

DOCKETED

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Annual Compliance Report

**City of Anaheim
Canyon Power Plant**

Anaheim, California

**SCAQMD
Facility ID: 153992**

**CEC Permit Number:
800-2010-001-CMF**

**Docket Number:
07-AFC-9C**

2023

Period Range

January 1, 2023, through December 31, 2023

Review and Certification

I have reviewed both technically and editorially all details, calculations, results conclusions and other appropriate written material contained herein and hereby certify that to the best of my knowledge the material presented is true, accurate and complete.

I certify that the information contained in this report is true, accurate, and complete.

Ronald Hoffard

Name


Signature

Generation Plant Manager

Title

1/30/2024

Date

Canyon Power Plant
Annual Compliance Report
Table of Contents

Acronyms and Abbreviations

Facility Description

List of Attachments

Compliance Matrix.....	Attachment	1
Facility Operational Status.....	Attachment	2
CEC Approved Post Certification Changes.....	Attachment	3
Missed Submittal Deadlines.....	Attachment	4
Permit Filings and Permits Issued 2016 Year	Attachment	5
Projected Compliance Testing in 2017 Year.....	Attachment	6
Additions to On-Site Compliance File.....	Attachment	7
Evaluation of the “Un-Planned” Facility Closure Plan.....	Attachment	8
NOV’s Issued 2016 Year	Attachment	9
Condition HAZ-1.....	Attachment	10
Condition HAZ-8.....	Attachment	11
Soil & Water Use Report-7.....	Attachment	12
Soil & Water Use Report-8.....	Attachment	13
Surface Treatment of Project Structures & Buildings (VIS-4).....	Attachment	14
Landscape Screening (VIS-5)	Attachment	15
AQ-9 NH3 Slip Testing AQ-9.....	Attachment	16
AQ-14 & AQ-24 RTC Inventory	Attachment	17
AQ-17 NH3 Flow Meter Accuracy Reports	Attachment	18
AQ-18 SCR Inlet Temperature Sensor Calibration Reports.....	Attachment	19

AQ-19 SCR Differential Pressure Sensor Calibration Report	Attachment	20
WASTE-10 Cooling Tower Sludge Testing	Attachment	21

Acronyms and Abbreviations

BHP	Break horse power
Btu	British thermal unit
BACT	Best available control technology
CARB	California Air Resources Board
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
COA	City of Anaheim
CFR	Code of Federal Regulations
CPP	Canyon Power Plant
CT	Combustion turbine
DAHS	Data acquisition and handling
TDS	Total dissolved solids
DPF	Diesel particulate filter
EPA	Environmental Protection Agency
F.	Fahrenheit
ICE	Internal combustion engine
lbs/hr	pounds per hour
lb/lb-mol	pound per pound mol
MW	mega watts
MMBtu	million British thermal units
mmcf	million cubic feet
NH ₃	ammonia
NO	Nitrogen Oxide
NO _x	Oxides of Nitrogen
NO ₂	Nitrogen Dioxide
O ₂	Oxygen
ppm	parts per million
ppmc	parts per million corrected to 15% O ₂
RATA	relative accuracy test audit
ROG	Reactive Organic Compounds
RTU	remote terminal unit
scf	standard cubic feet (standard temperature = 68 degrees F)
SCR	selective catalytic reactor
SCAQMD	South Coast Air Quality Management District
unit	The term unit refers to the boiler/steam turbine
VOC	Volatile Organic Compounds

1.0 Facility Description:

The City of Anaheim's (COA) Canyon Power Plant (CPP) facility is located at 3071 Miraloma Avenue in Anaheim California.

The facility consists of four natural gas fired General Electric, Model LM6000PC Sprint, simple cycle combustion turbine with water injection. The gas turbine was designed with a maximum heat input of 479 MMBtu per hour with a 46 degree Fahrenheit (F.) inlet air temperature. The units are equipped with an inlet air chiller designed to maintain the gas turbine inlet temperature at 46 degrees F. at full load.

Each unit is capable of generating 50.95 megawatts.

Carbon Monoxide (CO) emission from the gas turbine are controlled by utilizing a CO oxidation catalyst located between the gas turbine and the selective catalytic reactor (SCR). The CO oxidation catalyst controls the unit's CO and volatile organic compounds (VOC) emissions. The catalyst is guaranteed to reduce the unit's CO emission rate to a maximum of 4 ppm corrected to 15% O₂ (ppmc) and the VOC to 2 ppmc, both emission rates are based on a one (1) hour averages, dry basis at 15% O₂. The CO catalyst system was designed and supplied by Englehard/BASF.

