

DATE: May 28, 2024
TO: OC San Board of Directors
FROM: Tom Meregillano, Environmental Protection Manager
SUBJECT: Receive and File – Annual Greenhouse Gas Report

In accordance CARB's GHG Mandatory Reporting Regulation, California Code of Regulation (CCR), Title 17, Subchapter 10, Article 2, Sections 95100 to 95163, amended March 29, 2019 (Revised Reporting Regulation), the Orange County Sanitation District (OC San) is required to report greenhouse gas (GHG) emissions under the reporting sector contained within Section 95115, general stationary combustion, Section 95112, electricity generation and cogeneration units. Electricity generation process emissions from all digester gas combustion operations within Reclamation Plant 1 and Treatment 2 are reported each calendar year. The GHG report for Plants 1 and 2 were submitted on April 5, 2024. The following footnotes summarize the reported emissions.

- Plant 1 reported GHG emissions:
 - 18,962 metric tons of biogenic CO₂ emissions attributable to combustion of biogas;
 - 5,516 metric tons of CO₂ equivalent emissions attributable to purchased electricity usage and combustion of natural gas.

- Plant 2 reported GHG emissions:
 - 27,121 metric tons of biogenic CO₂ emissions attributable to combustion of biogas;
 - 7,874 metric tons of CO₂ equivalent emissions attributable to purchased electricity usage and combustion of natural gas.

If you have any questions, please contact Randa AbuShaban, Sr. Regulatory Specialist at (714) 593-7413 or by email at rabushaban@ocsan.gov.

Attachments



Greenhouse Gas Annual Report

Reporting Year 2023



Facility Name:**Orange County Sanitation District - Plant 1**

Facility ARB ID: 100255

Facility Reporting Year: 2023

Confidential Data Indication Set to "No" by Reporter

Certification Statement:

The designated representative or alternate designated representative must sign (i.e., agree to) this certification statement. If you are an agent and you click on "SUBMIT", you are not agreeing to the certification statement, but are submitting the certification statement on behalf of the designated representative or alternate designated representative who is agreeing to the certification statement. An agent is only authorized to make the electronic submission on behalf of the designated representative, not to sign (i.e., agree to) the certification statement.

Facility Representatives

Alternate Designated Representative: RANDA ABUSHABAN

Agent: Sai Lee

Designated Representative: Tom Meregillano

Facility Location

Physical Address: 10844 Ellis Avenue

City: Fountain Valley

State / Province: CA

ZIP / Postal Code: 92708

Country:

Latitude: 33.69404

Longitude: -117.93807

County: ORANGE

Air Basin: SOUTH COAST

District: SOUTH COAST AQMD

Mailing Address: 10844 Ellis Avenue

City: Fountain Valley

State / Province: CA

ZIP / Postal Code: 92708

Country:

Payment Information (required if subject to AB 32 Cost of Implementation Fee Regulation)

Responsible Party for Payment:

Responsible Party Email:

Responsible Party Phone:

Billing Address:

City:

State / Province:

ZIP / Postal Code:

Country:

Owners / Operators

Name: Orange County Sanitation District

Facility or Entity Total GHG Emissions Summary

CO2 equivalent emissions, excluding biogenic (subparts C – AA):	5,515.525785 Metric Tons
Exempt biogenic CO2 emissions (subparts C – AA):	18,962.998454 Metric Tons
CO2 equivalent emissions from fuel supplier categories, excluding biogenic (subparts MM – NN):	0 Metric Tons
Exempt biogenic CO2 emissions from fuel supplier categories (subparts MM – NN):	0 Metric Tons
CO2 emissions from CO2 Suppliers (excluding biogenic) (subpart PP):	0 Metric Tons
Exempt biogenic CO2 emissions from CO2 Suppliers (subpart PP):	0 Metric Tons
CO2 equivalent emissions from electric power entities:	0 Metric Tons

