



# South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178  
(909) 396-2000 • www.aqmd.gov

June 27, 2013

Mr. Carl Von Saltza  
Director of Engineering  
Ameresco Chiquita Energy, LLC  
111 Speen Street, Suite 410  
Framingham, MA 01701

RE: Administrative Revision for the Title V Facility Permit  
Ameresco Chiquita Energy, LLC, Facility ID 140373

Dear Mr. Saltza,

Enclosed please find an administrative revision to the Title V facility permit, for the Ameresco Chiquita Energy, LLC (Landfill Gas to Energy Project), located at 29201 Henry Mayo Drive, Valencia, CA, in northern Los Angeles County, CA. This revision does not require public notice or EPA review.

As indicated below, Section D includes the final permits to operate for the landfill gas combustion turbines and landfill gas treatment and siloxanes removal system, a landfill gas to energy (LFGTE) project. As a result, the corresponding permits to construct issued for these equipment were removed from Section H.

## SECTION D: FACILITY EQUIPMENT AND REQUIREMENTS

<b>Appl. No. /Permit No.</b>	<b>Description</b>
458539/G25211	Turbine Engine ( $\leq 50$ MW) Landfill Gas
458540/G25212	Turbine Engine ( $\leq 50$ MW) Landfill Gas
461086/G25213	Landfill Gas Treatment System

Enclosed are the revised Title Page, Table of Contents, and Section D and H of your Title V Facility Permit. Please review the attached pages and Sections D and H carefully. Insert the enclosed pages and sections in your Title V Facility Permit and discard the earlier versions.

Mr. Carl Von Saltza  
Ameresco Chiquita Energy. LLC  
Title V Permit Administrative Revision

-2-

June 27, 2013

The operation of your facility is bound by the conditions and/or requirements stated in the facility Permit to Operate. If you determine that there are administrative errors, or if you have any questions concerning changes to your permit, please contact Mr. Gaurang Rawal, Air Quality Engineer, at (909) 396-2543 or e-mail [grawal@aqmd.gov](mailto:grawal@aqmd.gov), within 30 days of the receipt of your permit.

Sincerely,



Andrew Y. Lee, P.E.  
Senior AQ Engineering Manager  
Energy/Public Services/Waste Mgmt/Terminals-  
Permitting

AYL: CDT: GCR  
cc: w/ enclosures  
Gerardo Rios, EPA Region IX  
Compliance-SCAQMD  
Title V Central File



## FACILITY PERMIT TO OPERATE

**AMERESCO CHIQUITA ENERGY LLC  
29201 HENRY MAYO DR  
VALENCIA, CA 91355**

### NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.  
EXECUTIVE OFFICER

By Charles Tugue, for  
Mohsen Nazemi, P.E.  
Deputy Executive Officer  
Engineering & Compliance



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY LLC

### TABLE OF CONTENTS

Section	Description	Revision #	Date Issued
A	Facility Information	1	03/06/2013
B	RECLAIM Annual Emission Allocation	1	03/06/2013
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	2	06/27/2013
E	Administrative Conditions	1	03/06/2013
F	RECLAIM Monitoring and Source Testing Requirements	1	03/06/2013
G	Recordkeeping and Reporting Requirements for RECLAIM Sources	1	03/06/2013
H	Permit To Construct and Temporary Permit to Operate	2	06/27/2013
I	Compliance Plans & Schedules	1	03/06/2013
J	Air Toxics	1	03/06/2013
K	Title V Administration	1	03/06/2013
Appendix			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	1	03/06/2013
B	Rule Emission Limits	1	03/06/2013



## **FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC**

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

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

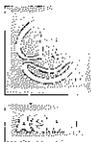


**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

**PERMITTED EQUIPMENT LIST**

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

<b>Application No.</b>	<b>Permit to Operate No.</b>	<b>Equipment description</b>	<b>Page No.</b>
458539	G25211	TURBINE ENGINE ( $\leq$ 50 MW) LANDFILL GAS	4
458539	G25212	TURBINE ENGINE ( $\leq$ 50 MW) LANDFILL GAS	9
458542	G23448	LANDFILL GAS ENCLOSED FLARE	14
461086	G25213	LANDFILL GAS TREATMENT SYSTEM	19



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

### FACILITY WIDE CONDITION(S)

**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 RINGLEMANN 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. ON OR AFTER JUNE 1, 2004, THE OPERATOR SHALL NOT PURCHASE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 15 PPM BY WEIGHT. [RULE 431.2]
3. THE OPERATOR SHALL NOT USE LANDFILL GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 150 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY. [RULE 431.1]
4. 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]
5. THIS FACILITY IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

GASEOUS EMISSIONS 40 CFR 60 SUBPART WWW  
GASEOUS EMISSIONS 40 CFR 63 SUBPART AAAA  
GASEOUS EMISSIONS: RULE 1150.1



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

**PERMIT TO OPERATE**

**Permit No. G25211  
A/N 458539**

**Equipment Description:**

RESOURCE RECOVERY LANDFILL GAS (LFG) TO ENERGY SYSTEM CONSISTING OF:

1. PRETREATED LANDFILL GAS (LFG) SUPPLY.
2. GAS TURBINE, NO. 1, SOLAR, MERCURY 50, LANDFILL GAS (LFG) FIRED, MAXIMUM 53.13 MILLION BTU PER HOUR INPUT RATING (500 BTU/SCF, HHV), SIMPLE CYCLE, WITH ELECTRIC START MOTOR, TEN-STAGE AXIAL FLOW COMPRESSOR, ULTRA LEAN PREMIX (ULP) ANNULAR COMBUSTOR, A RECUPERATOR, AUTOMATIC FUEL CONTROL SYSTEM, START UP PROPANE AUGMENTATION, PROGRAMMABLE CONTROLLER, AND DRIVING A 4.6 MEGAWATT (MW) ELECTRIC GENERATOR..
3. EXHAUST STACK, 3'-3" DIA. X 25' HIGH.

