LA-UR-20-21821
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Title:	2019 Emissions Inventory Report Electronic Submittal
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Intended for:	Environmental Regulatory Document
Issued:	2020-03-11 (rev.1)

Los Alamos
NATIONAL LABORATORY
EST. 1943

memorandum

Environmental Protection & Compliance Division
Compliance Programs Group

To: *2019 Emissions Inventory File*
From: Walt Whetham, EPC-CP, J978 WW
Phone: 505-665-8885
Symbol: EPC-DO: 20-069
LA-UR: 20-21821
Date: MAR 11 2020

Subject: 2019 Emissions Inventory Electronic Submittal

Los Alamos National Laboratory (LANL) submitted their 2019 Emissions Inventory Report to New Mexico Environmental Department (NMED) via online reporting tool, AEIR. This report is required by Title 20, Chapter 2, Part 73 of the New Mexico Administrative Code (20.2.73 NMAC), Notice of Intent and Emissions Inventory Requirements. The report was submitted on March 11, 2020, and meets New Mexico Environmental Department's deadline of April 1st.

Should you have any questions or comments regarding the information provided in this report, please contact Walt Whetham at (505) 665-8885 or walt@lanl.gov.

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Attachment(s): Attachment 1 2019 Emissions Inventory Report Electronic Submittal

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ATTACHMENT 1

2019 Emissions Inventory Report Electronic Submittal

EPC-DO: 20-069

LA-UR-20-21821

Date: MAR 11 2020

New Mexico Environment Department

Subject Item List

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Facility Annual Emissions - Subject Item List

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item/Equipment (58 Subject Items)

	Type	ID	Designation	Description	Status	Complete
	Federal Agency	AI -856	P100R2M4	Los Alamos National Laboratory	Active 06/12/17	
○	Asphalt Drum/Burner	EQPT-116	TA-60-BDM	Asphalt Plant Dryer - Natural Gas	Active 07/19/05	☑
○	Beryllium Work	ACT -2	TA-35-213	Beryllium Activity-Be Target Fabrication Facility - Machining TA-35-213	Active 05/10/00	☑
○	Beryllium Work	ACT -3	TA-3-141	Beryllium Activity-Be Test Facility - Machining TA-3-141	Active 05/10/00	☑
○	Beryllium Work	ACT -6	TA-55-PF4 (a)	Beryllium Activity-Plutonium Facility Beryllium machining, weld cutting / dressing and metallography	Active 04/14/06	☑
○	Beryllium Work	ACT -41	TA-3-66	Beryllium Activity-Sigma Facility-electroplating/metallography	Active 05/24/10	☑
○	Boiler	EQPT-11	TA-53-365-BHW-1	Boiler TA-53-365-BHW-1	Active 05/31/01	☑
○	Boiler	EQPT-12	TA-53-365-BHW-2	Boiler TA-53-365-BHW-2	Active 05/31/01	☑
○	Boiler	EQPT-24	TA-3-22-1 (gas)	Power Plant Boiler (pph, Natural Gas)	Active 07/26/18	☑
○	Boiler	EQPT-25	TA-3-22-2 (gas)	Power Plant Boiler (pph, Natural Gas)	Active 07/26/18	☑
○	Boiler	EQPT-26	TA-3-22-3 (gas)	Power Plant Boiler (pph, Natural Gas)	Active 07/26/18	☑
○	Boiler	EQPT-29	TA-55-6-BHW-1	Sellers Boiler TA-55-6-BHW-1	Active 12/17/01	☑
○	Boiler	EQPT-30	TA-55-6-BHW-2	Sellers Boiler TA-55-6-BHW-2	Active 12/17/01	☑
○	Boiler	EQPT-53	TA-16-1484-BS-2	Low NOx Boiler TA-16-1484-BS-2	Active 11/27/96	☑
○	Boiler	EQPT-90	RLUOB-BHW-1 (gas)	Boiler-CMRR-BHW-1	Active 03/01/05	☑
○	Boiler	EQPT-104	RLUOB-BHW-2 (gas)	Boiler-CMRR-BHW-2	Active 03/01/05	☑
○	Boiler	EQPT-105	RLUOB-BHW-3 (gas)	Boiler-CMRR-BHW-3	Active 03/01/05	☑
○	Boiler	EQPT-106	RLUOB-BHW-4 (gas)	Boiler-CMRR-BHW-4	Active 03/01/05	☑
○	Boiler	EQPT-107	B-5	Boiler-CMRR	Active 03/01/05	☑
○	Boiler	EQPT-134	TA-16-1484-BS-1	Low NOx Boiler TA-16-1484-BS-1	Active 11/27/96	☑
○	Boiler	EQPT-137	TA-3-22-2	Power Plant Boiler (pph, No. 2 fuel oil)	Active 07/26/18	☑
○	Boiler	EQPT-138	TA-3-22-3	Power Plant Boiler (pph, No. 2 fuel oil)	Active 07/26/18	☑
○	Boiler	EQPT-141	TA-3-22-1	Power Plant Boiler (pph, No. 2 fuel oil)	Active 07/26/18	☑
○	Boiler	EQPT-144	Boiler combined emissions	TA-16-1484-Bs-1,2; TA -53-365-BHW-1,2; TA-55-6-BHW-1,2; RLUOB-BHW-1,2,3,4	Active 03/05/09	☑

○	Boiler	EQPT-149	RLUOB-BHW-1 (oil)	Boiler-CMRR-BHW-1	Active 03/01/05	☑
○	Boiler	EQPT-150	RLUOB-BHW-2 (oil)	Boiler-CMRR-BHW-2	Active 03/01/05	☑
○	Boiler	EQPT-151	RLUOB-BHW-3 (oil)	Boiler-CMRR-BHW-3	Active 03/01/05	☑
○	Boiler	EQPT-152	RLUOB-BHW-4 (oil)	Boiler-CMRR-BHW-4	Active 03/01/05	☑
○	Boiler	EQPT-169	TA-3-22-4&5 (Oil TPY)	Power Plant Boiler (pph, No. 2 fuel oil)	Active 07/26/18	☑
○	Boiler	EQPT-170	TA-3-22-4&5 (gas TPY)	Power Plant Boiler (pph, Natural Gas)	Active 07/26/18	☑
○	Fugitives	RPNT-34	Facilitywide Open Burning	Fugitives - Open Burning	Active 02/27/15	☑
○	Fugitives	RPNT-35	TA-60-EVAP-1	Evaporative Sprayer for basin water	Active 02/03/17	☑
○	Fugitives	RPNT-36	TA-60-EVAP-2	Evaporative Sprayer for basin water	Active 02/03/17	☑
○	Fugitives	RPNT-37	TA-60-EVAP-3	Evaporative Sprayer for basin water	Active 02/03/17	☑
○	Fugitives	RPNT-38	TA-60-EVAP-4	Evaporative Sprayer for basin water	Active 02/03/17	☑
○	Fugitives	RPNT-39	TA-60-EVAP-5	Evaporative Sprayer for basin water	Active 02/03/17	☑
○	Fugitives	RPNT-41	TA-60-EVAP-6	Evaporative Sprayer for basin water	Active 05/13/19	☑
○	Internal combustion engine	EQPT-96	Standby-Generators	Diesel Generators	Active 03/01/05	☑
○	Internal combustion engine	EQPT-119	TA-33-G-2	Kohler Diesel Generator TA-33, TA-36, TA-39	Active 04/22/08	☑
○	Internal combustion engine	EQPT-120	TA-33-G-3	Kohler Diesel Generator TA-33, TA-36, TA-39	Active 09/18/06	☑
○	Internal combustion engine	EQPT-128	RLUOB-GEN 1	Cummins Diesel Powered Generator and Engine - CMRR	Active 12/11/07	☑
○	Internal combustion engine	EQPT-135	TA-33-G-4	Caterpillar Diesel Generator TA-33, TA-36, TA-39	Active 04/22/08	☑
○	Internal combustion engine	EQPT-143	TA-55-GEN-3	CI-RICE Stationary Generator - Caterpillar 1335 hp	Active 11/30/10	☑
○	Internal combustion engine	EQPT-146	TA-33-G-1P	Cummins Portable Diesel Generator	Active 12/12/13	☑
○	Internal combustion engine	EQPT-147	TA-48-GEN-1	Cummins Diesel Powered Generator and Engine	Active 02/27/15	☑
○	Internal combustion engine	EQPT-153	RLUOB-GEN 2	Cummins Diesel Powered Generator and Engine - CMRR	Active 12/11/07	☑
○	Internal combustion engine	EQPT-154	RLUOB-GEN 3	Cummins Diesel Powered Generator and Engine - CMRR	Active 12/11/07	☑
○	Internal combustion engine	EQPT-155	TA-55-GEN-2	CI-RICE Stationary Generator - Whisper Watt 40.2 hp	Active 02/27/15	☑
○	Internal combustion engine	EQPT-156	TA-55-GEN-1	CI-RICE Stationary Generator - Whisper Watt 40.2 hp	Active 02/27/15	☑
○	Internal combustion engine	EQPT-160	TA-50-184-GEN-1	Cummins Diesel Generator and Engine, exempt	Active 07/18/18	☑
○	Internal combustion engine	EQPT-161	TA-55-GEN-4	Cummins Diesel Generator and Engine, exempt	Active 07/18/18	☑
○	Internal combustion engine	EQPT-162	TA-55-GEN-5	Cummins Diesel Generator and Engine, exempt	Active 07/18/18	☑
○	Research/Testing	ACT -7	LANL-FW-CHEM	R & D Activities - Labwide (031)	Active 05/31/01	☑
○	Research/Testing	ACT -42	RLUOB-CHEM	Chemical Usage, Bldg. TA-55-400 (lab portion of RLUOB Bldg.)	Active 05/31/01	☑
○	Shredder	EQPT-89	TA-52-11	Data Disintegrator/industrial Shredder	Active 10/22/03	☑
○	Stack/Vent	RPNT-40	SSM from TA-3-22-CHP-1	Routine Start up Shut down Maintenance	Active 07/26/18	☑
○	Turbine	EQPT-112	TA-3-22-CT-1	Combustion Turbine	Active 07/29/06	☑
○	Turbine	EQPT-166	TA-3-22-CHP-1	Combustion Turbine + Heat recovery steam generator (HRSG)	Active 07/29/06	☑