Covered CO2 equivalent emissions: 5,515.525785 Metric Tons

De Minimis CO2 equivalent emissions:	0 Metric Tons
Maximum allowable De Minimis emissions:	734.355727 Metric Tons

General Facility Reporting Information

NAICS Codes

Primary:	221320 (Sewage Treatment Facilities)
Second Primary:	
Additional:	

U.S. Parent Companies

Parent Company Name:	ORANGE COUNTY SANITATION DISTRICT (OCSD)
Address:	10844 ELLIS AVENUE, FOUNTAIN VALLEY, CA 92708
Percentage of Ownership Interest:	100%
Country:	UNITED STATES

GHG Report Start Date: 2023-01-01

GHG Report End Date: 2023-12-31

Explanation of any calculation methodology changes during the reporting year:

EPA e-GGRT Facility IDs

Full or Abbreviated GHG Report:	Full
Company or Entity qualifies for Small Business Status:	No

Electricity Purchases/Acquisitions for Reporting Facilities (95104(d))

Electricity Provider's Name:	Southern California Edison (SCE)
Provider's ARB ID:	3005
Purchases/Acquisitions:	49,115.3 MWh

Natural Gas Purchases/Acquisitions for Reporting Facilities [95115(k), 95103(a)(1)]

Natural Gas Supplier Name:	Southern California Gas Company (SCG)
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Supplier's ARB ID: 5002
 Customer Number: 10261095938
 Purchases/Acquisitions: 13,583.89 MMBtu
 Was this natural gas received directly from an interstate pipeline? No
 Do you grant CARB staff permission to share confidential annual natural gas fuel purchase data with your identified natural gas fuel supplier? No

Natural Gas Supplier Name: Southern California Gas Company (SCG)
 Supplier's ARB ID: 5002
 Customer Number: 10471095009
 Purchases/Acquisitions: 92,215.41 MMBtu
 Was this natural gas received directly from an interstate pipeline? No
 Do you grant CARB staff permission to share confidential annual natural gas fuel purchase data with your identified natural gas fuel supplier? No

Cap-and-Trade Facilities: Increases and Decreases in Facility Emissions [95104(f)]:

For facilities subject to Cap-and-Trade requirements: Have total facility emissions increased or decreased more than 5% in relation to the previous data year? [Not applicable for fuel suppliers, CO2 suppliers, electric power entities, and abbreviated reporters.]

NA (Not applicable: Reporting as an abbreviated reporter, fuel supplier, CO2 supplier, or electric power entity.)

Note: This section is not subject to the third-party verification requirements

Electricity Generation

Facility has the capacity to generate electricity: Yes
 CEC ID (if applicable): G0483
 EIA Plant ID (if applicable): 50696
 FERC QFID (if applicable): 2460
 CAISO ID (if applicable): NA
 Total Facility Nameplate Generating Capacity: 7.5 MW
 Facility Type: Independently operated and sited cogeneration facility
 Facility's Energy Disposition: Does not provide any generated energy outside of the facility boundary
 Generated electricity used for other on-site industrial processes that are not in support of or a part of the power generation system: 39,272.925 MWh

Reported emissions include emissions from a cogeneration/bigeneration unit: Yes

Parasitic Steam Use: Generated thermal energy used for supporting power production (excluding steam used directly for generating electricity) [95112(a)(5)(B)]: 0 MMBtu

Generated thermal energy for on-site industrial applications not related to electricity generation [95112(a)(5)(C)]: 56,411 MMBtu

Subpart C: General Stationary Fuel Combustion

Gas Information Details

Gas Name	Gas Quantity (Metric Tons)
Methane	1.267468
Exempt Biogenic Carbon dioxide	18,962.998454
Nitrous Oxide	0.239643
Carbon Dioxide	5,412.425349
Total CO2e	24,478.524239

Total Covered CO2e Emissions: 5,515.525785 (Metric Tons)