**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 OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE FIRED ONLY WITH LANDFILL GAS DURING NORMAL OPERATION. LANDFILL GAS/PROPANE GAS BLEND MAY BE USED DURING EQUIPMENT START UP NOT TO EXCEED 30 MINUTES, WHEN THE LFG QUALITY IS LOWER THAN 400 (WOBBE INDEX).  
[RULE 204]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO THE GAS TURBINE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

6. WEEKLY READINGS OF THE BTU CONTENT OF LANDFILL GAS AT THE INLET TO THE GAS TURBINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 3004 (a) (4)]
7. THE TOTAL HEAT INPUT OF LANDFILL GAS BURNED IN THE GAS TURBINE SHALL NOT EXCEED 53.13 MM BTU PER HOUR (HHV @500 BTU/SCF). A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THE GAS TURBINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT READING.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]
9. THE OWNER OR OPERATOR SHALL PROVIDE 100% BACKUP CONTROL. THE LANDFILL GAS NOT UTILIZED BY THIS EQUIPMENT SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION OR ANY OTHER COMBUSTION OR PROCESSING FACILITY WHICH IS IN FULL USE, CAN ADEQUATELY PROCESS THE VOLUME OF GAS COLLECTED AND HAS BEEN ISSUED A VALID PERMIT BY THE SCAQMD.  
[RULE 1303 (a) (1)-BACT]
10. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF FUEL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF REFINERY AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE, OR WITHIN ONE HOUR OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLY SHOULD HAVE KNOWN OF THE OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.  
[RULE 402, 430]
11. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH THE SCAQMD RULE 431.1.  
[RULE 431.1]
12. ADEQUATE NUMBER OF SAMPLING PORTS AND WELDED NIPPLES WITH CAPS, WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED IN THE EXHAUST STACK IN ACCORDANCE WITH RULE 217 AND SCAQMD'S APPROVAL.  
[RULE 217]
13. A CONTINUOUS COMBUSTION TEMPERATURE MONITORING AND RECORDING SYSTEM SHALL BE MAINTAINED, TO DETERMINE EXHAUST TEMPERATURE OF LAST POWER TURBINE (T7) AND CALCULATE THE COMBUSTION CHAMBER TEMPERATURE (TPZ) PER MANUFACTURER'S RECOMMENDATIONS, PURSUANT TO THE OPERATION AND MAINTENANCE REQUIREMENTS SPECIFIED IN 40 CFR PART 64.7. SUCH A SYSTEM SHALL HAVE AN ACCURACY OF WITHIN  $\pm 1\%$  OF THE TEMPERATURE BEING MONITORED AND SHALL BE INSPECTED, MAINTAINED, AND CALIBRATED ON AN ANNUAL BASIS IN



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS USING AN APPLICABLE SCAQMD OR EPA APPROVED METHOD.

[40 CFR 64]

14. THE COMBUSTION CHAMBER TEMPERATURE OF LAST POWER TURBINE (T7) SHALL BE RECORDED AT LEAST EVERY 15 MINUTES, AND THE HOURLY AVERAGE SHALL BE COMPUTED FROM SUCH DATA POINTS. THE OPERATOR SHALL REVIEW THE RECORDS OF TEMPERATURE ON A DAILY BASIS TO DETERMINE IF A DEVIATION OCCURRED OR SHALL INSTALL AN ALARM SYSTEM TO ALERT THE OPERATOR WHEN A DEVIATION OCCURS.  
[40 CFR 64]
15. ALL DEVIATIONS SHALL BE REPORTED TO THE SCAQMD ON A SEMI-ANNUAL BASIS PURSUANT TO THE REQUIREMENTS SPECIFIED IN 40 CFR PART 64.9 AND CONDITION NOS. 22 AND 23 IN SECTION K OF THIS PERMIT. FOR THE PURPOSE OF THIS CONDITION, A DEVIATION SHALL BE DEFINED AS WHEN THE LAST POWER TURBINE (T7) TEMPERATURE IS LESS THAN 1100 DEGREES FAHRENHEIT OR GREATER THAN 1300 DEGREES FAHRENHEIT, OR AS OTHERWISE APPROVED BY SCAQMD, OCCURS AVERAGED OVER ONE HOUR DURING OPERATION EXCEPT DURING START UP AND SHUTDOWN EVENTS LASTING FOR A MAXIMUM OF ONE HOUR. MULTIPLE START UP AND SHUTDOWN EVENTS CAN OCCUR CONSECUTIVELY.  
[40 CFR 64]
16. FOR EACH SEMI-ANNUAL REPORTING PERIOD SPECIFIED IN CONDITION NO. 23 IN SECTION K, WHENEVER A DEVIATION OCCURS FROM THE TEMPERATURE, THE OPERATOR SHALL TAKE IMMEDIATE CORRECTIVE ACTION, AND KEEP RECORDS OF THE DURATION AND CAUSE (INCLUDING UNKNOWN CAUSE, IF APPLICABLE) OF THE DEVIATION AND THE CORRECTIVE ACTION TAKEN.  
[40 CFR 64]
17. A SEMI-ANNUAL MONITORING REPORT SHALL BE SUBMITTED TO SCAQMD, WHICH SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE TOTAL OPERATING TIME OF THIS EQUIPMENT AND THE TOTAL ACCUMULATED DURATION OF ALL DEVIATIONS FOR EACH SEMI-ANNUAL REPORTING PERIOD.  
[40 CFR 64]
18. THE OWNER OR OPERATOR SHALL SUBMIT AN APPLICATION WITH A QUALITY IMPROVEMENT PLAN (QIP) IN ACCORDANCE WITH 40 CFR PART 64.8 TO THE SCAQMD IF AN ACCUMULATION OF DEVIATIONS EXCEEDS 5% DURATION OF THIS EQUIPMENT'S TOTAL OPERATING TIME FOR ANY SEMI-ANNUAL REPORTING PERIOD SPECIFIED IN CONDITION NO. 23 IN SECTION K OF THIS PERMIT. THE REQUIRED QIP SHALL BE SUBMITTED TO THE SCAQMD WITHIN 90 CALENDAR DAYS AFTER THE DUE DATE OF THE SEMI-ANNUAL MONITORING REPORT.  
[40 CFR 64]
19. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), APPROVED BY THE EXECUTIVE OFFICER, SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEASURE THE EXHAUST CONCENTRATION FOR NO<sub>x</sub> AND O<sub>2</sub>, ON A DRY BASIS. IN ADDITION, THE SYSTEM SHALL CONVERT THE ACTUAL NO<sub>x</sub> CONCENTRATION TO A CORRECTED NO<sub>x</sub> CONCENTRATION AT



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

15% O<sub>2</sub> AND CONTINUOUSLY RECORD THE STACK NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub>. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218. PRIOR TO INSTALLATION, THIS MONITORING SYSTEM SHALL BE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.