The NO_x emissions from the gas turbine are controlled by the utilizing two (2) independent systems or techniques in series. The first system utilized on this unit is the water injection system.

Water is injected into the combustor suppressing the flame temperature and reducing the 1-hour average NO_x concentration to approximately 25 ppmc at 15% oxygen prior to entry into the SCR.

The second NO_x control system utilized by the unit is the NH₃/SCR system. After passing through the CO catalyst, the exhaust gases pass through an ammonia injection grid on its way to the SCR. The ammonia (NH₃) used at this facility is in the form a 19% by weight solution of ammonium hydroxide.

The SCR catalyst utilized by the unit for NO_x control was provided by Cormetech. The reaction between the NH₃ and the SCR catalyst reduces the existing NO_x to elemental nitrogen and water, resulting in NO_x concentrations in the exhaust gas at no greater than 2.5 ppmv at 15% O₂ on a 1-hour average. The ammonia slip must be maintained below 5 ppm at 15% O₂. Each SCR is vented through a dedicated stack, which is 11.8 ft. diameter and 86 ft. high.

The facility is also equipped with an 1141 BHP diesel emergency internal combustion engine (ICE) (black start engine) will be used to start up the plant in the event of a loss of grid power.

The ICE, is a Caterpillar, Model C-27, rated at 1141 BHP and fired on ultra low sulfur diesel fuel. The ICE, will serve to provide power to the plant during blackout conditions. The engine is certified by the SCAQMD as an EPA Tier 2 engine on 12/31/2010. The engine is required to be permitted, rather than registered, because CPP is a RECLAIM/Title V facility.

The black start engine will be used only in emergency situations where grid power from the COA's 69 kV system is unavailable to start the CTs. The black start engine will provide power to the turbine starter motors and various other necessary pieces of support equipment to get one of the gas turbines started. Once one of the turbines has been started and providing power to the

grid, the black start engine will be shut down.

The SCAQMD's rules limit operation of an emergency ICE to 50 hours per year.

The black start engine incorporates a diesel particulate filter (DPF), which is required by LAER. The Caterpillar DPF is designed to control the particulate emissions from diesel engines. The DPF consists of 2 filters, each 15-inches diameter by 15-inches long. The DPF system has been verified by CARB under Executive Order DE-14-006-01 to reduce emissions of diesel particulate matter consistent with a Level 3 device (greater than or equal to 85 percent reduction), when used with ultra low sulfur diesel with 15 ppm or lower sulfur content. As the DPF is CARB verified, a source test is not required. With the DPF, the particulate matter emissions from the engine is reduced from 0.15 g/bhp-hr to 0.0225 g/bhp-hr.

The DPF consists of a catalyzed cordierite ceramic honeycomb with hundreds of parallel channels, is designed to reduce emissions of particulate, carbon monoxide and hydrocarbons. The catalyst on the ceramic walls oxidizes carbon monoxide into carbon dioxide, and hydrocarbons into water and carbon dioxide. The arrangement of the channels is such that the exhaust gases carrying the carbon particles are forced through the fine pores of the walls, which filter out the particles. As the carbon particles are collected on the ceramic walls, the backpressure on the engine will increase. When the temperature of the exhaust is equal to or greater than 300 °C (572 °F) for at least 30% of the duty cycle, the catalyst interacts with the collected particulates to burn the particulates into carbon dioxide and water vapor, which will pass through the DPF.

