-04			1.93E-04				1.93E-04					
Methylene chloride(Dichlorc			6.17E-05						6.17E-05				
Perchloroethylene (or tetrach	2.48E-03							2.48E-03					
Trichloroethylene						1.35E-05		1.35E-05				1.35E-05	
Total	2.67E-03		6.17E-05	1.93E-04		1.35E-05		1.35E-05	2.67E-03	6.17E-05		3.95E-04	

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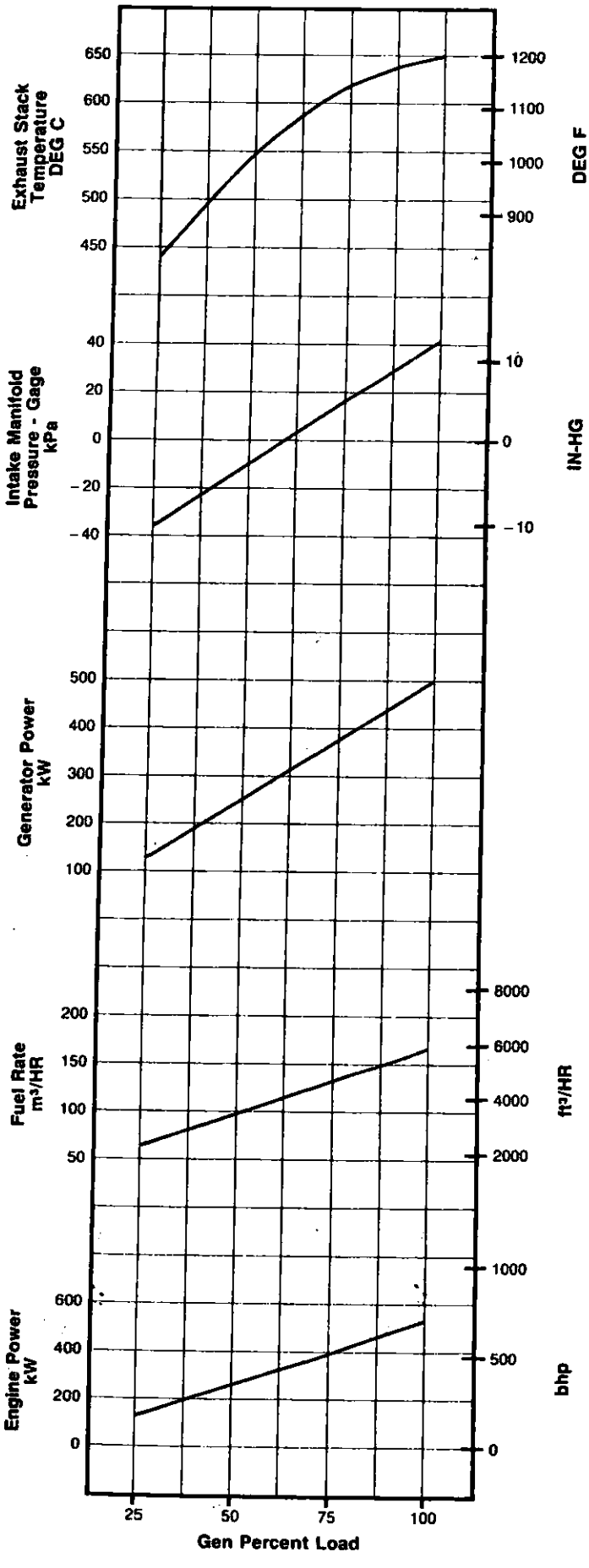
	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Ammonia												3.82E-04	
Chloroform(trichloromethan	1.93E-04			1.93E-04					1.93E-04				
Methylene chloride(Dichlorc			6.17E-05							6.17E-05			
Perchloroethylene (or tetrach	2.48E-03								2.48E-03				
Trichloroethylene						1.35E-05		1.35E-05				1.35E-05	
Total	2.67E-03		6.17E-05	1.93E-04		1.35E-05		1.35E-05	2.67E-03	6.17E-05		3.95E-04	