[RULE 218, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]

20. THE OPERATOR SHALL ANNUALLY CONDUCT COMPLIANCE SOURCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM MANAGER, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET LANDFILL GAS AND THE GAS TURBINE EXHAUST FOR:

- A. METHANE AND TOTAL NON-METHANE HYDROCARBONS
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. OXIDES OF NITROGEN (EXHAUST ONLY)
- D. CARBON DIOXIDE
- E. TOTAL PARTICULATES (EXHAUST ONLY)
- F. C1 THROUGH C3 SULFUR COMPOUNDS (SPECIATED, INLET ONLY)
- G. TOXIC AIR CONTAMINANTS INCLUDING, BUT NOT LIMITED TO, BENZENE, CHLOROBENZENE, 1, 2-DICHLOROETHANE, 1, 1-DICHLOROETHENE, DICHLOROMETHANE, TETRACHLOROETHYLENE, TETRACHLOROMETHANE, TOLUENE, 1, 1, 1-TRICHLOROETHANE, TRICHLOROETHYLENE, TRICHLOROMETHANE, VINYL CHLORIDE, AND XYLENE ISOMERS.
- H. OXYGEN AND NITROGEN
- I. MOISTURE CONTENT
- J. TEMPERATURE
- K. FLOW RATE

THE REPORT SHALL ALSO PRESENT THE EMISSIONS DATA IN UNITS OF POUNDS PER HOUR (LB/HR), POUNDS PER MILLION BTU (LB/MMBTU), AND PARTS PER MILLION (PPMV) ON A DRY BASIS AT 15% O<sub>2</sub> (CO, NO<sub>x</sub>, AND TNMHC). ALSO PROVIDE GAS TURBINE'S DEMONSTRATED EFFICIENCY AT FULL LOAD, IN BTU/KW-HR, CORRECTED TO THE HIGHER HEATING VALUE (HHV) OF THE FUEL.

[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 1401, 3004 (a) (4)]



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

21. DURING NORMAL OPERATION, EMISSIONS FROM THE GAS TURBINE SHALL NOT EXCEED THE FOLLOWING:

CONTAMINANT	LBS/DAY
CO	374
NO <sub>x</sub> (AS NO <sub>2</sub> )	126
PM <sub>10</sub>	27
TGNMOC (AS CH <sub>4</sub> )	12.5
SO <sub>x</sub> (AS SO <sub>2</sub> )	32

[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]

22. EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT, EMISSIONS OF CARBON MONOXIDE (CO) AND OXIDES OF NITROGEN (NO<sub>x</sub>) SHALL NOT EXCEED THE FOLLOWING LIMITS;

**TURBINE LOADS >3000 KW**

CO	68 PPMV @ 15% O <sub>2</sub> , DRY BASIS, AVERAGED OVER 60 MINUTES
NO <sub>x</sub>	18.75 PPMV @ 15% O <sub>2</sub> , DRY BASIS, AVERAGED OVER 60 MINUTES

**TURBINE LOADS ≤ 3000 KW**

CO	68 PPMV @ 15% O <sub>2</sub> , DRY BASIS, AVERAGED OVER 60 MINUTES
NO <sub>x</sub>	25 PPMV @ 15% O <sub>2</sub> , DRY BASIS, AVERAGED OVER 60 MINUTES

[RULE 204]

23. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

**Emissions And Requirements:**

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

24. CO: 2000 PPMV, DRY, 15 MIN. AVG., RULE 407  
CO: 130 PPMV, @ 15% O<sub>2</sub>, DRY, RULE 1303  
NO<sub>x</sub>: 25 PPMV, @ 15% O<sub>2</sub>, DRY, RULE 1303  
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
ROG: 20 PPMV, AS HEXANE, @ 3% O<sub>2</sub>, DRY OR 98% (BY WT) DESTRUCTION EFFICIENCY, RULE 1150.1 & NSPS  
SO<sub>x</sub>: BASED ON 150 PPMV H<sub>2</sub>S CON. IN LFG, RULE 431.1  
SO<sub>x</sub>: < 0.15 LB/MMBTU, NSPS, 40CFR60, SUBPART KKKK,  
[RULE 3004 (a) (4)]



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

### PERMIT TO OPERATE

Permit No. G25212  
A/N 458540

#### Equipment Description:

RESOURCE RECOVERY LANDFILL GAS (LFG) TO ENERGY SYSTEM CONSISTING OF:

1. PRETREATED LANDFILL GAS (LFG) SUPPLY.
2. GAS TURBINE, NO. 2, SOLAR, MERCURY 50, LANDFILL GAS (LFG) FIRED, MAXIMUM 53.13 MILLION BTU PER HOUR INPUT RATING (500 BTU/SCF, HHV), SIMPLE CYCLE, WITH ELECTRIC START MOTOR, TEN-STAGE AXIAL FLOW COMPRESSOR, ULTRA LEAN PREMIX (ULP) ANNULAR COMBUSTOR, A RECUPERATOR, AUTOMATIC FUEL CONTROL SYSTEM, START UP PROPANE AUGMENTATION, PROGRAMMABLE CONTROLLER, AND DRIVING A 4.6 MEGAWATT (MW) ELECTRIC GENERATOR..
3. EXHAUST STACK, 3'-3" DIA. X 25' HIGH.

#### 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 OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THIS EQUIPMENT SHALL BE FIRED ONLY WITH LANDFILL GAS DURING NORMAL OPERATION. LANDFILL GAS/PROPANE GAS BLEND MAY BE USED DURING EQUIPMENT START UP NOT TO EXCEED 30 MINUTES, WHEN THE LFG QUALITY IS LOWER THAN 400 (WOBBE INDEX).  
[RULE 204]
5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED AND MAINTAINED IN THE LANDFILL GAS SUPPLY LINE TO THE GAS TURBINE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BEING BURNED.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