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 1
COMPLIANCE MATRIX

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 SCAQMD COMPLIANCE

AQMD Requirement	Limit	Limit	Period	Unit 1 Done	Unit 1 Due	Unit 2 Done	Unit 2 Due	Unit 3 Done	Unit 3 Due	Unit 4 Done	Unit 4 Due	Canyon Site Done	Canyon Site Due	
CEMS Calibration Stack and Turbine	each 24 hours	Daily prior to fires lit	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily			
NOx pounds			Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily			
NOx pounds monthly Electronic		RECLAIM RTC Holdings per AQMD records 60 days after the end of each quarter	15 days at the end of the month									1/7/24	2/15/24	
NOx pounds quarterly Electronic			30 days at the end of the Quarter									1/7/24	4/30/24	
QCER			30 days at the end of the first 3 calendar Quarters									10/17/23	3/1/24	
NOx pounds Annual Permit Emissions Program report (APEP)			60 days after the end of the calendar year									2/1/23	3/1/24	
RATA - RECLAIM/Acid Rain		Relative accuracy test of CEMS equipment	Every Six months or annually if incentive is met	8/22/22	9/30/23	7/27/23	9/30/24	10/25/23	12/31/24	10/26/23	12/31/24			
RATA - CO Spiking 218			Annually	8/22/22	9/30/23	7/27/23	9/30/24	10/25/23	12/31/24	10/26/23	12/31/24			
Ammonia slip		5 PPM	Every quarter 1st year then annually	8/22/22	9/30/23	7/27/23	9/30/24	10/25/23	12/31/24	10/26/23	12/31/24			
Triennial Source Test (SOx, VOC, PM)		1.67 lb/hr; 2.0 ppm; .06 lb/MMbtu per unit	Every 3 years	7/21-22/20	9/30/23	7/26-27/23	9/30/26	10/24-25/23	12/31/26	10/26-27/2023	12/31/26			
Particulate PM (per Permit met the 3-year cycle on 2017)		1.67 lb/hr	Every 18 months in a 3 year period	2/8/16	not required	2/9/16	not required	11/4/15	not required	5/31/22	12/31/23			
Fuel Flow Meter	pass or fail	2% accuracy	Annually	2/27/23	2/27/24	2/27/23	2/27/24	2/27/23	2/27/24	2/27/23	2/27/24			
Fuel Temp & Press (TE-6332A/B) - (PT-6227)	pass or fail	2% accuracy	Annually	4/19/23	4/19/24	4/19/23	4/19/24	4/19/23	4/19/24	4/19/23	4/19/24			
SCR Inlet temperature probe calibration (TE-403A-D)			Annually	1/23/23	1/23/24	1/23/23	1/23/24	1/23/23	1/23/24	1/23/23	1/23/24			
SCR differential pressure calibration (PDIT 403)	pass or fail	2% accuracy	Annually	1/18/23	1/18/24	1/18/23	1/18/24	1/18/23	1/18/24	1/18/23	1/18/24			
Ammonia flow meter (X-Mitter)	pass or fail	2% accuracy	Annually	4/6/23	4/6/24	4/12/23	4/12/24	4/18/23	4/18/24	4/24/23	4/24/24			
CEMS enclosure Temperature element calibration	pass or fail	2% accuracy	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily	Daily			
Regenerate Diesel Particulate Filter		Every 24 Cold starts or Back Pressure (Yellow light) greater then 36 INCH/H2O											11/7/23	24 starts
Diesel NOx pounds quarterly electronic		RECLAIM RTC Holdings	15 days after the end of the quarter									1/7/24	4/30/24	
Power Washer NOx Pounds Qtrly Electronic												1/7/24	4/30/24	
Metal Coating Log - Rule 1107 (VOC)		Log coatings used on site	Annually									12/31/23	12/31/24	
Natural Gas Sample analysis	Manufactures specifications	0.25 grains H2S/100 scf	Monthly									12/7/23	1/30/24	
218 report (non-RECLAIM elements)		PPM & Emission Rates	Semi-annual									7/26/23	1/30/24	
Title V Permit Renewal		Compliance Report	Every 5 years; Apply 180 days prior to expiration;									8/20/21	8/18/26	
Title V 500 SAM Report		Compliance Report	Semi-annual									7/26/23	2/28/24	
Title V 500 ACC Report		Compliance Report	Annually									2/21/23	3/1/24	
Annual Emissions Report (AER)		Compliance Report	75 days at the end of calendar year									4/24/23	3/19/24	
RECLAIM equipment breakdown	Upon Discovery	Upon Discovery	Verbal report to AQMD within 1 hour of discovery											
Non-RECLAIM equipment breakdown	Upon Discovery	Upon Discovery	Verbal report to AQMD within 24 hours of discovery											
Stack NOx Limit	2.5 parts per million	2.5 PPM	60 minute average											
Ammonia Slip Limit	5 parts per million	5 PPM	60 minute average											
Start-up NOx Limit	14.27 pounds	14.27 lbs per 60 min	60 minute average											
Shut-down NOx Limit	4.07 pounds	4.07 lbs per 60 min	10 minutes average											
**Maintenance Operations NOx Limit	44.0 pounds	44.0 lbs in any hour	60 minute average											
CO Limit	4.0 parts per million	4 PPM	60 minute average											
Start-up CO Limit	11.6 pounds	11.6 lbs per 60 min	60 minute average											
Shut-down CO Limit	4.15 pounds	4.15 lbs per 60 min	10 minute average											
**Maintenance Operations CO Limit	19.5 pounds	19.4 lbs in any hour	60 minute average											
ROG Limit	2.0 parts per million	2 PPM	60 minute average											
Start-up ROG Limit	1.29 pounds	1.29 lbs per 60 min	60 minute average											
Shut-down ROG Limit	1.27 pounds	1.27 lbs per 60 min	10 minutes average											
VOC Limit	412 pounds	412 lb/mo per unit	Monthly											
PM-10 Limit	540 pounds	540 lb/mo per unit	Monthly											
SOX Limit	108 pounds	108 lb/mo per unit	Monthly											
VOC Limit	3608 pounds	3608 lbs/yr per unit	Annual											
PM-10 Limit	4822 pounds	4822 lbs/yr per unit	Annual											
SOX Limit	971 pounds	971 lbs/year per unit	Annual											
Start-ups Limit	240 pounds	540 starts per unit	Year											