Facility Annual Emissions - Subject Item Submittal Review

Tuesday, March 10, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-116
Designation: TA-60-BDM
Description: Asphalt Plant Dryer - Natural Gas
Type: Asphalt Drum/Burner
SCC: Industrial Processes, Mineral Products, Asphalt Concrete, Drum Mix Plant: Rotary Drum Dryer / Mixer, Natural Gas - Fired

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Asphalt (INPUT)	
Materials Consumed:	3.18	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	8
Operating Time in Days per Week:	5
Operating Time in Weeks per Year:	26
Operating Time in Hours per Year:	60
Percent of Operation During Winter:	10
Percent of Operation During Spring:	30
Percent of Operation During Summer:	30
Percent of Operation During Fall:	30

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	178.31	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.12	tons/y	EPA emission factors (e.g., AP-42)
Ethylbenzene:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Lead:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.003	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.003	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.002	tons/y	Manufacturer Specification
Particulate Matter (2.5 microns or less):	0.002	tons/y	Manufacturer Specification

Sulfur Dioxide:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.002	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: ACT -2
Designation: TA-35-213
Description: Beryllium Activity-Be Target Fabrication Facility - Machining TA-35-213
Type: Beryllium Work
SCC: Industrial Processes, Fabricated Metal Products, Machining Operations, Specify Material**

Supplemental Parameters

Input Materials Processed: Metal (INPUT)

Operating Detail

	Value
Operating Time in Hours per Day:	5
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	1820
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Beryllium:	0.0	tons/y	Estimate

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: ACT -3
Designation: TA-3-141
Description: Beryllium Activity-Be Test Facility - Machining TA-3-141
Type: Beryllium Work
SCC: Industrial Processes, Fabricated Metal Products, Machining Operations, Specify Material**

Supplemental Parameters

Input Materials Processed: Metal (INPUT)

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Beryllium:	0.0	tons/y	Field measurement

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: ACT -6
Designation: TA-55-PF4 (a)
Description: Beryllium Activity-Plutonium Facility Beryllium machining, weld cutting / dressing and metallography
Type: Beryllium Work
SCC: Industrial Processes, Fabricated Metal Products, Machining Operations, Specify Material**

Supplemental Parameters

Input Materials Processed: Metal (INPUT)

Operating Detail

	Value
Operating Time in Hours per Day:	5
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	1820
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Beryllium:	0.0	tons/y	Estimate

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: ACT -41
Designation: TA-3-66
Description: Beryllium Activity-Sigma Facility-electroplating/metallography
Type: Beryllium Work
SCC: Industrial Processes, Fabricated Metal Products, Abrasive Cleaning of Metal Parts, Polishing

Supplemental Parameters

Input Materials Processed: Metal (INPUT)

Operating Detail

	Value
Operating Time in Hours per Day:	8
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	2912
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Beryllium:	0.0	tons/y	Estimate

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-11
Designation: TA-53-365-BHW-1
Description: Boiler TA-53-365-BHW-1
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers < 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	9.367	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	15
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	33
Operating Time in Hours per Year:	3465
Percent of Operation During Winter:	40
Percent of Operation During Spring:	20
Percent of Operation During Summer:	0
Percent of Operation During Fall:	40

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	525.395	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.393	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.008	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.01	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.468	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.036	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.036	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.003	tons/y	EPA emission factors (e.g., AP-42)

Volatile Organic Compounds (VOC): 0.026 tons/y EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-12
Designation: TA-53-365-BHW-2
Description: Boiler TA-53-365-BHW-2
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers < 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	9.367	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	15
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	33
Operating Time in Hours per Year:	3465
Percent of Operation During Winter:	40
Percent of Operation During Spring:	20
Percent of Operation During Summer:	0
Percent of Operation During Fall:	40

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	525.395	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.393	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.008	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.01	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.468	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.036	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.036	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.003	tons/y	EPA emission factors (e.g., AP-42)

Volatile Organic Compounds (VOC): 0.026 tons/y EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-24
Designation: TA-3-22-1 (gas)
Description: Power Plant Boiler (pph, Natural Gas)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers > 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	86.486	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	4851.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	1.73	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.003	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.078	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.091	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	2.508	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.009	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.329	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.329	tons/y	EPA emission factors (e.g., AP-42)

Sulfur Dioxide:	0.026	tons/y	EPA emission factors (e.g., AP-42)
Toluene; (Methyl benzene):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.238	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-25
Designation: TA-3-22-2 (gas)
Description: Power Plant Boiler (pph, Natural Gas)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers > 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	8.504	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	477.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.17	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.008	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.009	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.247	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.032	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.032	tons/y	EPA emission factors (e.g., AP-42)

Sulfur Dioxide:	0.003	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.023	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-26
Designation: TA-3-22-3 (gas)
Description: Power Plant Boiler (pph, Natural Gas)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers > 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	259.866	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	14575.8	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	5.197	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.01	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.234	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.275	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	7.536	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.027	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.987	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.987	tons/y	EPA emission factors (e.g., AP-42)

Sulfur Dioxide:	0.078	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.715	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-29
Designation: TA-55-6-BHW-1
Description: Sellers Boiler TA-55-6-BHW-1
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers < 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	8.688	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent

Operating Detail

	Value
Operating Time in Hours per Day:	15
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	33
Operating Time in Hours per Year:	3465
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	487.301	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.166	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.008	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.009	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.599	tons/y	Actual stack test
Nitrous Oxide (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.062	tons/y	Manufacturer Specification
Particulate Matter (2.5 microns or less):	0.062	tons/y	Manufacturer Specification
Sulfur Dioxide:	0.003	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.026	tons/y	Manufacturer Specification

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-30
Designation: TA-55-6-BHW-2
Description: Sellers Boiler TA-55-6-BHW-2
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers < 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	13.657	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	15
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	33
Operating Time in Hours per Year:	3465
Percent of Operation During Winter:	40
Percent of Operation During Spring:	10
Percent of Operation During Summer:	10
Percent of Operation During Fall:	40

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	766.017	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.261	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.012	tons/y	EPA emission factors (e.g., AP-42)
Lead:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.014	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.942	tons/y	Actual stack test
Nitrous Oxide (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.097	tons/y	Manufacturer Specification
Particulate Matter (2.5 microns or less):	0.097	tons/y	Manufacturer Specification

Sulfur Dioxide:	0.004	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.041	tons/y	Manufacturer Specification

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-53
Designation: TA-16-1484-BS-2
Description: Low NOx Boiler TA-16-1484-BS-2
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	8.36	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Ash of Fuel:	0.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	468.938	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.155	tons/y	Design calculation
Hexane:	0.008	tons/y	Design calculation
Lead:	0.0	tons/y	Design calculation
Methane (combustion):	0.009	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.155	tons/y	Design calculation
Nitrous Oxide (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.032	tons/y	Design calculation
Particulate Matter (2.5 microns or less):	0.032	tons/y	Design calculation
Sulfur Dioxide:	0.003	tons/y	Design calculation
Volatile Organic Compounds (VOC):	0.023	tons/y	Design calculation

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-90
Designation: RLUOB-BHW-1 (gas)
Description: Boiler-CMRR-BHW-1
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	0.745	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	41.768	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.014	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.011	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.002	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.002	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.01	tons/y	EPA emission factors (e.g., AP-42)

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-104
Designation: RLUOB-BHW-2 (gas)
Description: Boiler-CMRR-BHW-2
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	0.745	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	41.768	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.014	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.011	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.002	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.002	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.01	tons/y	EPA emission factors (e.g., AP-42)

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-105
Designation: RLUOB-BHW-3 (gas)
Description: Boiler-CMRR-BHW-3
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	0.745	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	41.768	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.014	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.011	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.002	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.002	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.01	tons/y	EPA emission factors (e.g., AP-42)

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-106
Designation: RLUOB-BHW-4 (gas)
Description: Boiler-CMRR-BHW-4
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	0.0	MM SCF
Fuel Heating Value:	0.0	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.0	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	0.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

This unit has not been built.