6. WEEKLY READINGS OF THE BTU CONTENT OF LANDFILL GAS AT THE INLET TO THE GAS TURBINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.  
[RULE 3004 (a) (4)]
7. THE TOTAL HEAT INPUT OF LANDFILL GAS BURNED IN THE GAS TURBINE SHALL NOT EXCEED 53.13 MM BTU PER HOUR (HHV @500 BTU/SCF). A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN THE GAS TURBINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT READING.  
[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.  
[RULE 204]
9. THE OWNER OR OPERATOR SHALL PROVIDE 100% BACKUP CONTROL. THE LANDFILL GAS NOT UTILIZED BY THIS EQUIPMENT SHALL BE DIRECTED TO THE FLARE FOR COMBUSTION OR ANY OTHER COMBUSTION OR PROCESSING FACILITY WHICH IS IN FULL USE, CAN ADEQUATELY PROCESS THE VOLUME OF GAS COLLECTED AND HAS BEEN ISSUED A VALID PERMIT BY THE SCAQMD.  
[RULE 1303 (a) (1)-BACT]
10. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION WHICH RESULTS IN EMISSIONS OF FUEL GAS SHALL BE REPORTED TO THE SCAQMD MANAGER OF REFINERY AND WASTE MANAGEMENT TEAM WITHIN ONE HOUR AFTER OCCURRENCE, OR WITHIN ONE HOUR OF THE TIME THE OPERATING PERSONNEL KNEW OR REASONABLY SHOULD HAVE KNOWN OF THE OCCURRENCE, AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE.  
[RULE 402, 430]
11. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH THE SCAQMD RULE 431.1.  
[RULE 431.1]
12. ADEQUATE NUMBER OF SAMPLING PORTS AND WELDED NIPPLES WITH CAPS, WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED IN THE EXHAUST STACK IN ACCORDANCE WITH RULE 217 AND SCAQMD'S APPROVAL.  
[RULE 217]
13. A CONTINUOUS COMBUSTION TEMPERATURE MONITORING AND RECORDING SYSTEM SHALL BE MAINTAINED, TO DETERMINE EXHAUST TEMPERATURE OF LAST POWER TURBINE (T7) AND CALCULATE THE COMBUSTION CHAMBER TEMPERATURE (TPZ) PER MANUFACTURER'S RECOMMENDATIONS, PURSUANT TO THE OPERATION AND MAINTENANCE REQUIREMENTS SPECIFIED IN 40 CFR PART 64.7. SUCH A SYSTEM SHALL HAVE AN ACCURACY OF WITHIN  $\pm$  1% OF THE TEMPERATURE BEING MONITORED AND SHALL BE INSPECTED, MAINTAINED, AND CALIBRATED ON AN ANNUAL BASIS IN



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

- ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS USING AN APPLICABLE SCAQMD OR EPA APPROVED METHOD.  
[40 CFR 64]
14. THE COMBUSTION CHAMBER TEMPERATURE OF LAST POWER TURBINE (T7) SHALL BE RECORDED AT LEAST EVERY 15 MINUTES, AND THE HOURLY AVERAGE SHALL BE COMPUTED FROM SUCH DATA POINTS. THE OPERATOR SHALL REVIEW THE RECORDS OF TEMPERATURE ON A DAILY BASIS TO DETERMINE IF A DEVIATION OCCURRED OR SHALL INSTALL AN ALARM SYSTEM TO ALERT THE OPERATOR WHEN A DEVIATION OCCURS.  
[40 CFR 64]
  15. ALL DEVIATIONS SHALL BE REPORTED TO THE SCAQMD ON A SEMI-ANNUAL BASIS PURSUANT TO THE REQUIREMENTS SPECIFIED IN 40 CFR PART 64.9 AND CONDITION NOS. 22 AND 23 IN SECTION K OF THIS PERMIT. FOR THE PURPOSE OF THIS CONDITION, A DEVIATION SHALL BE DEFINED AS WHEN THE LAST POWER TURBINE (T7) TEMPERATURE IS LESS THAN 1100 DEGREES FAHRENHEIT OR GREATER THAN 1300 DEGREES FAHRENHEIT, OR AS OTHERWISE APPROVED BY SCAQMD, OCCURS AVERAGED OVER ONE HOUR DURING OPERATION EXCEPT DURING START UP AND SHUTDOWN EVENTS LASTING FOR A MAXIMUM OF ONE HOUR. MULTIPLE START UP AND SHUTDOWN EVENTS CAN OCCUR CONSECUTIVELY.  
[40 CFR 64]
  16. FOR EACH SEMI-ANNUAL REPORTING PERIOD SPECIFIED IN CONDITION NO. 23 IN SECTION K, WHENEVER A DEVIATION OCCURS FROM THE TEMPERATURE, THE OPERATOR SHALL TAKE IMMEDIATE CORRECTIVE ACTION, AND KEEP RECORDS OF THE DURATION AND CAUSE (INCLUDING UNKNOWN CAUSE, IF APPLICABLE) OF THE DEVIATION AND THE CORRECTIVE ACTION TAKEN.  
[40 CFR 64]
  17. A SEMI-ANNUAL MONITORING REPORT SHALL BE SUBMITTED TO SCAQMD, WHICH SHALL INCLUDE BUT MAY NOT BE LIMITED TO THE TOTAL OPERATING TIME OF THIS EQUIPMENT AND THE TOTAL ACCUMULATED DURATION OF ALL DEVIATIONS FOR EACH SEMI-ANNUAL REPORTING PERIOD.  
[40 CFR 64]
  18. THE OWNER OR OPERATOR SHALL SUBMIT AN APPLICATION WITH A QUALITY IMPROVEMENT PLAN (QIP) IN ACCORDANCE WITH 40 CFR PART 64.8 TO THE SCAQMD IF AN ACCUMULATION OF DEVIATIONS EXCEEDS 5% DURATION OF THIS EQUIPMENT'S TOTAL OPERATING TIME FOR ANY SEMI-ANNUAL REPORTING PERIOD SPECIFIED IN CONDITION NO. 23 IN SECTION K OF THIS PERMIT. THE REQUIRED QIP SHALL BE SUBMITTED TO THE SCAQMD WITHIN 90 CALENDAR DAYS AFTER THE DUE DATE OF THE SEMI-ANNUAL MONITORING REPORT.  
[40 CFR 64]
  19. A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), APPROVED BY THE EXECUTIVE OFFICER, SHALL BE INSTALLED, OPERATED AND MAINTAINED TO MEASURE THE EXHAUST CONCENTRATION FOR NO<sub>x</sub> AND O<sub>2</sub>, ON A DRY BASIS. IN ADDITION, THE SYSTEM SHALL CONVERT THE ACTUAL NO<sub>x</sub> CONCENTRATION TO A CORRECTED NO<sub>x</sub> CONCENTRATION AT



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

15% O<sub>2</sub> AND CONTINUOUSLY RECORD THE STACK NO<sub>x</sub> CONCENTRATION AT 15% O<sub>2</sub>. THIS MONITORING SYSTEM SHALL COMPLY WITH THE REQUIREMENTS OF SCAQMD RULE 218. PRIOR TO INSTALLATION, THIS MONITORING SYSTEM SHALL BE APPROVED IN WRITING BY THE EXECUTIVE OFFICER.