* Met Incentive

**Maintenance- optimizing and re-balancing fo the NH3 grid or catalyst modules, and the retuning and testing of the turbine control system.

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 SCAQMD 500-N REPORTS

No.	Unit No.	Description	AQMD Permit Limit	Actual Emissions	Duration	Date of Episode	Reported to AQMD	500N sent to AQMD	Inspector Site Visit	Notice of Violation	Responsible	Resolution/Comments
66	U4	NOx lbs Startup exceedance	NOx lbs > 14.27 lbs	31.20 lbs/hr	20 min	2/3/23	2/3/23	2/8/23	No	No	Hoffard/Hernandez	Water valve relay replaced and tested
67	U1	NOx lbs shutdown exceedance	NOx lbs > 4.07 lbs	5.25 lbs/hr	1 hr	3/17/23	3/17/23	3/23/23	No	Yes	Hoffard/Hernandez	Supervisor discussed/trained techs
68	U1	Startup and Shutdown in the same hour - no exceedance	None	None	None	3/17/23	3/17/23	3/23/23	No	No	Hoffard/Hernandez	Hydraulic Starter Clutch replaced and tested

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 ENFORCEMENT ACTION NOTICES

*NOV	P76084	On 5/7/22 U1 CO exceedance during shutdown, on 5/13/22 U2 CO exceedance during maintenance, on 9/6/22 ICE D25 operation exceedance, and on 3/17/23 U1 NOx exceedance during shutdown.	5/12/23	5/7/22; 5/13/22; 9/6/22	5/18/22; 5/25/22; 10/7/22	Hoffard/Hernandez	
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CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 CEC REPORTING

CEC Requirement	Period	Last Done	Next Due	Responsibility	Comments
CEC 1304	varies one to two months after the quarter	1/17/24	4/30/24	Hoffard/Hernandez	
CEC 1304b	Semi-Annual	1/24/24	7/31/24	Sun/Hoffard	
CEC Annual Report	30 days at end of calender year	1/30/23	1/31/24	Hoffard/Hernandez	
CEC Quarterly Operations Report	30 days at end of each quarter	10/30/23	1/31/24	Hoffard/Hernandez	
Building and structure inspection	Semi-annually	01/24/24	6/30/24	Hernandez	
Legionella/TDS - PM10 calculation	Quarterly	12/11/23	3/30/24	Hoffard/Truesdail	

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 CAISO REPORTING

CAISO Requirement	Period	Canyon Site Done	Canyon Site Due	Canyon Site Done	Canyon Site Due	Responsibility	Comments
		Spring		Fall			
Planned Outage Schedule	Annual Spring & Fall Outages	5/1/23	5/10/23	12/1/23	12/20/23	Vo	
CAISO MOD 027 / 026 / 027	5 Years			12/31/20	12/31/25	Hoffard	Replaces WECC testing

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 CAL ARP

California Accidental Release Prevention Program	Period	Last Done	Next Due	Responsibility
Hazard Review - 19% Aqua Ammonia System	Every 5 years	03/15/20	3/14/25	Hoffard/AFD
Compliance Audit	Every three years	4/18/23	4/30/26	Ralph McCaffrey
Ammonia Sensor Testing	Semi Annual	7/11/23	1/1/24	Hoffard/McCaffrey
Ammonia Emergency Stop (E-Stop) Test	Annual	12/14/23	12/31/24	Hoffard