Emissions shown above that are claimed as De Minimis (CO2e): 0 Metric Tons

Unit Details

Unit Name: Boiler
Configuration Type: Single Unit Using Tiers 1, 2, or 3
Unit Type: OB (Boiler, other)
Unit Description: Boiler, Hurst Boiler and Welding Company, Model No. S5-250-125W, 10.5MMBTU/Hr

Individual Unit Details

Maximum Rated Heat Input Capacity: 10.5 mmBtu/hr

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity? No

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons): 61.301954

Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel:

Biogas (including captured methane) - Biomass-Derived Fuels - Gaseous

Calculation Methodology: Tier 2 (Equation C-2a)

Methodology Start Date: 2014-01-01

Methodology End Date: 2023-12-31
 Percentage of Fuel that is Biogenic: 100%
 Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 61.301954 Metric Tons
 Total CH4 emissions: 0.003767 Metric Tons
 Total N2O emissions: 0.000742 Metric Tons
 Total CH4 emissions CO2e: 0.094184 Metric Tons
 Total N2O emissions CO2e: 0.221026 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 1,898,869.2 scf
 Annual Average High Heat Value: 0.00062 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 52.07 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.0032 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.00063 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Fuel:

Natural Gas - Natural Gas

Calculation Methodology: Tier 2 (Equation C-2a)
 Methodology Start Date: 2016-01-01
 Methodology End Date: 2023-12-31
 Percentage of Fuel that is Biogenic: 0%
 Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 104.069908 Metric Tons
 Total CH4 emissions: 0.001963 Metric Tons
 Total N2O emissions: 0.000196 Metric Tons
 Total CH4 emissions CO2e: 0.049071 Metric Tons
 Total N2O emissions CO2e: 0.058493 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 1,905,672.3 scf
 Annual Average High Heat Value: 0.00103 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 53.02 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.001 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.0001 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Unit Name:

GP-Cogen

Configuration Type:

Aggregation of Units

Unit Type: OCS (Other combustion source)

Unit Description:

3 Internal Combustion Engines, each a Cooper Bessmer, Model No. LSVB-12-SGC, 3471 HP, 2500 KW Electric Generator, 5008500 BTU/Hr capacity.

Small Unit Aggregation Details

Highest Maximum Rated Heat Input Capacity: 5.0085 mmBtu/hr
Type of Emission Unit for this Group [Note: EGU/EGS must always be separated from other unit types]: Electricity generating unit/system (EGU/EGS)

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity? Yes
Is this configuration a Part 75 unit? No
Nameplate Generating Capacity: 7.5 MW
Prime Mover Technology: Internal Combustion Engine
Type of Thermal Energy Generation: Cogeneration Topping Cycle
95112(b)(2): Gross Generation: 41,244.961 MWh
95112(b)(2): Net Generation: 39,272.925 MWh
95112(b)(3): Total Thermal Output (for Cogeneration or Bigeneration): 56,411 MMBtu
95112(b)(8): Other Steam Used for Electricity Generation:
95112(b)(8): Input Steam to the Steam Turbine (for bottoming cycle cogeneration units only)
95112(b)(8): Output of the Heat Recovery Steam Generator (for bottoming cycle cogeneration units only)
95112(e): Geothermal Steam Utilized:
The source of geothermal generation:
95112(f): Stationary Hydrogen Fuel Cell: Fuel Type and Provider (if not reported elsewhere)
Additional Comments and Information

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons): 18,901.6965
Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel:

Biogas (including captured methane) - Biomass-Derived Fuels - Gaseous

Calculation Methodology: Tier 2 (Equation C-2a)
Methodology Start Date: 2017-01-01
Methodology End Date: 2023-12-31
Percentage of Fuel that is Biogenic: 100%
Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 18,901.6965 Metric Tons

Total CH4 emissions: 1.161618 Metric Tons
 Total N2O emissions: 0.228693 Metric Tons
 Total CH4 emissions CO2e: 29.04044 Metric Tons
 Total N2O emissions CO2e: 68.150653 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 585,492,745.5 scf
 Annual Average High Heat Value: 0.00062 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 52.07 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.0032 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.00063 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Fuel:

Calculation Methodology:
 Methodology Start Date:
 Methodology End Date:
 Percentage of Fuel that is Biogenic:
 Frequency of HHV determinations:

Natural Gas - Natural Gas

Tier 2 (Equation C-2a)
 2017-01-01
 2023-12-31
 0%
 Monthly

Fuel Emission Details

Total CO2 emissions: 4,587.437622 Metric Tons
 Total CH4 emissions: 0.086523 Metric Tons
 Total N2O emissions: 0.008652 Metric Tons
 Total CH4 emissions CO2e: 2.163069 Metric Tons
 Total N2O emissions CO2e: 2.578379 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 84,002,695.85 scf
 Annual Average High Heat Value: 0.00103 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 53.02 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.001 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.0001 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Unit Name:

GP-Comfort Heating/Misc NaturalGas Usage

Configuration Type:

Aggregation of Units

Unit Type:

OCS (Other combustion source)

Unit Description:

Natural Gas supply for space heating/comfort heating, water heaters, bunsen burners in the laboratory, flare complex pilots, and hot water tank natural gas pilot.

Small Unit Aggregation Details

Highest Maximum Rated Heat Input Capacity: 1.995 mmBtu/hr
 Type of Emission Unit for this Group [Note: EGU/EGS must always be separated from other unit types]: Other (none of the above)

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity? No

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons): 0
 Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel: **Natural Gas - Natural Gas**
 Calculation Methodology: Tier 2 (Equation C-2a)
 Methodology Start Date: 2014-01-01
 Methodology End Date: 2023-12-31
 Percentage of Fuel that is Biogenic: 0%
 Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 720.917819 Metric Tons
 Total CH4 emissions: 0.013597 Metric Tons
 Total N2O emissions: 0.00136 Metric Tons
 Total CH4 emissions CO2e: 0.339927 Metric Tons
 Total N2O emissions CO2e: 0.405193 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 13,201,060.22 scf
 Annual Average High Heat Value: 0.00103 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 53.02 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.001 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.0001 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Time And Date Report Generated: 04/09/2024 13:27

SUCCESS!

Your facility's annual GHG report has been successfully submitted to CARB and certified. The facility's representatives and agents will receive an email confirmation.

Annual Report Submission

Facility Name: Orange County Sanitation District - Plant 1

Address: 10844 Ellis Avenue, Fountain Valley CA 92708

Reporting Year: 2023

Submitted Date: Tue Apr 09 13:29:07 PDT 2024

Certification Date: Tue Apr 09 13:29:07 PDT 2024

Submitted By: ABUSHABAN, RANDA

Confirmation Number: 33879-44621

Facility Name:**Orange County Sanitation District - Plant 2**

Facility ARB ID: 101280

Facility Reporting Year: 2023

Confidential Data Indication Set to "No" by Reporter

Certification Statement:

The designated representative or alternate designated representative must sign (i.e., agree to) this certification statement. If you are an agent and you click on "SUBMIT", you are not agreeing to the certification statement, but are submitting the certification statement on behalf of the designated representative or alternate designated representative who is agreeing to the certification statement. An agent is only authorized to make the electronic submission on behalf of the designated representative, not to sign (i.e., agree to) the certification statement.