[RULE 218, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 3004 (a) (4)]

20. THE OPERATOR SHALL ANNUALLY CONDUCT COMPLIANCE SOURCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM MANAGER, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET LANDFILL GAS AND THE GAS TURBINE EXHAUST FOR:

- A. METHANE AND TOTAL NON-METHANE HYDROCARBONS
- B. CARBON MONOXIDE (EXHAUST ONLY)
- C. OXIDES OF NITROGEN (EXHAUST ONLY)
- D. CARBON DIOXIDE
- E. TOTAL PARTICULATES (EXHAUST ONLY)
- F. C1 THROUGH C3 SULFUR COMPOUNDS (SPECIATED, INLET ONLY)
- G. TOXIC AIR CONTAMINANTS INCLUDING, BUT NOT LIMITED TO, BENZENE, CHLOROBENZENE, 1, 2-DICHLOROETHANE, 1, 1-DICHLOROETHENE, DICHLOROMETHANE, TETRACHLOROETHYLENE, TETRACHLOROMETHANE, TOLUENE, 1, 1, 1-TRICHLOROETHANE, TRICHLOROETHYLENE, TRICHLOROMETHANE, VINYL CHLORIDE, AND XYLENE ISOMERS.
- H. OXYGEN AND NITROGEN
- I. MOISTURE CONTENT
- J. TEMPERATURE
- K. FLOW RATE

THE REPORT SHALL ALSO PRESENT THE EMISSIONS DATA IN UNITS OF POUNDS PER HOUR (LB/HR), POUNDS PER MILLION BTU (LB/MMBTU), AND PARTS PER MILLION (PPMV) ON A DRY BASIS AT 15% O<sub>2</sub> (CO, NO<sub>x</sub>, AND TNMHC). ALSO PROVIDE GAS TURBINE'S DEMONSTRATED EFFICIENCY AT FULL LOAD, IN BTU/KW-HR, CORRECTED TO THE HIGHER HEATING VALUE (HHV) OF THE FUEL.

[RULE 1303 (a) (1)-BACT, 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET, 1401, 3004 (a) (4)]



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

21. DURING NORMAL OPERATION, EMISSIONS FROM THE GAS TURBINE SHALL NOT EXCEED THE FOLLOWING:

CONTAMINANT	LBS/DAY
CO	374
NOx (AS NO2)	126
PM10	27
TGNMOC (AS CH4)	12.5
SOX (AS SO2)	32

[RULE 1303(b) (1)-MODELING, 1303(b) (2)-OFFSET]

22. EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN NOT TO EXCEED 30 MINUTES PER INCIDENT, EMISSIONS OF CARBON MONOXIDE (CO) AND OXIDES OF NITROGEN (NOx) SHALL NOT EXCEED THE FOLLOWING LIMITS;

**TURBINE LOADS >3000 KW**

CO	68 PPMV @ 15% O2, DRY BASIS, AVERAGED OVER 60 MINUTES
NOx	18.75 PPMV @ 15% O2, DRY BASIS, AVERAGED OVER 60 MINUTES

**TURBINE LOADS ≤ 3000 KW**

CO	68 PPMV @ 15% O2, DRY BASIS, AVERAGED OVER 60 MINUTES
NOx	25 PPMV @ 15% O2, DRY BASIS, AVERAGED OVER 60 MINUTES

[RULE 204]

23. ALL RECORDS SHALL BE KEPT FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.

[RULE 3004 (a) (4)]

**Emissions And Requirements:**

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

24. CO: 2000 PPMV, DRY, 15 MIN. AVG., RULE 407  
 CO: 130 PPMV, @ 15% O2, DRY, RULE 1303  
 NOx: 25 PPMV, @ 15% O2, DRY, RULE 1303  
 PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS  
 ROG: 20 PPMV, AS HEXANE, @ 3% O2, DRY OR 98% (BY WT) DESTRUCTION EFFICIENCY, RULE 1150.1 & NSPS  
 SOx: BASED ON 150 PPMV H2S CON. IN LFG, RULE 431.1  
 SOx: < 0.15 LB/MMBTU, NSPS, 40CFR60, SUBPART KKKK,  
 [RULE 3004 (a) (4)]



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

**PERMIT TO OPERATE**

**Permit No. G23448  
A/N 458542**

**Equipment Description:**

LANDFILL GAS (LFG) FLARE CONSISTING OF:

1. EXHAUST GAS FROM THE LFG TREATMENT SYSTEM.
2. FLARE, JOHN ZINK, MODEL ZULE ULTRA LOW EMISSION, RATED AT 400 SCFM CAPACITY, 12,140,000 BTU PER HOUR BIOGAS BURNER, WITH A FLAME ARRESTER, PROPANE GAS PILOT WITH AUTOMATED TRU-LITE IGNITER, COMBUSTION AIR BLOWER, AUTOMATIC IGNITION, FLARE SHUT DOWN, AND WITH A PROGRAMMABLE LOGIC CONTROLLER (PLC) SYSTEM.
3. EXHAUST STACK, 4'- 0" DIA. X 40'- 0" H.

**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 OPERATED AND MAINTAINED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. A FLOW INDICATOR AND RECORDING DEVICE SHALL BE MAINTAINED IN THE LANDFILL GAS (FUEL) SUPPLY LINE TO THE FLARE TO MEASURE AND RECORD THE QUANTITY OF LANDFILL GAS (IN SCFM) BURNED IN FLARE.  
[RULE 1303(b) (2)-OFFSET, 3004 (a) (4)]
5. THE TOTAL VOLUME OF LANDFILL GAS BURNED IN FLARE SHALL NOT EXCEED MAXIMUM HEAT INPUT RATE OF 12.1 MMBTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF LANDFILL GAS BURNED IN FLARE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST WEEKLY BTU CONTENT (BTU/SCF) READING.  
[RULE 1303(b) (1) AND (b) (2)-MODELING AND OFFSET, 1401]
6. THIS EQUIPMENT SHALL BE EQUIPPED WITH A TEMPERATURE INDICATOR AND RECORDER WHICH MEASURES AND RECORDS THE EXHAUST GAS TEMPERATURE IN THE FLARE STACK THE TEMPERATURE INDICATOR AND RECORDER SHALL OPERATE WHENEVER THE FLARE IS IN OPERATION. THE TEMPERATURE SHALL BE MEASURED AT A LOCATION ABOVE THE FLAME



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

ZONE, AT LEAST 0.6 SECOND DOWNSTREAM OF THE BURNER, AND NOT LESS THAN THREE (3) FEET BELOW THE TOP OF THE STACK.