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-107
Designation: B-5
Description: Boiler-CMRR
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	0.0	MM SCF
Fuel Heating Value:	0.0	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.0	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	0.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-134
Designation: TA-16-1484-BS-1
Description: Low NOx Boiler TA-16-1484-BS-1
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	8.36	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	468.938	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.155	tons/y	Design calculation
Hexane:	0.008	tons/y	Design calculation
Lead:	0.0	tons/y	Design calculation
Methane (combustion):	0.009	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.155	tons/y	Design calculation
Nitrous Oxide (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.032	tons/y	Design calculation
Particulate Matter (2.5 microns or less):	0.032	tons/y	Design calculation
Sulfur Dioxide:	0.003	tons/y	Design calculation

Volatile Organic Compounds (VOC):	0.023	tons/y	Design calculation

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-137
Designation: TA-3-22-2
Description: Power Plant Boiler (pph, No. 2 fuel oil)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Distillate Oil, Grades 1 and 2 Oil

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	138.0	MM BTU/M gal
Percent Sulfur of Fuel:	0.05	percent

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

This unit did not run on diesel in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-138
Designation: TA-3-22-3
Description: Power Plant Boiler (pph, No. 2 fuel oil)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Distillate Oil, Grades 1 and 2 Oil

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	1219.0	gal
Fuel Heating Value:	138.0	MM BTU/M gal
Percent Sulfur of Fuel:	0.05	percent

Operating Detail

	Value
Operating Time in Hours per Day:	8
Operating Time in Days per Week:	2
Operating Time in Weeks per Year:	5
Operating Time in Hours per Year:	1
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	12.443	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.003	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Hexane:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.005	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.001	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.001	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.005	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-141
Designation: TA-3-22-1
Description: Power Plant Boiler (pph, No. 2 fuel oil)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers > 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	138.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

This unit did not operate on diesel in 2019.

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-144
Designation: Boiler combined emissions
Description: TA-16-1484-Bs-1,2; TA -53-365-BHW-1,2; TA-55-6-BHW-1,2; RLUOB-BHW-1,2,3,4
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers > 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	0.0	MM SCF
Fuel Heating Value:	0.0	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.0	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	0.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

This Facility ID represents the total from the two TA-16 boilers, the two TA-53 boilers, the two TA-55 boilers, and the four RLUOB boilers. However, these emissions are already captured in other facility IDs. In order to avoid counting the emissions twice, NMED has asked us to enter zeros for this facility ID.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-149
Designation: RLUOB-BHW-1 (oil)
Description: Boiler-CMRR-BHW-1
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

The RLUOB boilers did not operate on fuel oil in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-150
Designation: RLUOB-BHW-2 (oil)
Description: Boiler-CMRR-BHW-2
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

The RLUOB boilers did not operate on fuel oil in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-151
Designation: RLUOB-BHW-3 (oil)
Description: Boiler-CMRR-BHW-3
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

The RLUOB boilers did not operate on fuel oil in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-152
Designation: RLUOB-BHW-4 (oil)
Description: Boiler-CMRR-BHW-4
Type: Boiler
SCC: External Combustion Boilers, Commercial/Institutional, Natural Gas, < 10 Million Btu/hr

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

The RLUOB boilers did not operate on fuel oil in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-169
Designation: TA-3-22-4&5 (Oil TPY)
Description: Power Plant Boiler (pph, No. 2 fuel oil)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Distillate Oil, Grades 1 and 2 Oil

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	Design calculation
Nitrogen Dioxide:	0.0	tons/y	Design calculation
Particulate Matter (10 microns or less):	0.0	tons/y	Design calculation
Particulate Matter (2.5 microns or less):	0.0	tons/y	Design calculation
Sulfur Dioxide:	0.0	tons/y	Design calculation
Volatile Organic Compounds (VOC):	0.0	tons/y	Design calculation

Subject Item Comments

Boilers 4 and 5 have not been built.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-170
Designation: TA-3-22-4&5 (gas TPY)
Description: Power Plant Boiler (pph, Natural Gas)
Type: Boiler
SCC: External Combustion Boilers, Electric Generation, Natural Gas, Boilers > 100 Million Btu/hr except Tangential

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	Design calculation
Nitrogen Dioxide:	0.0	tons/y	Design calculation
Particulate Matter (10 microns or less):	0.0	tons/y	Design calculation
Particulate Matter (2.5 microns or less):	0.0	tons/y	Design calculation
Sulfur Dioxide:	0.0	tons/y	Design calculation
Volatile Organic Compounds (VOC):	0.0	tons/y	Design calculation

Subject Item Comments

Boilers 4 and 5 have not been built.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-34
Designation: Facilitywide Open Burning
Description: Fugitives - Open Burning
Type: Fugitives
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Individual HAP:	0.0	tons/y	Engineer Calculation
Total HAP:	0.0	tons/y	Engineer Calculation

Subject Item Comments

No open burning activities took place in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-35
Designation: TA-60-EVAP-1
Description: Evaporative Sprayer for basin water
Type: Fugitives
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Total HAP:	0.0	tons/y	Design calculation

Subject Item Comments

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-36
Designation: TA-60-EVAP-2
Description: Evaporative Sprayer for basin water
Type: Fugitives
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Total HAP:	0.0	tons/y	Design calculation

Subject Item Comments

Print Close

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Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-37
Designation: TA-60-EVAP-3
Description: Evaporative Sprayer for basin water
Type: Fugitives
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Total HAP:	0.0	tons/y	Design calculation

Subject Item Comments

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-38
Designation: TA-60-EVAP-4
Description: Evaporative Sprayer for basin water
Type: Fugitives
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Total HAP:	0.0	tons/y	Design calculation

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-39
Designation: TA-60-EVAP-5
Description: Evaporative Sprayer for basin water
Type: Fugitives
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Total HAP:	0.0	tons/y	Design calculation

Subject Item Comments

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Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-41
Designation: TA-60-EVAP-6
Description: Evaporative Sprayer for basin water
Type: Fugitives
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Total HAP:	0.0	tons/y	Design calculation

Subject Item Comments

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Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-96
Designation: Standby-Generators
Description: Diesel Generators
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, Reciprocating

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Fuel Heating Value:	138.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	630
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	266.268	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	1.356	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.011	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	6.127	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.002	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.25	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.183	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.25	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-119
Designation: TA-33-G-2
Description: Kohler Diesel Generator TA-33, TA-36, TA-39
Type: Internal combustion engine
SCC: Internal Combustion Engines, Electric Generation, Distillate Oil (Diesel), Reciprocating

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Input Materials Processed:	Diesel (INPUT)	
Materials Consumed:	18.0	gal
Fuel Heating Value:	138.0	MM BTU/M gal
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.01	percent
Percent Carbon Content:	83.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	2
Operating Time in Days per Week:	1
Operating Time in Weeks per Year:	2
Operating Time in Hours per Year:	10
Percent of Operation During Winter:	50
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	50

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.18	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.002	tons/y	Design calculation
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.005	tons/y	Design calculation
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-120
Designation: TA-33-G-3
Description: Kohler Diesel Generator TA-33, TA-36, TA-39
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, Reciprocating

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal
Percent Sulfur of Fuel:	0.0	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	0.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.0	tons/y	Design calculation
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.0	tons/y	Design calculation
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

This unit did not operate in 2019.

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-128
Designation: RLUOB-GEN 1
Description: Cummins Diesel Powered Generator and Engine - CMRR
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Distillate Oil (Diesel), Reciprocating: Cogeneration

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	20.7	gal
Fuel Heating Value:	138.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	1
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.211	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.004	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.003	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.001	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-135
Designation: TA-33-G-4
Description: Caterpillar Diesel Generator TA-33, TA-36, TA-39
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, 4-cycle Rich Burn

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Input Materials Processed:	Diesel (INPUT)	
Materials Consumed:	142.2	gal
Fuel Heating Value:	138.0	MM BTU/M gal
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.01	percent
Percent Carbon Content:	83.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	9
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	1.451	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.032	tons/y	Design calculation
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.053	tons/y	Design calculation
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.004	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.004	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.004	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-143
Designation: TA-55-GEN-3
Description: CI-RICE Stationary Generator - Caterpillar 1335 hp
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, Reciprocating

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	8
Operating Time in Days per Week:	5
Operating Time in Weeks per Year:	20
Operating Time in Hours per Year:	16
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	2.532	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.073	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.335	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.011	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.006	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.011	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-146
Designation: TA-33-G-1P
Description: Cummins Portable Diesel Generator
Type: Internal combustion engine
SCC: Internal Combustion Engines, Electric Generation, Distillate Oil (Diesel), Reciprocating

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	2
Operating Time in Days per Week:	2
Operating Time in Weeks per Year:	8
Operating Time in Hours per Year:	134
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	25.966	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.15	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	1.497	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.046	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.046	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.04	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.11	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-147
Designation: TA-48-GEN-1
Description: Cummins Diesel Powered Generator and Engine
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, Reciprocating

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	0.0	gal
Fuel Heating Value:	0.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method

Subject Item Comments

This unit did not operate in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-153
Designation: RLUOB-GEN 2
Description: Cummins Diesel Powered Generator and Engine - CMRR
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Distillate Oil (Diesel), Reciprocating: Cogeneration

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	3346.3	gal
Fuel Heating Value:	138.0	MM BTU/MM SCF

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	32
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	34.154	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.672	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.542	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.027	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.014	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.077	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-154
Designation: RLUOB-GEN 3
Description: Cummins Diesel Powered Generator and Engine - CMRR
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Distillate Oil (Diesel), Reciprocating: Cogeneration

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Diesel	
Materials Consumed:	2932.0	gal
Fuel Heating Value:	138.0	MM BTU/M gal

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	28
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	29.924	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.589	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.001	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.475	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.023	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.012	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.067	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-155
Designation: TA-55-GEN-2
Description: CI-RICE Stationary Generator - Whisper Watt 40.2 hp
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, Reciprocating

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	2
Operating Time in Days per Week:	5
Operating Time in Weeks per Year:	12
Operating Time in Hours per Year:	8
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.148	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.002	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.007	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.001	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.001	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-156
Designation: TA-55-GEN-1
Description: CI-RICE Stationary Generator - Whisper Watt 40.2 hp
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Natural Gas, Reciprocating

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.0	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.0	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

This unit did not operate in 2019.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-160
Designation: TA-50-184-GEN-1
Description: Cummins Diesel Generator and Engine, exempt
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Distillate Oil (Diesel), Reciprocating

Supplemental Parameters

Fuel Type: Diesel

Operating Detail

	Value
Operating Time in Hours per Day:	8
Operating Time in Days per Week:	5
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	11
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Dioxide (combustion):	1.3	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.018	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Nitrogen Dioxide:	0.084	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.0	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.003	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.003	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-161
Designation: TA-55-GEN-4
Description: Cummins Diesel Generator and Engine, exempt
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Distillate Oil (Diesel), Reciprocating

Supplemental Parameters

Fuel Type: Natural Gas

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method

Subject Item Comments

Unit has not been installed.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-162
Designation: TA-55-GEN-5
Description: Cummins Diesel Generator and Engine, exempt
Type: Internal combustion engine
SCC: Internal Combustion Engines, Industrial, Distillate Oil (Diesel), Reciprocating

Supplemental Parameters

Fuel Type: Diesel

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method

Subject Item Comments

Unit has not been installed.