Facility Representatives

Alternate Designated Representative: RANDA ABUSHABAN

Designated Representative: Tom Meregillano

Agent: Sai Lee

Facility Location

Physical Address: 22212 Brookhurst Street

City: Huntington Beach

State / Province: CA

ZIP / Postal Code: 92646

Country:

Latitude: 33.64029

Longitude: -117.95921

County: ORANGE

Air Basin: SOUTH COAST

District: SOUTH COAST AQMD

Mailing Address: 10844 Ellis Avenue

City: Fountain Valley

State / Province: CA

ZIP / Postal Code: 92708

Country:

Payment Information (required if subject to AB 32 Cost of Implementation Fee Regulation)

Responsible Party for Payment:

Responsible Party Email:

Responsible Party Phone:

Billing Address:

City:

State / Province:

ZIP / Postal Code:

Country:

Owners / Operators

Name: Orange County Sanitation District

Facility or Entity Total GHG Emissions Summary

CO2 equivalent emissions, excluding biogenic (subparts C – AA):	7,874.222388 Metric Tons
Exempt biogenic CO2 emissions (subparts C – AA):	27,120.509335 Metric Tons
CO2 equivalent emissions from fuel supplier categories, excluding biogenic (subparts MM – NN):	0 Metric Tons
Exempt biogenic CO2 emissions from fuel supplier categories (subparts MM – NN):	0 Metric Tons
CO2 emissions from CO2 Suppliers (excluding biogenic) (subpart PP):	0 Metric Tons
Exempt biogenic CO2 emissions from CO2 Suppliers (subpart PP):	0 Metric Tons
CO2 equivalent emissions from electric power entities:	0 Metric Tons
Covered CO2 equivalent emissions:	7,874.222388 Metric Tons

De Minimis CO2 equivalent emissions:	0 Metric Tons
Maximum allowable De Minimis emissions:	1,049.841952 Metric Tons

General Facility Reporting Information

NAICS Codes

Primary:	221320 (Sewage Treatment Facilities)
Second Primary:	
Additional:	

U.S. Parent Companies

Parent Company Name:	Orange County Sanitation District (OCSD)
Address:	10844 Ellis Avenue, Fountain Valley, CA 92708
Percentage of Ownership Interest:	100%
Country:	UNITED STATES

GHG Report Start Date:	2023-01-01
GHG Report End Date:	2023-12-31

Explanation of any calculation methodology changes during the reporting year:

EPA e-GGRT Facility IDs

Full or Abbreviated GHG Report:	Full
Company or Entity qualifies for Small Business Status:	No

Electricity Purchases/Acquisitions for Reporting Facilities (95104(d))

Electricity Provider's Name:	Southern California Edison (SCE)
Provider's ARB ID:	3005
Purchases/Acquisitions:	342.204 MWh

Natural Gas Purchases/Acquisitions for Reporting Facilities [95115(k), 95103(a)(1)]

Natural Gas Supplier Name:	Southern California Gas Company (SCG)
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Supplier's ARB ID: 5002
 Customer Number: 09421095002
 Purchases/Acquisitions: 138,319.46 MMBtu
 Was this natural gas received directly from an interstate pipeline? No
 Do you grant CARB staff permission to share confidential annual natural gas fuel purchase data with your identified natural gas fuel supplier? No

Natural Gas Supplier Name: Southern California Gas Company (SCG)
 Supplier's ARB ID: 5002
 Customer Number: 09211095550
 Purchases/Acquisitions: 2,562.67 MMBtu
 Was this natural gas received directly from an interstate pipeline? No
 Do you grant CARB staff permission to share confidential annual natural gas fuel purchase data with your identified natural gas fuel supplier? No

Cap-and-Trade Facilities: Increases and Decreases in Facility Emissions [95104(f)]:

For facilities subject to Cap-and-Trade requirements: Have total facility emissions increased or decreased more than 5% in relation to the previous data year? [Not applicable for fuel suppliers, CO2 suppliers, electric power entities, and abbreviated reporters.]

NA (Not applicable: Reporting as an abbreviated reporter, fuel supplier, CO2 supplier, or electric power entity.)