[RULE 1303(a) (1)-BACT, 3004 (a) (4)]

7. WHENEVER THE FLARE IS IN OPERATION, A TEMPERATURE OF NOT LESS THAN 1500 DEGREES F, 15 MINUTE AVERAGE, AS MEASURED BY THE TEMPERATURE INDICATOR AND RECORDER SHALL BE MAINTAINED EXCEPT DURING PERIODS OF STARTUP AND SHUTDOWN. STARTUP IS DEFINED AS THE PERIOD FROM FLARE IGNITION TO THE TIME WHEN 1500 DEGREES F IS ACHIEVED, NOT TO EXCEED 30 MINUTES. SHUTDOWN IS THE PERIOD FROM WHEN THE GAS VALVE BEGINS TO BE SHUT AND COMPLETELY SHUTS OFF, NOT TO EXCEED 30 MINUTES.  
[RULE 1303(a) (1)-BACT]
8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO TIME OF THE DAY.  
[RULE 204]
9. THE AUTOMATIC SHUTDOWN SAFETY SYSTEM SHALL BE TESTED MONTHLY FOR PROPER OPERATION OF THE FLARE AND THE RESULTS RECORDED.  
[RULE 1303(a) (1)-BACT]
10. THE OPERATOR SHALL ANNUALLY (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST) CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE TEST PROCEDURES. A SOURCE TEST PROTOCOL SHALL BE PROVIDED TO THE AQMD FOR APPROVAL AT LEAST 30 DAYS PRIOR TO THE SCHEDULED TESTING. WRITTEN NOTIFICATION OF THE SCHEDULED TEST DATE SHALL BE PROVIDED TO THE AQMD AT LEAST SEVEN (7) DAYS PRIOR TO THE DATE SO THAT THE TESTING MAY BE OBSERVED BY AQMD PERSONNEL. THE TESTING SHALL BE CONDUCTED WHEN THE EQUIPMENT IS IN FULL OPERATION, AND SHALL INCLUDE, BUT NOT LIMITED TO, A TEST OF THE INLET TO THE FLARE AND THE FLARE EXHAUST FOR:
  - A. METHANE
  - B. TOTAL NON-METHANE ORGANIC COMPOUNDS (TNMOC)
  - C. QUALITATIVE IDENTIFICATION OF CHEMICAL COMPOUNDS USING A GAS CHROMATOGRAPH / MASS SPECTROMETRY METHOD (GC / MS) FOR ITS VOLUME CONCENTRATION (EXHAUST ONLY).
  - D. NOX, AS NO2 (EXHAUST ONLY)
  - E. SOX, AS S02 (EXHAUST ONLY)
  - F. CO (EXHAUST ONLY)
  - G. PM10 (EXHAUST ONLY)
  - H. OXYGEN
  - I. MOISTURE CONTENT
  - J. TEMPERATURE
  - K. FLOW RATE

[RULE 1303(b) (1) AND (b) (2)-MODELING AND OFFSET, 1401, 3004 (a) (4)]



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

- 11. THE SOURCE TEST REPORT FOR THE FLARE TESTED SHALL INCLUDE;
  - A. EMISSIONS OF CO, NO<sub>x</sub>, TNMOCS, PM10, AND SO<sub>x</sub>, IN UNITS OF LBS/HR AND PPMV (EXCEPT PM10), OVERALL TNMOC DESTRUCTION EFFICIENCY (WT %), AND TNMOC EMISSIONS (PPMV), DRY BASIS, AS HEXANE AT 3% OXYGEN.
  - B. THE TEST SHALL BE PERFORMED BY A TESTING LABORATORY CERTIFIED TO MEET THE CRITERIA IN AQMD RULE 304(I) (CONFLICT OF INTEREST).
  - C. SAMPLING FACILITIES SHALL COMPLY WITH AQMD "GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES" PURSUANT TO RULE 217. [RULE 204, 217, RULE 1150.1]

- 12. THE MAXIMUM FLARE SKIN TEMPERATURE AT ANY LOCATION SHALL NOT EXCEED 250 DEGREES FAHRENHEIT. [RULE 217]

- 13. EMISSIONS FROM THE FLARE SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/DAY
CO	18
NOX AS NO2	7
PM10	6
ROG	21
SOX AS SO2	14

[RULE 1303(a) (1) -BACT, RULE 1303(b) (1) AND (b) (2)-MODELING AND OFFSET, 1401]

- 14. OPERATION OF THIS EQUIPMENT SHALL NOT RESULT IN THE RELEASE OF RAW LANDFILL GAS INTO THE ATMOSPHERE. ANY BREAKDOWN OR MALFUNCTION OF THIS EQUIPMENT RESULTING IN THE EMISSION OF RAW LANDFILL GAS SHALL BE REPORTED TO THE AQMD WITHIN TWENTY FOUR HOURS AFTER OCCURRENCE AND IMMEDIATE REMEDIAL MEASURES SHALL BE UNDERTAKEN TO CORRECT THE PROBLEM AND PREVENT FURTHER EMISSIONS INTO THE ATMOSPHERE. [RULE 430]

- 15. THE OPERATOR SHALL OPERATE AND MAINTAIN THIS EQUIPMENT ACCORDING TO THE FOLLOWING REQUIREMENTS:

THE EXHAUST TEMPERATURE SHALL BE MAINTAINED AT A MINIMUM OF 1,500 DEGREES FAHRENHEIT WHENEVER THE EQUIPMENT IT SERVES IS IN OPERATION.

CONTINUOUS EXHAUST TEMPERATURE MONITORING AND RECORDING SYSTEM SHALL BE PURSUANT TO THE OPERATION AND MAINTENANCE REQUIREMENTS SPECIFIED IN 40 CFR PART 64.7. SUCH A SYSTEM SHALL HAVE AN ACCURACY OF WITHIN ± 1% OF THE TEMPERATURE BEING MONITORED AND SHALL BE INSPECTED, MAINTAINED, AND



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

CALIBRATED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS USING AN APPLICABLE AQMD OR EPA APPROVED METHOD.

FOR THE PURPOSE OF THIS CONDITION, A DEVIATION SHALL BE DEFINED AS WHEN A TEMPERATURE OF LESS THAN 1,500 DEGREES FAHRENHEIT OCCURS DURING NORMAL OPERATION. THE OPERATOR SHALL REVIEW THE RECORDS OF TEMPERATURE ON A DAILY BASIS TO DETERMINE IF A DEVIATION OCCURS OR SHALL INSTALL AN ALARM SYSTEM TO ALERT THE OPERATOR WHEN A DEVIATION OCCURS.