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Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: ACT -7
Designation: LANL-FW-CHEM
Description: R & D Activities - Labwide (031)
Type: Research/Testing
SCC: Industrial Processes, Photographic Equipment/Health Care/Laboratories, Laboratories, Bench Scale Reagents: Research

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Acetaldehyde; (Ethyl aldehyde):	0.0	tons/y	Material balance
Acetonitrile; (Methyl cyanide):	0.21	tons/y	Material balance
Acetophenone:	0.0	tons/y	Material balance
Acrylamide:	0.001	tons/y	Material balance
Acrylic acid:	0.007	tons/y	Material balance
Acrylonitrile:	0.0	tons/y	Material balance
Ammonia:	0.0	tons/y	Material balance
Aniline:	0.0	tons/y	Material balance
Antimony:	0.0	tons/y	Material balance
Antimony compounds:	0.001	tons/y	Material balance
Arsenic Compounds:	0.0	tons/y	Material balance
Benzene:	0.011	tons/y	Material balance
Benzyl Chloride:	0.0	tons/y	Material balance
Beryllium Compounds:	0.0	tons/y	Material balance
Biphenyl:	0.0	tons/y	Material balance
Bromoform; (Tribromomethane):	0.0	tons/y	Material balance
Butadiene(1,3-):	0.0	tons/y	Material balance
Cadmium:	0.0	tons/y	Material balance
Cadmium compounds:	0.005	tons/y	Material balance
Carbon Disulfide:	0.0	tons/y	Material balance

Carbon tetrachloride; (Tetrachoromethane):	0.001	tons/y	Material balance
Carbonyl sulfide:	0.0	tons/y	Material balance
Catechol (Pyrocatechol):	0.001	tons/y	Material balance
Chlorine:	0.001	tons/y	Material balance
Chloroacetic Acid:	0.0	tons/y	Material balance
Chlorobenzene(Phenyl Chloride):	0.001	tons/y	Material balance
Chloroform; (Trichloromethane):	0.183	tons/y	Material balance
Chromium:	0.0	tons/y	Material balance
Chromium VI compounds:	0.011	tons/y	Material balance
Cobalt Compounds:	0.003	tons/y	Material balance
Cresol(m-); (Methylphenol, 3-):	0.0	tons/y	Material balance
Cumene:	0.0	tons/y	Material balance
Cyanide compounds:	0.04	tons/y	Material balance
Dibutylphthalate; (Di-n-butyl phthalate):	0.0	tons/y	Material balance
Dichloroethane (1,2-); (EDC); (Ethylene dichloride):	0.013	tons/y	Material balance
Dichlorofluoromethane:	0.0	tons/y	Material balance
Diethanolamine:	0.0	tons/y	Material balance
Dimethyl Sulfate:	0.0	tons/y	Material balance
Dimethyl formamide:	0.299	tons/y	Material balance
Dimethylhydrazine(1,1-):	0.0	tons/y	Material balance
Dioxane(1,4-) (1,4-Diethyleneoxide):	0.007	tons/y	Material balance
Epichlorohydrin; (1-Chloro-2,3-epoxypropane):	0.0	tons/y	Material balance
Epoxybutane(1,2-) (1,2-Butylene oxide):	0.0	tons/y	Material balance
Ethyl Acrylate:	0.0	tons/y	Material balance
Ethyl chloride; (Chloroethane):	0.0	tons/y	Material balance
Ethylbenzene:	0.001	tons/y	Material balance
Ethylene Glycol:	0.328	tons/y	Material balance
Ethylene dibromide; (EDB); (1.2-Dibromoethane):	0.0	tons/y	Material balance
Formaldehyde:	0.001	tons/y	Material balance
Glycol Ethers:	0.048	tons/y	Material balance
Hexachlorocyclopentadiene:	0.0	tons/y	Material balance
Hexamethylphosphoramide:	0.0	tons/y	Material balance
Hexane:	0.418	tons/y	Material balance
Hydrazine:	0.0	tons/y	Material balance
Hydrochloric acid (HCl):	0.585	tons/y	Material balance
Hydrofluoric Acid; (Hydrogen fluoride):	0.054	tons/y	Material balance
Hydroquinone:	0.0	tons/y	Material balance
Iodomethane (Methyl iodide):	0.001	tons/y	Material balance
Isophorone:	0.0	tons/y	Material balance
Lead Compounds:	0.005	tons/y	Material balance
Maleic anhydride:	0.001	tons/y	Material balance
Manganese:	0.0	tons/y	Material balance
Manganese compounds:	0.006	tons/y	Material balance
Mercury compounds:	0.018	tons/y	Material balance
Methanol; (Methyl alcohol):	0.914	tons/y	Material balance
Methyl Ethyl Ketone; (MEK); (2-Butanone):	0.0	tons/y	Material balance
Methyl Methacrylate:	0.0	tons/y	Material balance
Methyl bromide; (Bromomethane):	0.0	tons/y	Material balance
Methyl chloride; (Chloromethane):	0.0	tons/y	Material balance

Methyl isobutyl ketone; (Hexone); (4-Methyl-2-pentanone):	0.0	tons/y	Material balance
Methyl tert butyl ether:	0.0	tons/y	Material balance
Methylene chloride; (Dichloromethane):	0.543	tons/y	Material balance
Methylenebiphenyl isocyanate; (MDI); (Diphenylmethane diisocyanate):	0.453	tons/y	Material balance
Mineral Fibers:	0.241	tons/y	Material balance
Naphthalene:	0.0	tons/y	Material balance
Nickel:	0.0	tons/y	Material balance
Nickel compounds:	0.012	tons/y	Material balance
Nitrobenzene; (nitro-Benzene):	0.0	tons/y	Material balance
Nitrophenol(4-); (p-Nitrophenol):	0.0	tons/y	Material balance
PCE; (Perchloroethylene); (Tetrachloroethylene); (Tetrachloroethene):	0.0	tons/y	Material balance
Phenol:	0.003	tons/y	Material balance
Phenylenediamine(p-); (Phenylenediamine):	0.0	tons/y	Material balance
Phosphine:	0.0	tons/y	Material balance
Phosphorus:	0.0	tons/y	Material balance
Phthalic anhydride:	0.001	tons/y	Material balance
Polycylic Organic Matter:	0.03	tons/y	Material balance
Propylene Dichloride (1,2-Dichloropropane):	0.0	tons/y	Material balance
Propylene oxide:	0.0	tons/y	Material balance
Selenium:	0.0	tons/y	Material balance
Selenium compounds:	0.001	tons/y	Material balance
Styrene:	0.005	tons/y	Material balance
TCE; (Trichloroethylene); (Trichloroethene):	0.0	tons/y	Material balance
Tetrachloroethane(1,1,2,2-):	0.0	tons/y	Material balance
Titanium tetrachloride:	0.0	tons/y	Material balance
Toluene diisocyanate(2,4-):	0.0	tons/y	Material balance
Toluene; (Methyl benzene):	0.154	tons/y	Material balance
Total HAP:	4.86	tons/y	Material balance
Trichloroethane(1,1,1-) (Methyl Chloroform):	0.0	tons/y	Material balance
Trichloroethane(1,1,2-):	0.0	tons/y	Material balance
Triethylamine:	0.003	tons/y	Material balance
Trimethylpentane(2,2,4-):	0.013	tons/y	Material balance
Urethane; (Ethyl carbamate):	0.0	tons/y	Material balance
Vinyl acetate; (Vinyl acetate monomer):	0.0	tons/y	Material balance
Volatile Organic Compounds (VOC):	12.02	tons/y	Material balance
Xylene(m-); (1,3-Dimethylbenzene); (meta-Xylene):	0.001	tons/y	Material balance
Xylene(o-); (1,2-Dimethylbenzene); (ortho-Xylene):	0.002	tons/y	Material balance
Xylene(p-); (1,4-Dimethylbenzene); (para-Xylene):	0.004	tons/y	Material balance
Xylenes (total); (Xylol):	0.118	tons/y	Material balance
bis(2-ethylhexyl) phthalate; (Di-2-ethylhexyl phthalate); (DEHP):	0.0	tons/y	Material balance

Subject Item Comments

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: ACT -42
Designation: RLUOB-CHEM
Description: Chemical Usage, Bldg. TA-55-400 (lab portion of RLUOB Bldg.)
Type: Research/Testing
SCC: Industrial Processes, Photographic Equipment/Health Care/Laboratories, Laboratories, Bench Scale Reagents: Research