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 CAL RMP REPORTING

Cal. Refrigerant Management Program (RMP) Requirements (> 2000 lbs.)	Limit	Period	Last Done	Next Due	Responsible
Annual Report and Fee Payment	Not Applicable	Due Annually (March 1 Each Year)	2/13/23	3/1/24	Hernandez/Hoffard
Leak Detection System Audit and Cals.	Not Applicable	Due Annually	9/1/23	9/30/24	Hernandez/Hoffard

California Air Resources Board

Stationary Equipment Refrigerant Management Program (RMP)

Canyon Power Plant (CPP) Compliance Guidance

Compliance Year: 2023

Facility Size Classification: Large (at least 1 unit w/≥ 2000 lbs high GWP-refrigerant capacity)

Annual Fee: \$370.00 (Fees must be paid annually by the reporting deadline)

No. of Refrigeration Systems: 2 (CH-100, CH-200)

Location(s): Both chillers are located in the Northeast portion of facility footprint, just South of two water storage tanks.

Refrigeration System Specifications

CH-100: Centrifugal Chiller w/5200 lbs R-123 (full charge), Trane, Model No. CDHF3000, Serial No. L10B00350;

> ALDS ID: 301-IRF A: Vulcain/Honeywell, Model No. 301-EM, Concentration Monitor (Direct System), 2 Infrared Sensors

		Done	
Last System Audit:	Next audit target: 6/30/2024	9/1/23	Deadline: 12/31/2023
Last Calibration:	Next calibration target: 6/30/2024	9/1/23	Deadline: 12/31/2023

CH-200: Centrifugal Chiller w/5200 lbs R-123 (full charge), Trane, Model No. CDHF3000, Serial No. L10A00882;

> ALDS ID: 301-IRF B: Vulcain/Honeywell, Model No. 301-EM, Concentration Monitor (Direct System), 2 Infrared Sensors

		9/1/23	
Last System Audit:	Next audit target: 6/30/2024	9/1/23	Deadline: 12/31/2023
Last Calibration:	Next calibration target: 6/30/2024	9/1/23	Deadline: 12/31/2023

CARB Reporting (due by 3/1 each year)

Last CARB Report: 2/13/2023 for 2022 **Next reporting deadline:** 3/1/2024 for 2023 (Fee payment due on or before this date)

Automatic Leak Detection System Requirements

● Each system must be audited and calibrated using manufacturer's recommended procedures to ensure that the system:

- 1.) accurately detects a concentration level of 10 parts per million of vapor of the specific refrigerant used in the system; and
- 2.) alerts the operator when a refrigerant concentration of 100 parts per million of vapor of the specific refrigerant is reached.

● **The audit and calibration must be completed on each leak detection system at least once per calendar year.**

- If an automatic leak detection system alerts plant operators, a leak inspection must be conducted within 24 hours after the system alert.
- This leak inspection must be completed using a calibrated refrigerant leak detection device or a bubble test to confirm a refrigerant leak and to determine the leak location(s).
- If during a required leak inspection or at any time oil residue is observed indicating a refrigerant leak, a leak inspection must be conducted using a calibrated refrigerant leak detection device or a bubble test to confirm the leak.
- A leak inspection must be conducted using a calibrated refrigerant leak detection device, a bubble test, or observation of oil residue, each time an additional refrigerant charge equal to or greater than 5 pounds, or one percent of the refrigeration system full charge (whichever is greater), is added to the system.

Leak Repairs and Subsequent Leak Inspection Requirements

● A refrigerant leak must be repaired by an EPA-certified technician holding a current and active C38 - Refrigeration Contractor's license, or by an employee of a contractor with these qualifications.

> A contractor's license is not required if:

- 1.) a City employee services or repairs the system and wages are sole compensation; or
- 2.) the City performs the service or repair through one undertaking, or by one or more contracts, and the aggregate contract price for labor, materials, and all other items is less than \$500; or
- 3.) the service or repair is performed pursuant to a contract entered into before 1/1/2011, by the City.

● **Leaks must be repaired within 14 days of detection, unless a longer time period is allowed (*)**

* 45-day allowance if ANY of the following criteria is met:

- 1.) A certified technician is not available to complete the repair or replace the component(s). This must be documented in writing per recordkeeping requirements;
- 2.) The parts necessary to repair a refrigerant leak are unavailable, and the operator obtains a written statement from the refrigeration system or component manufacturer or distributor stating that the parts are unavailable. This must be documented in writing per recordkeeping requirements; or
- 3.) The refrigerant leak repair requires an industrial process shutdown that results in a process temporarily ceasing to manufacture the intermediate or final product that is produced when the industrial process refrigeration appliance is in operation.