SEMI-ANNUAL REPORTING SPECIFIED IN CONDITION NO. 23 IN SECTION K, WHENEVER A DEVIATION OCCURS IN WHICH THE TEMPERATURE OF THE FLARE FALLS BELOW 1,500 DEGREES FAHRENHEIT, THE OPERATOR SHALL TAKE NECESSARY CORRECTIVE ACTIONS AS EXPEDITIOUSLY AS PRACTICABLE IN ACCORDANCE WITH GOOD AIR POLLUTION CONTROL PRACTICES FOR MINIMIZING EMISSIONS. RECORDS OF THE DURATION AND CAUSE (INCLUDING UNKNOWN CAUSE, IF APPLICABLE) OF THE DEVIATION AND THE CORRECTIVE ACTIONS TAKEN SHALL BE INCLUDED IN THE SEMI-ANNUAL REPORTING.

ALL DEVIATIONS SHALL BE REPORTED TO THE AQMD ON A SEMI-ANNUAL BASIS PURSUANT TO THE REQUIREMENTS SPECIFIED IN 40 CFR PART 64.9 AND CONDITION NOS. 22 AND 23 IN SECTION K OF THIS PERMIT.

THE OPERATOR SHALL SUBMIT AN APPLICATION WITH A QUALITY IMPROVEMENT PLAN (QIP) IN ACCORDANCE WITH 40 CFR PART 64.8 TO THE AQMD IF AN ACCUMULATION OF DEVIATIONS EXCEEDS 5 PERCENT DURATION OF THIS EQUIPMENT'S TOTAL OPERATING TIME FOR ANY SEMI-ANNUAL REPORTING PERIOD SPECIFIED IN CONDITION NO. 23 IN SECTION K OF THIS PERMIT. THE REQUIRED QIP SHALL BE SUBMITTED TO THE AQMD WITHIN 90 CALENDAR DAYS AFTER THE DUE DATE FOR THE SEMI-ANNUAL MONITORING REPORT.

THE OPERATOR SHALL KEEP ADEQUATE RECORDS IN A FORMAT THAT IS ACCEPTABLE TO THE AQMD TO DEMONSTRATE COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS SPECIFIED IN THIS CONDITION AND 40 CFR PART 64.9 FOR A MINIMUM OF FIVE YEARS.  
[40CFR PART 64]

16. THE OWNER / OPERATOR SHALL CONDUCT A GAS LEAK DETECTION PROGRAM WITH A COMBUSTIBLE DETECTOR CALIBRATED FOR METHANE BY INSPECTING THE BLOWERS AND ALL EQUIPMENT DOWNSTREAM OF THE BLOWERS. THIS INSPECTION PROGRAM SHALL BE CONDUCTED ONCE A WEEK. ALL LEAKS DETECTED ABOVE 500 PPM SHALL BE REPORTED TO THE AQMD WITHIN 24 HOURS OF DETECTION AND REPAIRED WITHIN 3 WORKING DAYS OF DETECTION. A LOG SHOWING THE RESULTS OF EACH INSPECTION SHALL BE MAINTAINED AND SHALL BE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 402, 1303(a) (1)-BACT, 1401]
17. ALL RECORDS SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE3004 (a) (4)]



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

### Emissions And Requirements:

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

CO: 2000 PPMV, RULE 407

CO: 0.06 LB/MMBTU HEAT INPUT- BACT/LAER

NOx: 0.025 LB/MMBTU HEAT INPUT- BACT/LAER, AVERAGED OVER A 60 MINUTE TIME PERIOD

NMOC: 98% DESTRUCTION OR 20 PPMV, RULE 1150.1, 40CFR60 SUBPART WWW

PM: RULE 404, SEE APPENDIX B FOR EMISSIONS LIMITS

PM: 0.1 gr/scf, RULE 409



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

**PERMIT TO OPERATE**

**Permit No. G25213  
A/N 461086**

**Equipment Description:**

LANDFILL GAS (LFG) TREATMENT SYSTEM, 4000 SCFM MAXIMUM CAPACITY CONSISTING OF:

1. LANDFILL GAS SUPPLY CONNECTION FROM LANDFILL

PRETREATMENT SYSTEM:

2. LIQUID/GAS SEPARATION KNOCK-OUT POT
3. SUCTION COALESCING FILTERS (4), 1 MICRON OR LESS
4. VACUUM BLOWERS, (4) KAESER, 200HP, APPROXIMATELY 1800 SCFM EACH
5. AMBIENT AIR COOLED HEAT EXCHANGER
6. GAS DEHYDRATION SKID CONSISTING OF GAS CHILLER, GLYCOL FLUID, LIQUID/GAS SEPARATION KNOCK-OUT POT, AND FILTER

GAS SILOXANE TREATMENT SYSTEM:

7. TEMPERATURE SWING ADSORPTION (TSA) SILOXANE REMOVAL SYSTEM, DOMNICK HUNTER, CONSISTING OF TWO (2) SKIDS, IN PARALLEL, EACH WITH APPROXIMATELY 24,000 POUNDS OF SOLID MEDIA IN TWO (2) VESSELS, AN INTEGRAL REGENERATION SYSTEM WITH ELECTRIC AIR HEATER, TWO (2) CARBON MEDIA VESSELS, FOR FINAL POLISHING, AS NEEDED, AND A BLOWER, KAESER 60 HP.
8. REGENERATION OFF-GAS TO ENCLOSED FLARE
9. TWO (2) SCREW COMPRESSORS, VILTER, 800 H.P., MINIMUM 2,000 SCFM, A COALESCING FILTER, SUPPLYING TREATED LFG FUEL TO GAS COMBUSTION TURBINES.

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]