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	24
Operating Time in Days per Week:	7
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	8760
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Total HAP:	0.002	tons/y	Material balance
Volatile Organic Compounds (VOC):	0.004	tons/y	Material balance

Subject Item Comments

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-89
Designation: TA-52-11
Description: Data Disintegrator/industrial Shredder
Type: Shredder
SCC: Industrial Processes, Pulp and Paper and Wood Products, Miscellaneous Paper Products, Other Not Classified

Supplemental Parameters

Input Materials Processed: Paper (INPUT)

Operating Detail

	Value
Operating Time in Hours per Day:	7
Operating Time in Days per Week:	5
Operating Time in Weeks per Year:	52
Operating Time in Hours per Year:	1820
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Particulate Matter (10 microns or less):	0.17	tons/y	Manufacturer Specification
Particulate Matter (2.5 microns or less):	0.11	tons/y	Manufacturer Specification

Subject Item Comments

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: RPNT-40
Designation: SSM from TA-3-22-CHP-1
Description: Routine Start up Shut down Maintenance
Type: Stack/Vent
SCC: Industrial Processes, Oil and Gas Production, Fugitive Emissions, Fugitive Emissions

Supplemental Parameters

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	Design calculation
Nitrogen Dioxide:	0.0	tons/y	Design calculation
Particulate Matter (10 microns or less):	0.0	tons/y	Design calculation
Particulate Matter (2.5 microns or less):	0.0	tons/y	Design calculation
Sulfur Dioxide:	0.0	tons/y	Design calculation
Volatile Organic Compounds (VOC):	0.0	tons/y	Design calculation

Subject Item Comments

Unit has not been installed.

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Tuesday, March 10, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-112
Designation: TA-3-22-CT-1
Description: Combustion Turbine
Type: Turbine
SCC: Internal Combustion Engines, Electric Generation, Natural Gas, Turbine

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Input Materials Processed:	Natural Gas (INPUT)	
Materials Consumed:	91.19	MM SCF
Fuel Heating Value:	1057.1	MM BTU/MM SCF
Percent Sulfur of Fuel:	0.001	percent
Percent Ash of Fuel:	0.0	percent
Percent Carbon Content:	65.0	percent

Operating Detail

	Value
Operating Time in Hours per Day:	7
Operating Time in Days per Week:	4
Operating Time in Weeks per Year:	12
Operating Time in Hours per Year:	386
Percent of Operation During Winter:	25
Percent of Operation During Spring:	25
Percent of Operation During Summer:	25
Percent of Operation During Fall:	25

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Acetaldehyde; (Ethyl aldehyde):	0.002	tons/y	EPA emission factors (e.g., AP-42)
Carbon Dioxide (combustion):	5114.934	metric tons/y	40 CFR 98 Subpart C
Carbon Monoxide:	0.479	tons/y	EPA emission factors (e.g., AP-42)
Copper:	0.003	tons/y	EPA emission factors (e.g., AP-42)
Ethylbenzene:	0.002	tons/y	EPA emission factors (e.g., AP-42)
Formaldehyde:	0.033	tons/y	EPA emission factors (e.g., AP-42)
Lead:	0.0	tons/y	EPA emission factors (e.g., AP-42)
Manganese:	0.004	tons/y	EPA emission factors (e.g., AP-42)
Methane (combustion):	0.096	metric tons/y	40 CFR 98 Subpart C
Nickel:	0.005	tons/y	EPA emission factors (e.g., AP-42)

Nitrogen Dioxide:	2.303	tons/y	EPA emission factors (e.g., AP-42)
Nitrous Oxide (combustion):	0.01	metric tons/y	40 CFR 98 Subpart C
Particulate Matter (10 microns or less):	0.31	tons/y	EPA emission factors (e.g., AP-42)
Particulate Matter (2.5 microns or less):	0.31	tons/y	EPA emission factors (e.g., AP-42)
Propylene oxide:	0.001	tons/y	EPA emission factors (e.g., AP-42)
Sulfur Dioxide:	0.16	tons/y	EPA emission factors (e.g., AP-42)
Toluene; (Methyl benzene):	0.006	tons/y	EPA emission factors (e.g., AP-42)
Volatile Organic Compounds (VOC):	0.1	tons/y	EPA emission factors (e.g., AP-42)
Xylenes (total); (Xylol):	0.003	tons/y	EPA emission factors (e.g., AP-42)

Subject Item Comments

Print Close

Facility Annual Emissions - Subject Item Submittal Review

Wednesday, March 04, 2020

Agency ID: 856
Facility Name: Los Alamos National Laboratory
Organization Name: U.S. Department of Energy National Nuclear Security Administration
Submittal Status: 2019 Submittal (In Process)

Subject Item ID: EQPT-166
Designation: TA-3-22-CHP-1
Description: Combustion Turbine + Heat recovery steam generator (HRSG)
Type: Turbine
SCC: Internal Combustion Engines, Electric Generation, Natural Gas, Turbine

Supplemental Parameters

	Amount	Unit of Measure
Fuel Type:	Natural Gas	
Materials Consumed:	0.0	MM SCF
Fuel Heating Value:	0.0	MM BTU/MM SCF

Operating Detail

	Value
Operating Time in Hours per Day:	0
Operating Time in Days per Week:	0
Operating Time in Weeks per Year:	0
Operating Time in Hours per Year:	0
Percent of Operation During Winter:	0
Percent of Operation During Spring:	0
Percent of Operation During Summer:	0
Percent of Operation During Fall:	0

Actual Pollutants

Pollutant	Amount	Unit of Measure	Calculation Method
Carbon Monoxide:	0.0	tons/y	Design calculation
Nitrogen Dioxide:	0.0	tons/y	Design calculation
Particulate Matter (10 microns or less):	0.0	tons/y	Design calculation
Particulate Matter (2.5 microns or less):	0.0	tons/y	Design calculation
Sulfur Dioxide:	0.0	tons/y	Design calculation
Volatile Organic Compounds (VOC):	0.0	tons/y	Design calculation

Subject Item Comments

Unit has not been installed.

Print Close

2019 Emission Inventory | AI856 LANL - Asphalt Batch Plant Emissions Calculations

Year	2019
Type	Asphalt Drum/Burner
NMED ID	EQPT-116
Title V Designation	TA-60-BDM
Description	Asphalt Plant Dryer

Equations for Emissions Calculations

Criteria Pollutatant and HAP Emissions (ton/yr) = Emission Factor (lb/ton) * Annual Asphalt Production (tons/yr) * (1 ton/2000 lb)

Greenhouse Gas Emissions (metric tons/yr) = Emission Factor (kg/mmbtu) * Fuel (scf/yr) * HHV (mmBTU/scf) * metric ton/1000 kg

Pollutant	Emission Factor (lb/ton)	Annual Emissions (tons/year)	Calculation Basis
NOx	0.012	0.0034	(b)
CO	0.434	0.1198	(b)
PM	0.007	0.0020	(b)
PM-10	0.006	0.0017	(c)
PM-2.5	0.006	0.0017	(c)
SOx	0.0046	0.0013	(a)
VOC	0.0082	0.0023	(a)
EthylBenzene	0.0022	0.0006	(d)
Formaldehyde	0.00074	0.0002	(d)
Xylene	0.0027	0.0007	(d)
Greanhouse Gases	**Emission Factor (kg/mmbtu)**	**Annual Emissions (metric tons/year)**	**Calculation Basis**
Carbon Dioxide	53.06	178.31	(e)
Methane	0.001	0.003	(e)
Nitrous Oxide	0.0001	0.000	(e)

High Heat Value
0.0010571 mmBTU/scf

Fuel Use
3,179,000 scf/yr

Asphalt Production
552.0 ton/year

References for Emission Factors
(a) AP-42, Sec. 11.1, *Hot Mix Asphalt Plants* , Table 11.1-5 & 11.1-6, Updated 4/2004
(b) Calculated using stack test results performed on May 18, 2009 by TRC Air Mesurements.
(c) PM-10 emission factor is calculated as 64% of the PM emission factor (from stack test), using the same ratio of PM to PM-10 as provided in AP-42 Table 11.1-1. No data provided for PM-2.5, assume same as PM-10.
(d) AP-42, Table 11.1-9, *Hot Mix Asphalt Plants,* Updated 4/2004
(e) 40 CFR Part 98, Subpart C

2019 Emission Inventory | AI856 LANL - Beryllium Emissions Calculations

Year	2019
Type	Beryllium Work
NMED ID	ACT-2
Title V Designation	TA-35-213
Description	Be Target Fabricatlon Facility - Machining TA-35-213
Emission Calculation Description -	Emissions for the Target Fabrication Facility are from initial compliance testing of that source and calculated based on a conservative assumption of 8 hour work days. Log books were checked to verify that work days were much less than 8 hours.

2019 Emissions =	< 0.018 grams

Year	2019
Type	Beryllium Work
NMED ID	ACT-3
Title V Designation	TA-3-141
Description	Be Test Facility - Machining TA-3-141
Emission Calculation Description -	Emission values shown for the Beryllium Test Facility are from actual stack emission measurements which are submitted to NMED quarterly.

2019 Emissions =	0.006 grams

Year	2019
Type	Beryllium Work
NMED ID	ACT-6
Title V Designation	TA-55-PF-4
Description	Plutonium Facility Beryllium machining, weld cutting/dressing and metallography
Emission Calculation Description -	Emissions for the Plutonium Facility are calculated based on permitted throughputs. Log books were checked to verify that throughputs were much less than permitted values. The Plutonium Facility foundry operations did not operate during 2019.