Note: This section is not subject to the third-party verification requirements

Electricity Generation

Facility has the capacity to generate electricity: Yes
 CEC ID (if applicable): E0025
 EIA Plant ID (if applicable): 52099
 FERC QFID (if applicable): 2804
 CAISO ID (if applicable): NA
 Total Facility Nameplate Generating Capacity: 16 MW
 Facility Type: Independently operated and sited cogeneration facility
 Facility's Energy Disposition: None of the above

Disposition of Generated Electricity [95112(a)(4)]:

Generated Electricity for Grid Disposition [95112(a)(4)(A)]:

Unit, System Or Group Name: Southern California Edison (SCE)
 Retail Provider/Marketer Name: Southern California Edison (SCE)
 Electricity Provided or Sold (MWh): 4,114.08
 Generated electricity used for other on-site industrial processes that are: 53,583.02 MWh

not in support of or a part of the power generation system:

Reported emissions include emissions from a cogeneration/bigeneration unit: Yes

Parasitic Steam Use: Generated thermal energy used for supporting power production (excluding steam used directly for generating electricity) [95112(a)(5)(B)]: 0 MMBtu

Generated thermal energy for on-site industrial applications not related to electricity generation [95112(a)(5)(C)]: 43,478 MMBtu

Subpart C: General Stationary Fuel Combustion

Gas Information Details

Gas Name	Gas Quantity (Metric Tons)
Methane	1.812444
Exempt Biogenic Carbon dioxide	27,120.509335
Nitrous Oxide	0.342707
Carbon Dioxide	7,726.784591
Total CO2e	34,994.731723

Total Covered CO2e Emissions: 7,874.222388 (Metric Tons)

Emissions shown above that are claimed as De Minimis (CO2e): 0 Metric Tons

Unit Details

Unit Name: GP- Boilers (2)
Configuration Type: Aggregation of Units
Unit Type: OCS (Other combustion source)
Unit Description: Two (2) Boilers, Cleaver Brooks, Model No. CB700-250, 10.21 MMBtu/Hr, Low-Nox Burners and Flue Gas Recirculation (FGR) system.

Small Unit Aggregation Details

Highest Maximum Rated Heat Input Capacity: 10.21 mmBtu/hr
Type of Emission Unit for this Group: Boiler
[Note: EGU/EGS must always be separated from other unit types]:

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity? No

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons): 157.748573

Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel:

Biogas (including captured methane) - Biomass-Derived Fuels - Gaseous

Calculation Methodology: Tier 2 (Equation C-2a)
 Methodology Start Date: 2014-01-01
 Methodology End Date: 2023-12-31
 Percentage of Fuel that is Biogenic: 100%
 Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 157.748573 Metric Tons
 Total CH4 emissions: 0.009695 Metric Tons
 Total N2O emissions: 0.001909 Metric Tons
 Total CH4 emissions CO2e: 0.242364 Metric Tons
 Total N2O emissions CO2e: 0.568767 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 4,886,368 scf
 Annual Average High Heat Value: 0.00062 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 52.07 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.0032 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.00063 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Fuel:

Natural Gas - Natural Gas

Calculation Methodology: Tier 2 (Equation C-2a)
 Methodology Start Date: 2014-01-01
 Methodology End Date: 2023-12-31
 Percentage of Fuel that is Biogenic: 0%
 Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 2.452398 Metric Tons
 Total CH4 emissions: 0.000046 Metric Tons
 Total N2O emissions: 0.000005 Metric Tons
 Total CH4 emissions CO2e: 0.001156 Metric Tons
 Total N2O emissions CO2e: 0.001378 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 44,907 scf
 Annual Average High Heat Value: 0.00103 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 53.02 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.001 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.0001 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Unit Name:

GP-Cogen

Configuration Type:

Aggregation of Units

Unit Type:

OCS (Other combustion source)

Unit Description:

Five Internal Combustion Engines, each a Cooper Bessmer, Model No. LSVB-16-SGC, 4166 HP, 3000 KW Electric Generator, 6010200 BTU/Hr capacity. One Coppus Murray steam turbine, 1 MW, Serial No. T-5223, 767 HP, and 6520 RPM.