* 120-day allowance if ALL of the following criteria is met:

- 1.) The facility is an entity subject to Mandatory Greenhouse Gas Emissions Reporting requirements;
- 2.) The refrigeration system is an industrial process refrigeration appliance;
- 3.) The refrigerant leak repair requires an industrial process shutdown that results in a process temporarily ceasing to manufacture the intermediate or final product that is produced when the industrial process refrigeration appliance is in operation; and
- 4.) Written records are maintained to document that all of the conditions are met.

● An initial verification test must be performed upon completion of refrigerant leak repairs.

● A follow-up verification test must be conducted on the complete refrigeration system after the initial verification test.

- > If the system was evacuated during the refrigerant leak repair, then this test should be conducted when the system is operating at normal operating characteristics and conditions.
- > If the system was not evacuated during the refrigerant leak repair, then the follow-up verification test requirement is satisfied once the required changes are made to return the refrigeration system to normal operating characteristics and conditions.

● If either the initial or follow-up verification tests indicate that a refrigerant leak is still occurring, the leak must be repaired within 14 days (unless a longer time period is allowed*).

- > A retrofit or retirement plan may also be prepared in lieu of this repair.

● If a follow-up verification test indicates that a refrigerant leak has not been successfully repaired within the 14 days allowed, and no exemption has been received, then:

- > successfully repair the leak within 45 days of the initial leak detection; or
- > prepare a retrofit or retirement plan within 60 days of the initial leak detection.

● If a follow-up verification test indicates that a refrigerant leak has not been successfully repaired within the 45 days allowed (*), and no exemption has been received, then:

- > prepare a retrofit or retirement plan within 60 days of the initial leak detection.

● If a follow-up verification test indicates that a refrigerant leak has not been successfully repaired within the 120 days allowed (*), and no exemption has been received, then:

- > prepare a retrofit or retirement plan within 135 days of the initial leak detection.

Retrofit or Retirement Plan Requirements

● If required to prepare a retirement or retrofit plan, the plan must establish a schedule to retrofit or retire the leaking system no later than six months after the initial leak detection, and all work must be completed during the 6-month period.

● The plan must be kept on-site where the leaking system is located.

● If a refrigeration system is to be retired and replaced, the plan must include information specific to the new refrigeration system to be constructed or installed. (**)

● If a refrigeration system is to be retrofitted, the plan must include information specific to the refrigeration system after the retrofit has been completed. (**)

** A retrofit or retirement plan must include the following information:

- 1.) The system identification number of the refrigeration system being retired or retrofitted;
- 2.) equipment type;
- 3.) equipment manufacturer;
- 4.) equipment model or description;
- 5.) intended physical location of the refrigeration system through schematic or floor plan with locations clearly noted;
- 6.) temperature classification (i.e., low, medium, other);
- 7.) full charge of refrigeration system;
- 8.) type of refrigerant used;
- 9.) if the refrigeration system is to be retired and replaced, a plan to dispose of the retired system;
- 10.) a timetable which includes, at a minimum:
 - > the date installation, construction, or retrofit of the refrigeration system is expected to begin, and
 - > the expected completion date of the installation, construction, or retrofit of the refrigeration system; and
- 11.) A signature by a representative of the facility, including the date.

● If the system is being mothballed, these requirements do not apply until the day that the refrigeration system resumes operation at a facility.

● If an exemption has been received, then the preparation and implementation of a retrofit or retirement plan is not required during the exemption time period. If an exemption request has been submitted, then the plan preparation or implementation is not required until a final exemption determination is made.

Recordkeeping Requirements

● Maintain the following records for a minimum of 5 years:

- 1.) All registration information required by the rule;
- 2.) documentation of all leak detection systems, leak inspections, and automatic leak detection system annual audit and calibrations;
- 3.) records of refrigeration system service and refrigerant leak repairs, and any documentation of conditions allowing repair to be

conducted more than 14 days after leak detection;

- 4.) retrofit or retirement plans;
- 5.) all CARB reports;
- 6.) any application for exemption, and any notification of an exemption approved, denied, revoked, or modified;
- 7.) invoices for all refrigerant purchases;
- 8.) records of all shipments of refrigerants for reclamation or destruction, to include:
 - > Name and address of the person the refrigerant was shipped to;
 - > Weight in pounds of refrigerant shipped;
 - > type of refrigerant shipped;
 - > date of shipment;
 - > purpose of shipment (i.e., reclamation, destruction, etc.);
- 9.) records of all refrigeration systems component data, measurements, calculations and assumptions used to determine the full charge.