2019 Emissions =	< 2.91 grams

Year	2019
Type	Beryllium Work
NMED ID	ACT-41
Title V Designation	TA-3-66
Description	Sigma Facility - electroplating,metallography, and chemical milling
Emission Calculation Description -	Emission Factors for the Sigma Facility are based on currently permitted similar processes (see Sections 4 and 6 of Sep 1997 application for permit 634-M2, and permit 1081-M1-R3).

2019 Emissions =	2.80E-07 grams

2019 Emission Inventory | AI856 LANL - Boilers Emissions Calculations

Year	2019
Type	Boilers except those at the power plant
NMED ID	multiple (see emission table below)
Title V Designation	EQPT 11, EQPT 12, EQPT 29, EQPT 30, EQPT 53, EQPT 90, EQPT 104, EQPT 105, EQPT 134
Description	Boilers located at various locations not including the power plant

Emission Factors (lb/MMscf)

Pollutant	Small Uncontrolled Boilers[1]	TA-16 Low NOx Boilers[4]	TA-55-6 Boilers[3]	RLUOB Boilers
NOx	100	37.08	138	29.9
SOx	0.6	0.6	0.6	0.6
PM[2]	7.6	7.6	14.2	4.9
PM-10[2]	7.6	7.6	14.2	4.9
PM-2.5[2]	7.6	7.6	14.2	4.9
CO	84	37.08	38.2	38.1
VOC	5.5	5.5	5.98	25.8
Formaldehyde[5]	0.075	0.075	0.075	0.075
Hexane[5]	1.8	1.8	1.8	1.8
Greanhouse Gases[6]	**(kg/mmbtu)**			
Carbon Dioxide	53.06			
Methane	0.001			
Nitrous Oxide	0.0001			

High Heat Value (mmBTU/scf)
0.0010571

References for Emission Factors
(1) AP-42, 7/98, Section 1.4, Natural Gas Combustion, Small Boilers.
(2) Emission factors for natural gas of PM-10 and PM-2.5 are roughly equal to those of PM, Natural Gas Combustion, Table 1.4-2.
(3) AP-42, 7/98, Section 1.4, Natural Gas Combustion, Small Boilers for SOx. Stack test on 3/00 for NOx. Otherwise, Emission factors from Sellers Engineering Co.
(4) AP-42, 7/98, Section 1.4, Natural Gas Combustion, Small Boilers; Emission factors for NOx and CO from Sellers Engineering Co (low-NOx boilers).
(5) All HAP emission factors from AP-42 7/98, Section 1.4, Natural Gas Combustion, Tables 1.4-3, 1.4-4.
(6) 40 CFR Part 98, Subpart C

2019 Natural Gas Use

Boiler ID	TA-16-1484 BS-1	TA-16-1484 BS-2	TA-53-365 BHW-1	TA-53-365 BHW-2	TA-55-6 BHW-1	TA-55-6 BHW-2	B-1 CMRR	B-2 CMRR	B-3 CMRR
NG Use (MMscf/yr)	8.361	8.361	9.367	9.367	8.688	13.657	0.745	0.745	0.745

Equations for Emissions Calculations

Annual Emissions (tons/year) = Emission Factor (lb/MMscf) * Annual natural gas consumption (MMscf/year) * (1 ton/2000 lb)

Greenhouse Gas Emissions (metric tons/yr) = Emission Factor (kg/mmbtu) * Fuel (scf/yr) * HHV (mmBTU/scf) * metric ton/1000 kg

2019 Boiler Emissions for Annual EI Reporting

Pollutant	134 TA-16-1484-BS-1 (tons/yr)	53 TA-16-1484-BS-2 (tons/yr)	11 TA-53-365-BHW-1 (tons/yr)	12 TA-53-365-BHW-2 (tons/yr)	29 TA-55-6-BHW-1 (tons/yr)	30 TA-55-6-BHW-2 (tons/yr)	90 RLUOB-BHW-1 (tons/yr)	104 RLUOB-BHW-2 (tons/yr)	105 RLUOB-BHW-3 (tons/yr)
NOx	0.155	0.155	0.468	0.468	0.599	0.942	0.011	0.011	0.011
SOx	0.0025	0.0025	0.0028	0.0028	0.0026	0.0041	0.0002	0.0002	0.0002
PM	0.032	0.032	0.036	0.036	0.062	0.097	0.002	0.002	0.002
PM-10	0.032	0.032	0.036	0.036	0.062	0.097	0.002	0.002	0.002
PM-2.5	0.032	0.032	0.036	0.036	0.062	0.097	0.002	0.002	0.002
CO	0.155	0.155	0.393	0.393	0.166	0.261	0.014	0.014	0.014
VOC	0.023	0.023	0.026	0.026	0.026	0.041	0.010	0.010	0.010
Formaldehyde	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000
Hexane	0.008	0.008	0.008	0.008	0.008	0.012	0.001	0.001	0.001
Greanhouse Gases	**(metric tons/year)**	**(metric tons/year)**	**(metric tons/year)**	**(metric tons/year)**	**(metric tons/year)**	**(metric tons/year)**	**(metric tons/year)**	**(metric tons/year)**	**(metric tons/year)**
Carbon Dioxide	468.94	468.94	525.39	525.39	487.31	766.02	41.77	41.77	41.77
Methane	0.0088	0.0088	0.0099	0.0099	0.0092	0.0144	0.0008	0.0008	0.0008
Nitrous Oxide	8.84E-04	8.84E-04	9.90E-04	9.90E-04	9.18E-04	1.44E-03	7.87E-05	7.87E-05	7.87E-05

2019 Emission Inventory | AI856 LANL - Degreaser

Year	2019
Type	Parts Washer
NMED ID	EQPT-21
Title V Designation	TA-55-DG-1
Description	Degreaser - Ultrasonic Cold batch TA-55-4

Solvent Trichloroethylene

Degreaser Emissions January-June 2019 (lbs)	
Jan-19	5.54
Feb-19	5.54
Mar-19	5.54
Apr-19	5.54
May-19	11.08
Jun-19	11.08
Total lbs:	**44.30**
Total tons:	**0.022**

Degreaser Emissions July-December 2019 (lbs)	
Jul-19	13.85
Aug-19	2.77
Sep-19	19.38
Oct-19	11.08
Nov-19	16.61
Dec-19	13.84
Total lbs:	**77.53**
Total tons:	**0.039**

Total lbs 2019:	**121.83**
Total tons 2019:	**0.061**

2019 Emission Inventory | AI856 LANL - Internal Combustion Engine

Year	2019
Type	Internal Combustion Engine
NMED ID	EQPT-119, EQPT-120, EQPT-128, EQPT-135, EQPT-143, EQPT-146, EQPT-147, EQPT-153, EQPT-154, EQPT-155, EQPT-156, EQPT-160, EQPT-161, EQPT-162
Title V Designation	Four TA-33-Generators; Three RLUOB Generators; Three TA-55 Generators; One TA-48 Generator
Description	Multiple genertors located at TA-33; 3 generators located at TA-55 CMRR; 5 generators TA-55, 1 at TA-50 and 1 at TA-48

EMISSION FACTORS (EF)	NOx lb/kw-hr	CO lb/kw-hr	SOx lb/kw-hr	PM lb/kw-hr	PM_{10} lb/kw-hr	VOC lb/kw-hr	Calculation Basis
TA-33-G-1P	2.01E-02	2.01E-03	5.36E-04	6.17E-04	6.17E-04	1.48E-03	(a)
TA-33-G-2	4.17E-02	1.21E-02	2.87E-03	2.87E-03	2.87E-03	3.31E-03	(b)
TA-33-G-3	4.17E-02	1.21E-02	2.87E-03	2.87E-03	2.87E-03	3.31E-03	(b)
TA-33-G-4	4.17E-02	2.51E-02	2.87E-03	2.87E-03	2.87E-03	3.31E-03	(b)
RLUOB-GEN-1	2.03E-02	2.51E-02	5.29E-04	1.19E-03	9.92E-04	2.87E-03	(c)
RLUOB-GEN-2	2.03E-02	2.51E-02	5.29E-04	1.19E-03	9.92E-04	2.87E-03	(c)
RLUOB-GEN-3	2.03E-02	2.51E-02	5.29E-04	1.19E-03	9.92E-04	2.87E-03	(c)
TA-48-GEN-1	8.82E-03	7.72E-03	6.61E-06	4.41E-04	3.00E-03	8.82E-03	(d)
TA-55-GEN-1	4.20E-02	9.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	(e)
TA-55-GEN-2	4.20E-02	9.00E-03	3.00E-03	3.00E-03	3.00E-03	3.00E-03	(e)
TA-55-GEN-3	3.20E-02	7.00E-03	5.40E-04	1.00E-03	1.00E-03	1.00E-03	(e)
TA-50-184-GEN-1	3.20E-02	7.00E-03	5.40E-04	1.00E-03	1.00E-03	1.00E-03	(e)
TA-55-GEN-4	3.20E-02	7.00E-03	5.40E-04	1.00E-03	1.00E-03	1.00E-03	(e)
TA-55-GEN-5	3.20E-02	7.00E-03	5.40E-04	1.00E-03	1.00E-03	1.00E-03	(e)

Greanhouse Gases Emission Factors[f]	(kg/mmBTU)
Carbon Dioxide (CO2)	73.96
Methane (CH4)	0.003
Nitrous Oxide (N2O)	0.0006

High Heat Value
0.138 (mmBTU/gal)

The size limit for determining large vs. small diesel fired generator. This information was taken from the operating permit application.
447 kw

References for Emission Factors

(a) TA-33-G-1P NOx, CO, PM, VOC emission rates are from manufacturer's data; the values were given in gm/HP-hr; The following conversion factors were used to obtain lb/kW-hr; 453.6 g/lb and 1.341 hp-hr/kWh to convert emission factor units to lb/kWh; total HC was used as VOC; actual VOC would be much lower; SO2 from Table 3.4-1 AP-42 based on 0.05% S in fuel

(b) TA-33 G2, G3, G4 CO emission rate are from EPA Tier 1 nonroad standards; all others from AP-42, Section 3.3 (see TV permit renewal app calcs from 2013)

(c) RLUOB-GEN-1, GEN-2, GEN-3 emission rates for NOx, CO, PM and VOC from applicable Tier 1 standards (see TV renewal app 2013); Emission factors for SOx and PM10 from AP-42

(d) TA-48 NOx, CO, VOC and PM factors from Tier 3 engine standards (see TV renewal app); EF for SOx, PM10 and HAPs from AP-42.