SI ENGINE PERFORMANCE DATA	SI-TA-SC 32°C (90°F) HCR SI-TAA HCR	G398



ENGINE DATA

	Engineering Model	E162
	Aspiration	TA
	Aftercooler	SCAC-32 (90)
	Exhaust Manifold	WET
	Combustion System	SI
	Turbo Model	4M0455-2.6
	Compression Ratio	10.0 TO 1
	Type of Duty	CONTINUOUS
IND	Rated Engine kW (SI Metric)	522
	Rated Engine Horsepower	700
	Rated rpm	1200
	Effective Serial Num	73B1056
GEN	Rated Gen kW	500
	Rated Hz	60
	Rated rpm	1200
	Effective Serial Num	73B1056

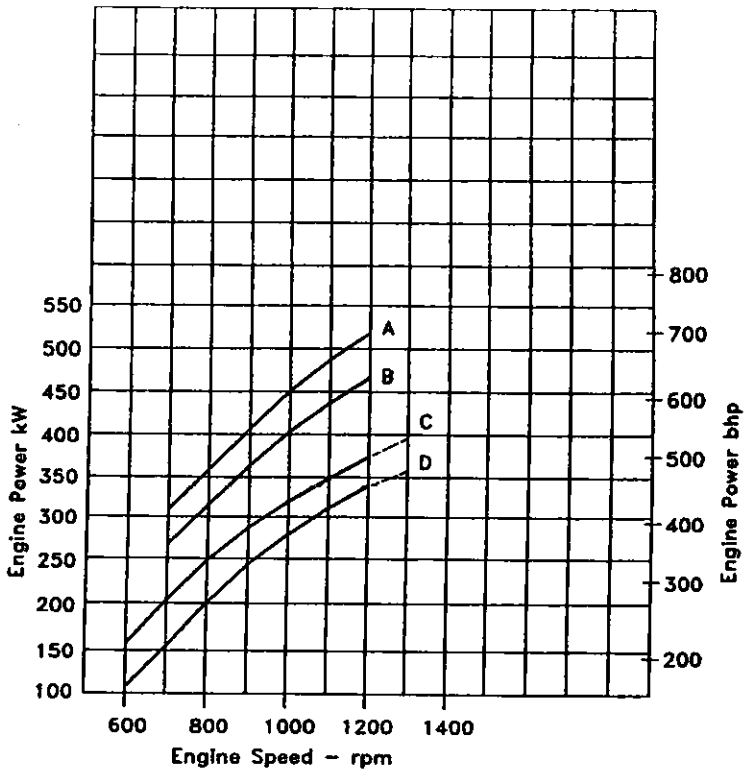
PERFORMANCE DATA

	Engine Speed rpm	Gen Percent Load	Engine Power kW	Engine Power bhp	Torque N.m	Torque LB FT	Gen Power @ 0.8 PF kW
GEN	1200	100	532	713	4231	3121	500
IND	1200		522	700	4154	3064	
		75	398	534	3169	2337	375
		50	266	357	2118	1562	250
		25	136	182	1080	797	125

	Engine Speed rpm	Gen Percent Load	BSFC MJ/ kW-hr	BSFC Btu/ bhp-hr	Fuel Rate m³/HR	Fuel Rate ft³/HR
GEN	1200	100	10.75	7597	169.48	5985
IND	1200		10.75	7597	166.30	5877
		75	11.32	8000	133.54	4719
		50	12.52	8848	98.71	3488
		25	15.78	11152	63.61	2248

	Engine Speed rpm	BMEP kPa	BMEP psi	Air Flow m³/min	Air Flow cfm	Exhaust Flow m³/min	Exhaust Flow cfm
GEN	1200	1101	160	32.8	1160	97.5	3443
IND	1200	1081	157	32.4	1145	96.0	3390

	Reference
GEN	TD0469-05R
IND	TD0515-04R



ENGINE DATA:

Engineering Model	E162
Exhaust Manifold	WET
Combustion system	SI
Compression Ratio	10.0 and 7.0 to 1
Effective Serial Num	73B0987

RATING DEFINITIONS:

Continuous is the power and speed capability of the engine which can be used without interruption or load cycling.