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 CITY REPORTING

Anaheim Requirement	Period	Last Done	Next Due	Responsibility
Certified (Facility) Fire Protection Systems Inspection	Semi-Annual	1/10/23	5/31/23	Hoffard
Electric protection relays	5-years	11/14/18	11/13/28	Hoffard
8-Hour refresher HAZWOPER	Annual	7/5/22	7/5/23	Hoffard/Ralph McCaffrey
Oil Spill Prevention, Control and Countermeasure Plan	5-years	12/21/21	12/21/26	McCaffrey/Hoffard
Hazardous Materials Business Plans (CERS)	Annual	1/31/22	1/30/23	McCaffrey/Hernandez

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 EIA REPORTING

EIA Requirement	Period	Last Done	Next Due	Responsibility	Comments
EIA 860-A	Annual	1/11/24	3/1/24	Hernandez/Hoffard	
EIA-923-M	Monthly	1/11/24	2/30/2024	Hernandez/Hoffard	

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 OSHA REPORTING

OSHA Requirement	Period	Unit 1 Done	Unit 1 Due	Unit 2 Done	Unit 2 Due	Unit 3 Done	Unit 3 Due	Unit 4 Done	Unit 4 Due	Canyon Site Done	Canyon Site Due	Responsible
LM6000 Overhead Crane inspection	Annually	11/29/23	12/9/24	11/29/23	12/9/24	11/29/23	12/9/23	11/29/23	12/9/24			Vo/Hoffard
Warehouse Crane inspection	Annually									12/29/23	12/9/24	Vo/Hoffard
LM6000 Overhead Crane load test	Every 4 years	12/9/20	12/9/24	12/11/20	12/11/24	5/10/21	5/9/25	12/12/21	12/12/25			Vo/Hoffard
Warehouse Crane load test	Every 4 years									12/16/20	12/16/24	Vo/Hoffard
Fuel Gas system safeties - CTG	Tri-Annual									5/16/22	5/16/25	Vo/Hoffard
Fuel Gas system safeties - Gas Yard	Tri-Annual									5/16/22	5/16/25	Vo/Hoffard
Instrument Air system safeties	Every 5 years									10/30/21	10/30/26	Vo/Hoffard
Ammonia tank system safeties	Updated Every 4 years									6/21/21	6/20/25	Vo/Hoffard
Air Pressure tank inspection / permit renewal	Every 5 years									11/1/21	11/1/26	Hoffard/HSB insurance

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 EPA REPORTING

EPA Requirement	Period	Unit 1 Done	Unit 1 Due	Unit 2 Done	Unit 2 Due	Unit 3 Done	Unit 3 Due	Unit 4 Done	Unit 4 Due	Responsible
Linearity Test	anytime within the quarter	11/27/23	3/31/24	10/10/23	3/31/24	10/11/23	3/31/24	10/6/23	3/31/24	Hernandez/Hoffard
Electronic Data Report (EDR) EPA	30 days at the end of the Quarter	1/18/24	4/30/24	1/18/24	4/30/24	1/18/24	4/30/24	1/18/24	3/31/24	Hernandez/Hoffard
Greenhouse gas monitoring report	Annually	3/22/23	3/31/24	3/22/23	3/31/24	3/22/23	3/31/24	3/22/23	3/31/24	Hernandez/Hoffard
EPA Form 500 ACC	Annually	2/21/23	3/1/24	2/21/23	3/1/24	2/21/23	3/1/24	2/21/23	3/1/24	Hernandez/Hoffard

Spill Prevention, Control and Countermeasures Plan	Period	Last Done	Next Due	Responsibility	Comments
SPCC Facility Inspection	Monthly	12/5/23	1/31/24	Hernandez	

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 FIRE CODE REPORTING

Fire Code Requirement	Period	Last Done	Next Due	Responsibility
Fire detection system certification	Annual	5/10/23	5/10/24	Vo/Hoffard/Fire Protection Systems
Fire detection system inspection	Semi-annual	12/15/23	5/10/24	Vo/Hoffard/Fire Protection Systems
CO 2 cylinder (weight)	Annual	5/10/23	5/10/24	Vo/Hoffard/Fire Protection Systems