(e) Emission factors for generators at TA-55 are from AP-42. Emission factors for small diesel fired engines were taken from AP-42 (fifth edition) Tables 3.3-1 and 3.3-2. Large generators emission factors were taken from AP-42 (fifth edition) Tables 3.4-1, 3.4-2, 3.4-3, and 3.4-4.

(f) 40 CFR Part 98, Subpart C

Equations for Emissions Calculations

Emission Rate in tons/year = EF (lb/kW-hour) * Equip. Rating (kW-hr) * Number of hours (hour/year) / (1 ton/2000 lb)

GHG Emissions for FO Use (metric tons/yr) = EF (kg/mmbtu) * Fuel (gal/yr) * HHV (mmBTU/gal) * metric ton/1000 kg

2019 Generator Emissions for Annual EI Reporting

Permit ID	NMED ID	kW rating	Total (hrs/year)	Fuel Use (gal/yr)	NOx (tons/yr)	CO (tons/yr)	SOx (tons/yr)	PM (tons/yr)	PM_{10} (tons/yr)	VOC (tons/yr)	CO2 (metric tons/yr)	CH4 (metric tons/yr)	N2O (metric tons/yr)
TA-33-G-1P	EQPT-146	1111.5	133.9	2544.1	1.497	0.150	0.040	0.046	0.046	0.110	25.97	1.05E-03	2.11E-04
TA-33-G-2	EQPT-119	25	10.4	17.7	0.005	0.002	0.000	0.000	0.000	0.000	0.18	7.32E-06	1.46E-06
TA-33-G-3	EQPT-120	25	0.0	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00E+00	0.00E+00
TA-33-G-4	EQPT-135	281.25	9.0	142.2	0.053	0.032	0.004	0.004	0.004	0.004	1.45	5.89E-05	1.18E-05
RLUOB-Gen-1	EQPT-128	1656.1	0.2	20.7	0.003	0.004	0.000	0.000	0.000	0.000	0.21	8.58E-06	1.72E-06
RLUOB-Gen-2	EQPT-153	1656.1	32.3	3346.3	0.542	0.672	0.014	0.032	0.027	0.077	34.15	1.39E-03	2.77E-04
RLUOB-Gen-3	EQPT-154	1656.1	28.3	2931.9	0.475	0.589	0.012	0.028	0.023	0.067	29.92	1.21E-03	2.43E-04
TA-48-Gen-1	EQPT-147	186	0.0	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00E+00	0.00E+00
TA-55-Gen-1	EQPT-156	40.2	0.0	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00E+00	0.00E+00
TA-55-Gen-2	EQPT-155	40.2	8.5	14.5	0.007	0.002	0.001	0.001	0.001	0.001	0.15	5.98E-06	1.20E-06
TA-55-Gen-3	EQPT-143	1335	15.7	248.1	0.335	0.073	0.006	0.010	0.010	0.010	2.53	1.03E-04	2.05E-05
TA-50-184-GEN-1	EQPT-160	450	11.6	128.8	0.084	0.018	0.001	0.003	0.003	0.003	1.31	5.33E-05	1.07E-05
TA-55-GEN-4	EQPT-161	450	0.0	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00E+00	0.00E+00
TA-55-GEN-5	EQPT-162	450	0.0	0.0	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00E+00	0.00E+00

2019 Emission Inventory | AI856 LANL - Data Disintegrator

Year	2019
Type	Shredder
NMED ID	89
Title V Designation	TA-52-11
Description	Data Disintegrator/Industrial Shredder

Emission Factors

Pollutant	Percent Material in Exhaust[(b)]	Percent in Exhaust[(e)]	Control[(d)] Efficiency (Cyclone)	Control[(d)] Efficiency (Baghouse)
PM 2.5	15%	15%	0%	95.0%
PM 10	15%	90%	75%	95.0%
TSP	15%	100%	75%	95.0%

Total Boxes Shredded [(c)]
4,505

Average Box Weight[(a)]
45 lb

References for Emission Factors				
(a). Estimated maximum box weight is 45 pounds. Information provided by shredding operations. Full box weight of tightly packed paper.	**(b).** Emission Factor (percentage of material shredded that will enter into the exhaust) obtained from the manufacturer of the air handling system, AGET Manufacturing Co. 15% is also listed in the construction permit application.	**(c).** Information provided by the shredding operations personnel.	**(d).** Information on control equipment efficiencies was provided by the manufacturer (SEM) of the Data Disintegrator. Those values not given were extrapolated using manufacturer data. Efficiencies of 75% for the Cyclone and 95% for the bag house are listed in the construction permit application. (see cyclone efficiency tab for more info.)	**(e).** Manufacturer provided info that the dust into the exhaust would be in the size range of 5-20 um. Conservative assumption that 15% is PM2.5, and 90% is PM10.

Equation for Emissions Calculations

Emission Rate = Boxes Shredded * Average Box Weight * Percent Material in Exhaust * Percent in Exhaust * (1 - Cyclone Control Efficiency) * (1 - Baghouse Control Efficiency)

2019 TA-52-11 Data Disintegrator Emissions for Annual EI Reporting

Pollutant	Amount Processed (pounds)	PM-2.5 Emissions (pounds)	PM-2.5 Emissions (tons)	PM-10 Emissions (pounds)	PM-10 Emissions (tons)	TSP Emissions (pounds)	TSP Emissions (tons)
CY Annual Total	202,725	228.1	0.11	342.1	0.17	380.1	0.19

2019 Emission Inventory | AI856 LANL - Power Plant Boilers

Year	2019
Type	Boilers - Power Plant
NMED ID	EQPT-24; EQPT-25; EQPT-26 (pph, Natural Gas); EQPT-137, EQPT-138, EQPT-141 (pph; No. 2 fuel oil)
Designation	TA-3-22-1; TA3-22-2; TA-3-22-3
Description	Power Plant Boiler (pph, Natural Gas), Power Plant Boiler (pph, No. 2 fuel oil)

Pollutant	Emission Factor (EF)	
	Natural[a] Gas (lb/MMscf)	Fuel Oil[f] (lbs/ 1000 gal)
NOx[c]	58	8.64
SOx[g]	0.6	7.4
PM[d]	7.6	3.3
PM-10[d]	7.6	2.3
PM-2.5[d]	7.6	1.55
CO[e]	40	5.0
VOC	5.5	0.2
Formaldehyde	0.075	0.048
Hexane	1.8	-
Greanhouse Gases[h]	(kg/mmbtu)	(kg/gal)
Carbon Dioxide	53.06	73.96
Methane	0.001	0.003
Nitrous Oxide	0.0001	0.0006
High Heat Values		
Natural Gas	0.0010571 mmBtu/scf	
Fuel Oil	0.138 mmBtu/gal	

References for Emission Factors
(a) AP-42, 7/98, Section. 1.4, *Natural Gas Combustion* , Tables 1.4-1, 1.4-2
(b) Fuel usage obtained from utilities on a monthly basis
(c) Average of source tests conducted on all 3 boilers September 2002 burning natural gas after FGR installed. Assumed FGR resulted in similar Nox reduction for oil.
(d) All PM from natural gas is assumed <1µ, so PM-10, PM-2.5 and total PM have equal EFs, AP-42, Natural Gas Combustion, Table 1.4-2. The PM emission factor for fuel oil is the sum of filterable and condensable PM.
(e) AP-42, 1/95, Section. 1.4, Natural Gas Combustion, Table 1.4-2. Consistent with previous stack tests.
(f) AP-42, 9/98, Section. 1.3, *Fuel Oil Combustion* , Table 1.3-1 with Errata, Table 1.3-3, and Table 1.3-6.
(g) Boilers>100 MMBtu/hr: SOx Emission Factor (SO_2 {142S} + SO_3 {5.7S}) = 147.7 * S (from AP-42, Table 1.3-1 w/Errata) (S = weight % sulfur in oil)(Sulfur content per analysis on oil in tanks in August 01', no new oil delivered in 02'/03')
(h) 40 CFR Part 98, Subpart C

Boiler ID	Boiler TA-3-22-1		Boiler TA-3-22-2		Boiler TA-3-22-3	
	EQPT-24	EQPT-141	EQPT-25	EQPT-137	EQPT-26	EQPT-138
Type of fuel	Natural Gas	#2 Fuel oil	Natural Gas	#2 Fuel oil	Natural Gas	#2 Fuel oil
Units	mscf	gallons	mscf	gallons	mscf	gallons
Annual Use	86,486	0	8,504	0	259,866	1,219