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.  
[RULE 204]
4. THE LFG TREATMENT SYSTEM SHALL BE OPERATED TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF EPA 40 CFR PART 60, SUBPART WWW, SUCH AS DESIGN SPECIFICATIONS FOR FILTRATION, DE-WATERING, COMPRESSION SYSTEM AND EQUIPMENT PERFORMANCE AND MONITORING REQUIREMENTS.  
[40 CFR PART 60, SUBPART WWW]
5. DURING AN ADSORBENT REGENERATION MODE, THE OFF-GAS INCLUDING CARRIER GAS (LFG) FROM THE ADSORBER TRAIN SHALL BE VENTED ALL TIME TO AN AIR POLLUTION CONTROL SYSTEM (FLARE) WHICH IS IN FULL OPERATION AND HAS A VALID PERMIT TO CONSTRUCT/ OPERATE ISSUED BY THE SCAQMD.  
[RULE 1303(a) (1) – BACT]
6. WHENEVER THE LFG TREATMENT SYSTEM IS IN OPERATION, THE TOTAL FLOW OF LFG TREATED AND REGENERATION OFF-GAS FLOW RATE (SCFM) SHALL BE MEASURED AND RECORDED.  
[RULE 3004 (a) (4)]
7. SAMPLING PORTS, FOR EACH ADSORBER TRAIN OF THE LANDFILL GAS TREATMENT SYSTEM, SHALL BE PROVIDED IN THE INLET AND OUTLET LINE, AND THE ADSORBER'S REGENERATION OFF-GAS LINE.  
[RULE 204]
8. GRAB SAMPLES SHALL BE COLLECTED AT THE INLET AND OUTLET OF THE GAS TREATMENT SYSTEM AND REGENERATION OFF-GAS LINE, ON A QUARTERLY BASIS. GRAB SAMPLES SHALL BE ANALYZED FOR CONCENTRATION (PPMV) OF TOTAL SILOXANE COMPOUNDS, TOTAL NON METHANE ORGANIC COMPOUNDS (TNMOC) AND TOTAL SULFUR AS H<sub>2</sub>S, USING EPA, CARB, OR DISTRICT APPROVED METHODS. RESULTS FOR SILOXANES, TNMOC AND H<sub>2</sub>S REMOVAL EFFICIENCIES SHALL BE RECORDED AND KEPT ON FILE.  
[RULE 204, 3004 (a) (4)]
9. THE LFG TREATMENT SYSTEM SHALL BE OPERATED AND MAINTAINED AS PER MANUFACTURER'S RECOMMENDED OPERATING PARAMETERS' SPECIFICATIONS. RECORDS FOR THE TYPE OF MEDIA, REPLACEMENT DATE AND QUANTITY USED FOR THE RESPECTIVE ADSORPTION VESSEL SHALL BE KEPT ON FILE.  
[RULE 204, 3004 (a) (4), 40 CFR PART 60, SUBPART WWW]
10. ALL RECORDS SHALL BE KEPT AND MAINTAINED FOR A PERIOD OF AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.  
[RULE 3004 (a) (4)]



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

### RULE 219 EQUIPMENT

#### Equipment Description:

RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT, GLOVE-BOX, < 53 FT<sup>3</sup>, WITH DUST FILTER.

#### Periodic Monitoring:

1. THE OPERATOR SHALL PERFORM AN ANNUAL INSPECTION OF THE EQUIPMENT AND FILTER MEDIA FOR LEAKS, BROKEN OR TORN FILTER MEDIA AND IMPROPERLY INSTALLED FILTER MEDIA. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER(S) OR ITEM(S):
  - A. THE NAME OF THE PERSON PERFORMING THE INSPECTION AND/OR MAINTENANCE OF THE FILTER MEDIA;
  - B. THE DATE, TIME AND RESULTS OF THE INSPECTION; AND
  - C. THE DATE, TIME AND DESCRIPTION OF ANY MAINTENANCE OR REPAIRS RESULTING FROM THE INSPECTION.[RULE 3004 (a) (4)]
  
2. THE OPERATOR SHALL DISCHARGE DUST COLLECTED IN THIS EQUIPMENT ONLY INTO CLOSED CONTAINERS.  
[RULE 3004 (a) (4)]
  
3. THE OPERATOR SHALL CONDUCT AN INSPECTION FOR VISIBLE EMISSIONS FROM ALL STACKS AND OTHER EMISSION POINTS OF THIS EQUIPMENT WHENEVER THERE IS A PUBLIC COMPLAINT OF VISIBLE EMISSIONS, WHENEVER VISIBLE EMISSIONS ARE OBSERVED, AND ON AN ANNUAL BASIS, AT LEAST, UNLESS THE EQUIPMENT DID NOT OPERATE DURING THE ENTIRE ANNUAL PERIOD. THE ROUTINE ANNUAL INSPECTION SHALL BE CONDUCTED WHILE THE EQUIPMENT IS IN OPERATION AND DURING DAYLIGHT HOURS. IF ANY VISIBLE EMISSIONS (NOT INCLUDING CONDENSED WATER VAPOR) ARE DETECTED, THE OPERATOR SHALL TAKE CORRECTIVE ACTION(S) THAT ELIMINATES THE VISIBLE EMISSIONS WITHIN 24 HOURS AND REPORT THE VISIBLE EMISSIONS AS A POTENTIAL DEVIATION IN ACCORDANCE WITH THE REPORTING REQUIREMENTS IN SECTION K OF THIS PERMIT.  
THE OPERATOR SHALL KEEP THE RECORDS IN ACCORDANCE WITH THE RECORDKEEPING REQUIREMENTS IN SECTION K OF THIS PERMIT AND THE FOLLOWING RECORDS:
  - A. STACK OR EMISSION POINT IDENTIFICATION;
  - B. DESCRIPTION OF ANY CORRECTIVE ACTIONS TAKEN TO ABATE VISIBLE EMISSIONS; AND
  - C. DATE AND TIME VISIBLE EMISSION WAS ABATED.[RULE 3004 (a) (4)]



---

**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

---

**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



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

**RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, CLEANING EQUIPMENT, SMALL UNHEATED, NON-CONVEYORIZED

**Emissions And Requirements:**

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

VOC: RULE 1122

VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

### RULE 219 EQUIPMENT

#### Equipment Description:

RULE 219 EXEMPT EQUIPMENT, BOILER, WITH RATED HEAT INPUT STARTING AT 75,000 BTU/HR UP TO AND INCLUDING 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  
CO: 2000 PPMV, RULE 407  
NO<sub>x</sub>: 30 PPMV @3% O<sub>2</sub>, DRY-TYPE 2 UNIT, > 400,000 BTU/HR AND ≤ 2 MM BTU/HR, RULE 1146.2  
NO<sub>x</sub>: 55 PPMV @3% O<sub>2</sub>, DRY-TYPE 1 UNIT, ≥ 400,000 BTU/HR AND ≤ 400,000 BTU/HR, RULE 1146.2



## FACILITY PERMIT TO OPERATE AMERESCO CHIQUITA ENERGY, LLC

### 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



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

**RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS.

**Emissions And Requirements:**

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

VOC: RULE 1415

VOC: 40CFR 82 SUBPART F



---

**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

---

**RULE 219 EQUIPMENT**

**Equipment Description:**

RULE 219 EXEMPT EQUIPMENT, FIRE EXTINGUISHING EQUIPMENT

**Emissions And Requirements:**

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

HALON:           RULE 1418



**FACILITY PERMIT TO OPERATE  
AMERESCO CHIQUITA ENERGY, LLC**

**SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE**

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit 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.

**NONE**