Intermittent is the power and speed capability of the engine which can be utilized for about one hour followed by an hour of operation at or below the continuous rating.

———— Continuous
- - - - - - - Intermittent

CONDITIONS:

Ratings are based on SAE J1349 standard conditions of 100 kPa (29.61 IN.Hg) and 25 DEG C (77 DEG F). These ratings apply at DIN 6270 standard conditions of 97.8 kPa (28.97 IN.Hg) and 20 DEG C (68 DEG F).

Engine equipped with lube oil and jacket water pumps but without fan.

No engine deration is required for ambient temperatures up to 52 DEG C (125 DEG F) except as shown on altitude derating curve TD2005.

Ratings based on gas having a LHV OF 33.74 kJ/Ltr (905 Btu/CU FT).

	Engine Speed rpm	Engine Power kW	Engine Power bhp	BSFC MJ/ kW–hr	BSFC Btu/ bhp–hr	Fuel Rate m^3/HR	Fuel Rate ft^3/HR	Engine Torque N.m	Engine Torque LB FT
A TA–HCR	1300	0	0	0.00	0	0.0	0.0	0	0
	1200	522	700	10.74	7597	166.4	5877.4	4154	3064
	1100	485	650	10.57	7473	152.0	5368.5	4208	3104
	1000	447	600	10.39	7350	138.0	4874.0	4273	3151
	900	406	545	10.22	7227	123.3	4353.1	4312	3180
	800	358	480	10.05	7103	106.7	3768.2	4273	3151
	700	306	410	9.87	6980	89.6	3162.9	4171	3076
B TA–LCR	1300	0	0	0.00	0	0.0	0.0	0	0
	1200	466	625	11.27	7972	155.9	5506.7	3709	2735
	1100	441	592	11.22	7937	147.1	5193.1	3832	2827
	1000	410	550	11.17	7901	136.0	4802.8	3916	2889
	900	365	490	11.12	7866	120.6	4259.9	3877	2859
	800	317	425	11.07	7830	104.1	3677.9	3783	2790
	700	268	360	11.02	7795	87.8	3101.5	3662	2701
C NA–HCR	1300	395	530	10.96	7753	128.6	4541.4	2903	2141
	1200	373	500	10.74	7597	118.9	4198.2	2967	2188
	1100	343	460	10.71	7574	109.0	3850.6	2978	2196
	1000	307	412	10.68	7550	97.4	3437.9	2934	2164
	900	276	370	10.61	7500	86.8	3067.0	2927	2159
	800	239	320	10.64	7525	75.4	2661.4	2848	2101
	700	201	270	10.66	7535	63.7	2248.5	2747	2026
	600	160	215	10.68	7550	50.8	1794.0	2552	1882
D NA–LCR	1300	354	475	12.20	8629	128.3	4530.0	2602	1919
	1200	336	450	12.09	8551	120.4	4252.8	2670	1970
	1100	309	415	12.02	8500	110.4	3898.7	2687	1981
	1000	276	370	11.95	8452	97.9	3456.3	2635	1943
	900	239	320	11.88	8400	84.1	2970.8	2532	1867
	800	198	265	11.91	8425	69.9	2467.5	2359	1740
	700	153	205	11.93	8435	54.1	1911.1	2085	1538
	600	108	145	11.95	8450	38.3	1354.2	1721	1269

INDUSTRIAL GAS ENGINE RATING CURVE | MODEL G398 | TD0105–05R