Equations for Emissions Calculations

Criteria Pollutants Emissions for NG Use (ton/year) = Fuel (MSCF/year) / 1 MMscf/1000 Mscf * EF (lb/MMscf) * (1 ton/2000 lb)

Criteria Pollutants Emissions for FO Use (ton/year) = Fuel (gal/year) * EF (lb/1000 gal) * (1 ton/2000 lb)

GHG Emissions for NG Use (metric tons/yr) = EF (kg/mmbtu) * Fuel (Mscf/yr)/1 MMscf/1000 Mscf * HHV (mmBTU/scf) * metric ton/1000 kg

GHG Emissions for FO Use (metric tons/yr) = EF (kg/mmbtu) * Fuel (gal/yr) * HHV (mmBTU/gal) * metric ton/1000 kg

2019 Boiler Emissions for Annual EI Reporting

Pollutant	Boiler TA-3-22-1		Boiler TA-3-22-2		Boiler TA-3-22-3	
	EQPT-24	EQPT-141	EQPT-25	EQPT-137	EQPT-26	EQPT-138
	Annual Emissions (NG) (tons/yr)	Annual Emissions Fuel Oil (tons/yr)	Annual Emissions (NG) (tons/yr)	Annual Emissions Fuel Oil (tons/yr)	Annual Emissions (NG) (tons/yr)	Annual Emissions Fuel Oil (tons/yr)
NOx[c]	2.508	0.000	0.247	0.000	7.536	0.005
SOx[g]	0.026	0.000	0.003	0.000	0.078	0.005
PM[d]	0.329	0.000	0.032	0.000	0.987	0.002
PM-10[d]	0.329	0.000	0.032	0.000	0.987	0.001
PM-2.5[d]	0.329	0.000	0.032	0.000	0.987	0.001
CO[e]	1.730	0.000	0.170	0.000	5.197	0.003
VOC	0.238	0.000	0.023	0.000	0.715	0.000
Formaldehyde	0.003	0.000	0.000	0.000	0.010	0.000
Hexane	0.078	0.000	0.008	0.000	0.234	0.000
Greanhouse Gases[h]	(metric tons/year)	(metric tons/year)	(metric tons/year)	(metric tons/year)	(metric tons/year)	(metric tons/year)
Carbon Dioxide	4850.976	0	476.987	0	14575.813	12.442
Methane	9.14E-02	0	8.99E-03	0	2.75E-01	5.05E-04
Nitrous Oxide	9.14E-03	0	8.99E-04	0	2.75E-02	1.01E-04

2019 Emission Inventory | AI856 LANL - Power Plant Combustion Turbine

Year	2019
Type	Turbine
NMED ID	EQPT-112
Title V Designation	TA-3-22-CT-1
Description	Combustion Turbine

Equations for Emissions Calculations

Annual Emissions (tons/year) = Annual Gas Use (MMscf) * EF (lb/MMscf) * (1 ton/2000 lb)

Greenhouse Gas Emissions (metric tons/yr) = EF (kg/mmbtu) * Fuel (MMscf/yr) * (1,000,000 scf/1 MMscf) * HHV (mmBTU/scf) * metric ton/1000 kg

Pollutant	Emission Factors (lb/MMscf)	Annual Emissions (tons/year)	Calculation Basis
NOx	50.5	2.303	a
SOx	3.5	0.160	b
PM	6.8	0.310	c
PM_{10}	6.8	0.310	c
$PM_{2.5}$	6.8	0.310	c
CO	10.5	0.479	a
VOC	2.2	0.100	d
Acetaldehyde	4.12E-02	0.002	e
Copper	7.11E-02	0.003	f
Ethylbenzene	3.30E-02	0.002	e
Formaldehyde	7.31E-01	0.033	e
Manganese	8.24E-02	0.004	f
Nickel	1.18E-01	0.005	f
Propylene Oxide	2.99E-02	0.001	e
Toluene	1.34E-01	0.006	e
Xylenes (Isomers)	6.59E-02	0.003	e
Greenhouse Gases	**Emission Factor (kg/mmbtu)**	**Annual Emissions (metric tons/year)**	**Calculation Basis**
Carbon Dioxide	53.06	5,114.934	g
Methane	0.001	0.0964	g
Nitrous Oxide	0.0001	0.0096	g

Annual Gas Use	High Heat Value
91.2 MMscf	0.0010571 mmBTU/scf

References for Emission Factors

(a) Values are from the initial compliance test (TRC - October 22, 2007). Test shows average NOx as 11.29 lbs/hr and CO as 2.35 lbs/hr. These were divided by the gas flow rate of 0.223620 MMscf/hr to get 50.48 lb/MMscf (rounded to 50.5) for NOx and 10.5 lb/MMscf for CO.The SCFH value (fuel flow rate) from the compliance test report (223620 SCFH or 223.6 MSCFH).

(b) The SOx emission factor was taken from AP-42 Table 3.1-2a. The default value is used when percent sulfur is unknown (0.0034 lb/mmbtu). This is equivilant to converting the 2 grains per 100 scf to percent. The 0.0034 lb/mmbtu was converted to lb/mmscf by multiplying by 1030 btu/scf (the heat value of natural gas), to provide 3.5 lb/mmscf.

(c) PM and PM10 were calculated by taking the AP-42, Table 3.1-2a, EF of 6.6E-3 lb/MMBtu and multiplying it by 1030 BTU/scf to get 6.8 lb/MMscf.

(d) The VOC emission factor was taken from AP-42 Table 3.1-2a. The factor, 2.1 E-03 lb/mmbtu, was converted to lb/mmscf by multiplying by 1030 giving 2.2 lbs/mmscf.

(e) Emission factor from AP-42, table 3.1-3 (lb/mmbtu). This was multipiled by 1030 Btu/scf to provide the lb./mmscf factor.

(f) Emission factors from EPA FIRE database (SCC: 20300202 & 20200201). These values were also converted from lb/mmbtu to lb/mmscf.

(g) 40 CFR Part 98, Subpart C

2019 Emission Inventory | AI856 LANL - Evaporative Sprayers

Year	2019
Type	Fugitives
NMED ID	RPNT-35, RPNT-36, RPNT-37, RPNT-38, RPNT-39, RPNT-41
Title V Designation	TA-60-EVAP-1, TA-60-EVAP-2, TA-60-EVAP-3,TA-60-EVAP-4, TA-60-EVAP-5, TA-60-EVAP-6
Description	Water Spray Evaporators

Emission Factors

HAPs	2019 Sampling	
	PPM[1]	Weight Fraction
Total PCB	3.94E-07	3.94E-13
Chloroform	0.0024	2.40E-09
Chloromethane	0.0044	4.40E-09
Bromoform	0.0005	5.00E-10
Cyanide (Total)	0.0216	2.16E-08
Manganese	0.0094	9.40E-09
Antimony	0.00629	6.29E-09

References for Emission Factors
[1]Values from pond sampling laboratory results for GC Semivolatile Herbicide, GC Semivolatile Pesticide, GC/MS Semivolatile, GC/MS Volatile, General Chemistry, Metals and Radiochemistry, GEL Laboratories. Emission factors from the 2019 analysis were used.
[2] Water Density = 8.34 lb/gallon
[3] Max Pump Rate Per Sprayer = 7.51 gallons/min.
[4] Evaporation Rate = 42.5 Percent

2019 Hours of Operation

Source ID	TA-60-EVAP-1	TA-60-EVAP-2	TA-60-EVAP-3	TA-60-EVAP-4	TA-60-EVAP-5	TA-60-EVAP-6
Hours	2,247	1,011	0	2,939	2,636	2,135

Equation for Emissions Calculations

Annual Emissions (tons/year) = Water Density (lb/gal) * Max Pump Rate (g/min) * (60 min/hr) * Hours of Operation (hr) * Evaporation Rate/100 * Weight Fraction * (1 ton/2000 lb)

2019 Evaporative Sprayers Emissions for Annual EI Reporting

Polutant	RPNT-35 TA-60-EVAP-1 (tons/year)	RPNT-36 TA-60-EVAP-2 (tons/year)	RPNT-37 TA-60-EVAP-3 (tons/year)	RPNT-38 TA-60-EVAP-4 (tons/year)	RPNT-39 TA-60-EVAP-5 (tons/year)	RPNT-41 TA-60-EVAP-6 (tons/year)
Total PCB	7.07E-10	3.18E-10	0.00E+00	9.25E-10	8.29E-10	6.72E-10
Chloroform	4.31E-06	1.94E-06	0.00E+00	5.63E-06	5.05E-06	4.09E-06
Chloromethane	7.90E-06	3.55E-06	0.00E+00	1.03E-05	9.26E-06	7.50E-06
Bromoform	8.97E-07	4.04E-07	0.00E+00	1.17E-06	1.05E-06	8.52E-07
Cyanide (Total)	3.88E-05	1.74E-05	0.00E+00	5.07E-05	4.55E-05	3.68E-05
Manganese	1.69E-05	7.59E-06	0.00E+00	2.21E-05	1.98E-05	1.60E-05
Antimony	1.13E-05	5.08E-06	0.00E+00	1.48E-05	1.32E-05	1.07E-05
Total HAPs	2.06E-04	9.27E-05	0.00E+00	2.69E-04	2.42E-04	1.96E-04