Facility Name:
Orange County Sanitation District - Plant 1

Facility ARB ID: 100255
Facility Reporting Year: 2020

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

Designated Representative: Lisa Frigo
Agent: Sai Lee
Alternate Designated Representative: RANDA ABUSHABAN

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):	3,310.126406 Metric Tons
Exempt biogenic CO2 emissions (subparts C – AA):	18,366.588636 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:	**3,310.126406 Metric Tons**
De Minimis CO2 equivalent emissions:	0 Metric Tons
Maximum allowable De Minimis emissions:	650.301451 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%

GHG Report Start Date: 2020-01-01
GHG Report End Date: 2020-12-31
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:	51,115.1 MWh

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

Natural Gas Supplier Name:	Southern California Gas Company (SCG)
Supplier's ARB ID:	5002
Customer Number:	10471095009
Purchases/Acquisitions:	55,639.37 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?	Yes

Natural Gas Supplier Name:	Southern California Gas Company (SCG)
Supplier's ARB ID:	5002
Customer Number:	10261095938
Purchases/Acquisitions:	4,213.32 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?	Yes

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 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: 33,971.582 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)]: 61,723 MMBtu

Subpart C: General Stationary Fuel Combustion

Gas Information Details

Gas Name	**Gas Quantity** (Metric Tons)
Methane	1.189358
Exempt Biogenic Carbon dioxide	18,366.588636
Nitrous Oxide	0.228282
Carbon Dioxide	3,214.382552
Total CO2e	21,676.715042

Total Covered CO2e Emissions: 3,310.126406 (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): 255.96138

Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel: Biogas (Captured methane) - Biomass-Derived Fuels - Gaseous

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

Methodology Start Date: 2014-01-01

Methodology End Date: 2020-12-31

Percentage of Fuel that is Biogenic: 100%

Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 255.96138 Metric Tons

Total CH4 emissions: 0.01573 Metric Tons

Total N2O emissions: 0.003097 Metric Tons

Total CH4 emissions CO2e: 0.330336 Metric Tons

Total N2O emissions CO2e: 0.96004 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 7,967,126.303 scf

Annual Average High Heat Value: 0.000617 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:	2020-12-31
Percentage of Fuel that is Biogenic:	0%
Frequency of HHV determinations:	Monthly

Fuel Emission Details

Total CO2 emissions:	197.935644 Metric Tons
Total CH4 emissions:	0.003733 Metric Tons
Total N2O emissions:	0.000373 Metric Tons
Total CH4 emissions CO2e:	0.078398 Metric Tons
Total N2O emissions CO2e:	0.11573 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year:	3,600,025.101 scf
Annual Average High Heat Value:	0.001037 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:	35,954.492 MWh
95112(b)(2): Net Generation:	33,971.582 MWh
95112(b)(3): Total Thermal Output (for Cogeneration or Bigeneration):	61,723 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):	18,110.627256
Annual CO2 emissions from sorbent (metric tons):	0

Fuel-Specific Emissions Information

Fuel:

Biogas (Captured methane) - Biomass-Derived Fuels - Gaseous

Calculation Methodology:	Tier 2 (Equation C-2a)
Methodology Start Date:	2017-01-01
Methodology End Date:	2020-12-31
Percentage of Fuel that is Biogenic:	100%
Frequency of HHV determinations:	Monthly

Fuel Emission Details

Total CO2 emissions:	18,110.627256 Metric Tons
Total CH4 emissions:	1.113002 Metric Tons
Total N2O emissions:	0.219122 Metric Tons
Total CH4 emissions CO2e:	23.373039 Metric Tons
Total N2O emissions CO2e:	67.927895 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year:	564,631,629 scf
Annual Average High Heat Value:	0.000616 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: 2020-12-31
Percentage of Fuel that is Biogenic: 0%
Frequency of HHV determinations: Monthly

Fuel Emission Details

- Total CO2 emissions: 2,793.106383 Metric Tons
- Total CH4 emissions: 0.05268 Metric Tons
- Total N2O emissions: 0.005268 Metric Tons
- Total CH4 emissions CO2e: 1.106285 Metric Tons
- Total N2O emissions CO2e: 1.633087 Metric Tons

Equation Inputs

- Mass or Volume of Fuel Combusted per Year: 51,195,569.58 scf
- Annual Average High Heat Value: 0.001029 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:	2020-12-31
Percentage of Fuel that is Biogenic:	0%
Frequency of HHV determinations:	Monthly

Fuel Emission Details

Total CO2 emissions:	223.340524 Metric Tons
Total CH4 emissions:	0.004212 Metric Tons
Total N2O emissions:	0.000421 Metric Tons
Total CH4 emissions CO2e:	0.08846 Metric Tons
Total N2O emissions CO2e:	0.130584 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year:	4,073,870.968 scf
Annual Average High Heat Value:	0.001034 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: 04/09/2021 10:32

Facility Name:
Orange County Sanitation District - Plant 2

Facility ARB ID: 101280
Facility Reporting Year: 2020

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: Lisa Frigo
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):	7,443.286913 Metric Tons
Exempt biogenic CO2 emissions (subparts C – AA):	29,266.049858 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:	**7,443.286913 Metric Tons**
De Minimis CO2 equivalent emissions:	0 Metric Tons
Maximum allowable De Minimis emissions:	1,101.280103 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%