Small Unit Aggregation Details

Highest Maximum Rated Heat Input Capacity:

6.0102 mmBtu/hr

Type of Emission Unit for this Group [Note: EGU/EGS must always be separated from other unit types]:

Electricity generating unit/system (EGU/EGS)

Electricity Generation Unit Information

Does this configuration have the capacity to generate electricity?

Yes

Is this configuration a Part 75 unit?

No

Nameplate Generating Capacity:

16 MW

Prime Mover Technology:

Internal Combustion Engine

Type of Thermal Energy Generation:

Cogeneration Topping Cycle

95112(b)(2): Gross Generation:

58,516.539 MWh

95112(b)(2): Net Generation:

57,697.095 MWh

95112(b)(3): Total Thermal Output (for Cogeneration or Bigeneration):

43,478 MMBtu

95112(b)(8): Other Steam Used for Electricity Generation:

95112(b)(8): Input Steam to the Steam Turbine (for bottoming cycle cogeneration units only)

95112(b)(8): Output of the Heat Recovery Steam Generator (for bottoming cycle cogeneration units only)

95112(e): Geothermal Steam Utilized:

The source of geothermal generation:

95112(f): Stationary Hydrogen Fuel Cell: Fuel Type and Provider (if not reported elsewhere)

Additional Comments and Information

Emission Details: Configuration-Level Summary (User entered values)

Total exempt annual biogenic CO2 mass emissions (must equal the sum of calculated annual exempt biogenic CO2) (metric tons):

26,962.760762

Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel:

Biogas (including captured methane) - Biomass-Derived Fuels - Gaseous

Calculation Methodology: Tier 2 (Equation C-2a)
 Methodology Start Date: 2017-01-01
 Methodology End Date: 2023-12-31
 Percentage of Fuel that is Biogenic: 100%
 Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 26,962.760762 Metric Tons
 Total CH4 emissions: 1.657016 Metric Tons
 Total N2O emissions: 0.326225 Metric Tons
 Total CH4 emissions CO2e: 41.425405 Metric Tons
 Total N2O emissions CO2e: 97.21507 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 835,189,625.7 scf
 Annual Average High Heat Value: 0.00062 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 52.07 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.0032 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.00063 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
N	N	N	N	N	N	N	N	N	N	N	N

Fuel:

Natural Gas - Natural Gas

Calculation Methodology: Tier 2 (Equation C-2a)
 Methodology Start Date: 2017-01-01
 Methodology End Date: 2023-12-31
 Percentage of Fuel that is Biogenic: 0%
 Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 7,721.879795 Metric Tons
 Total CH4 emissions: 0.145641 Metric Tons
 Total N2O emissions: 0.014564 Metric Tons
 Total CH4 emissions CO2e: 3.641022 Metric Tons
 Total N2O emissions CO2e: 4.340098 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 141,398,918.8 scf
 Annual Average High Heat Value: 0.00103 mmBtu/scf
 Fuel Specific CO2 Emissions Factor: 53.02 kg CO2/MMBtu
 Fuel Specific CH4 Emissions Factor: 0.001 kg CH4/MMBtu
 Fuel Specific N2O Emissions Factor: 0.0001 kg N2O/MMBtu

HHV Substitute Data Information - Identify each month for which the monthly HHV value is calculated using one or more substitute data values.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Time And Date Report Generated: 04/09/2024 13:36

SUCCESS!

Your facility's annual GHG report has been successfully submitted to CARB and certified. The facility's representatives and agents will receive an email confirmation.

Annual Report Submission

Facility Name: Orange County Sanitation District - Plant 2

Address: 22212 Brookhurst Street, Huntington Beach CA 92646

Reporting Year: 2023

Submitted Date: Tue Apr 09 13:38:22 PDT 2024

Certification Date: Tue Apr 09 13:38:22 PDT 2024

Submitted By: ABUSHABAN, RANDA

Confirmation Number: 33923-44622

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Orange County
Sanitation District
70th Anniversary

Environmental Compliance Division
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Fountain Valley, California 92708-7018
714.962.2411

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