GHG Report Start Date: 2020-01-01
GHG Report End Date: 2020-12-31
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:	1,676.34 MWh

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

Natural Gas Supplier Name:	Southern California Gas Company (SCG)
Supplier's ARB ID:	5002
Customer Number:	09421095002
Purchases/Acquisitions:	106,848.48 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?	Yes

Natural Gas Supplier Name:	Southern California Gas Company (SCG)
Supplier's ARB ID:	5002
Customer Number:	09211095550
Purchases/Acquisitions:	1,505.753689 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?	Yes

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 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): 1,895.036

Generated electricity used for other on-site industrial processes that are not in support of or a part of the power generation system: 52,896.355 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)]: 51,456 MMBtu

Subpart C: General Stationary Fuel Combustion

Gas Information Details

Gas Name	**Gas Quantity** (Metric Tons)
Methane	1.936035
Exempt Biogenic Carbon dioxide	29,266.049858
Nitrous Oxide	0.36784
Carbon Dioxide	7,288.59987
Total CO2e	36,709.336771

Total Covered CO2e Emissions: 7,443.286913 (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 [Note: EGU/EGS must always be separated from other unit types]: Boiler

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): 23.222252
Annual CO2 emissions from sorbent (metric tons): 0

Fuel-Specific Emissions Information

Fuel: Biogas (Captured methane) - Biomass-Derived Fuels - Gaseous

Calculation Methodology: Tier 2 (Equation C-2a)
Methodology Start Date: 2014-01-01
Methodology End Date: 2020-12-31
Percentage of Fuel that is Biogenic: 100%
Frequency of HHV determinations: Monthly

Fuel Emission Details

Total CO2 emissions: 23.222252 Metric Tons
Total CH4 emissions: 0.001427 Metric Tons
Total N2O emissions: 0.000281 Metric Tons
Total CH4 emissions CO2e: 0.02997 Metric Tons
Total N2O emissions CO2e: 0.0871 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year: 715,861 scf
Annual Average High Heat Value: 0.000623 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: 2020-12-31
Percentage of Fuel that is Biogenic: 0%
Frequency of HHV determinations: Monthly

Fuel Emission Details

- Total CO2 emissions: 1.133554 Metric Tons
- Total CH4 emissions: 0.000021 Metric Tons
- Total N2O emissions: 0.000002 Metric Tons
- Total CH4 emissions CO2e: 0.000449 Metric Tons
- Total N2O emissions CO2e: 0.000663 Metric Tons

Equation Inputs

- Mass or Volume of Fuel Combusted per Year: 20,940 scf
- Annual Average High Heat Value: 0.001021 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:	57,895.276 MWh
95112(b)(2): Net Generation:	54,791.391 MWh
95112(b)(3): Total Thermal Output (for Cogeneration or Bigeneration):	51,456 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):	29,242.827606
Annual CO2 emissions from sorbent (metric tons):	0

Fuel-Specific Emissions Information

Fuel:

Biogas (Captured methane) - Biomass-Derived Fuels - Gaseous

Calculation Methodology:	Tier 2 (Equation C-2a)
Methodology Start Date:	2017-01-01
Methodology End Date:	2020-12-31
Percentage of Fuel that is Biogenic:	100%
Frequency of HHV determinations:	Monthly

Fuel Emission Details

Total CO2 emissions:	29,242.827606 Metric Tons
Total CH4 emissions:	1.797139 Metric Tons
Total N2O emissions:	0.353812 Metric Tons
Total CH4 emissions CO2e:	37.739927 Metric Tons
Total N2O emissions CO2e:	109.681664 Metric Tons

Equation Inputs

898,569,697.9 scf

Mass or Volume of Fuel Combusted per Year:	
Annual Average High Heat Value: mmBtu/scf	0.000625
Fuel Specific CO2 Emissions Factor: kg CO2/MMBtu	52.07
Fuel Specific CH4 Emissions Factor: kg CH4/MMBtu	0.0032
Fuel Specific N2O Emissions Factor: kg N2O/MMBtu	0.00063

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:	2020-12-31
Percentage of Fuel that is Biogenic:	0%
Frequency of HHV determinations:	Monthly
Fuel Emission Details	
Total CO2 emissions:	7,207.625179 Metric Tons
Total CH4 emissions:	0.135942 Metric Tons
Total N2O emissions:	0.013594 Metric Tons
Total CH4 emissions CO2e:	2.854774 Metric Tons
Total N2O emissions CO2e:	4.214191 Metric Tons
Equation Inputs	
Mass or Volume of Fuel Combusted per Year:	132,110,426.8 scf
Annual Average High Heat Value:	0.001029 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, and flare complex pilot.

Small Unit Aggregation Details

Highest Maximum Rated Heat Input Capacity:	0.95 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:	2020-12-31
Percentage of Fuel that is Biogenic:	0%
Frequency of HHV determinations:	Monthly

Fuel Emission Details

Total CO2 emissions:	79.841138 Metric Tons
Total CH4 emissions:	0.001506 Metric Tons
Total N2O emissions:	0.000151 Metric Tons
Total CH4 emissions CO2e:	0.031623 Metric Tons
Total N2O emissions CO2e:	0.046682 Metric Tons

Equation Inputs

Mass or Volume of Fuel Combusted per Year:	1,459,174.716 scf
Annual Average High Heat Value:	0.001032 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

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