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 OCSD REPORTING

OCSD Requirement	Period	Last Done	Next Due	Responsibility
Permit # 1-600296				
Effluent Meter reading Report	Monthly	12/1/22	1/20/23	Operator/Hoffard/Hernandez
Effluent Sample collection (BOD/TSS)	semi-annual	10/24/22	4/30/23	Sanks/Hernandez/Hoffard
Effluent Meter Certification/Cal	Annual	1/9/23	1/10/24	Sanks/Hernandez/Hoffard
Class I Permit Renewal	every 2 years	3/31/21	3/31/23	Sanks/Hernandez/Hoffard
Backflow Inspection	Annual	2/1/22	2/28/23	Hernandez/Hoffard
Reclaim Water Testing (City of Anaheim)	Every 3 years	12/16/20	12/30/23	Hoffard/Hernandez

CANYON POWER PLANT COMPLIANCE MATRIX

CY 2023 WQMP REPORTING

Storm Drain Systems	Period	Last Done	Next Due	Responsibility
Catch Basins (25) inspection	Semi-Annual (in-house)	3/17/22	6/30/23	Hernandez/Hoffard
Infiltration Vault	Annual Inspection	3/17/22	6/30/23	Hernandez/Hoffard
Contech Storm Filters	Annual Inspection	3/17/22	6/30/23	Hernandez/Hoffard

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 2
FACILITY OPERATIONAL STATUS REPORT

Overall Project Status

Canyon Power Plant construction was completed in August 2011. Units 3 and 4 were ready for commercial operation on July 27, 2011. Units 1 and 2 were ready for commercial operation on September 15, 2011.

All four gas turbines were in commercial operation for the entire compliance year 2023.

No changes to the operational status of the facility implemented or planned in CY 2023.

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 3
CEC APPROVED POST CERTIFICATION CHANGES

No California Energy Commission (CEC) approved post certification changes

On August 19, 2021 South Coast AQMD issued the final Title V Facility Permit Renewal and no revisions or changes in CY 2023.

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 4
MISSED SUBMITTAL DEADLINES

Canyon Power Plant submitted all required compliance reports on the due dates and no missed submittal deadlines for CY 2023.

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 5
PERMIT FILINGS AND PERMITS ISSUED
DURING THE PERIOD

**Canyon Power Plant submitted a Title V Renewal application and
SCAQMD issue the final Title V Facility Permit to
Canyon Power Plant on August 19, 2021 and expires August 18, 2026.**

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 6
PROJECTED COMPLIANCE TESTING
FOR CY 2024

Projected Environmental Compliance Testing schedule in CY 2024:

Compliance Test	Frequency	Scheduled Quarter
NH3 Slip Test	Annual	3Q; 4Q
RATA Test	Annual or Semi-Annual	3Q; 4Q
Cooling Tower TDS/PM10	Quarterly	All four Quarters
Cooling Tower Legionella	Quarterly	All four Quarters
Fuel H ₂ S Test	Monthly	January through December
Fuel Flow Accuracy	Annual	2Q
SCR Differential Pressure	Annual	2Q
SCR Inlet Temperature	Annual	2Q
NH3 Flow Meter Calibration	Annual	2Q
Linearity/CGA Test	Quarterly	All four Quarters
PM10/SO ₂ /VOC	Triennial	3Q; 4Q
PM10	Every 18 months for 3 years	4Q

CANYON POWER PLANT
VARIOUS COMPLIANCE REPORTS

ATTACHMENT 7
ADDITIONS TO ON-SITE COMPLIANCE FILE

PLANT COMPLIANCE REPORTS

California Energy Commission (CEC)

- Quarterly reports
- Quarterly 1304 Report
- Annual report
- Potable water used records
- Cooling Tower Legionella test report
- Cooling Tower TDS test reports
- Monthly Natural gas burn records
- Monthly Reclaim water used reports
- Monthly Potable water used reports

California Independent System Operator (CAISO)

- Certificate of Compliance

California Air Resource Board (CARB)

- Greenhouse gas records
- Annual refrigerant report
- Annual SF6 use report
- Refrigerant monitor calibration report

Diesel Engine

- Maintenance Reports
- Fuel purchase records
- Engine run-time records
- Hi-Back calibration report
- Engine tune up report

U.S. Energy Information Administration (EIA)

- Annual/Monthly EIA 923 report
- Annual EIA 860 report

Environmental Protection Agency (EPA)

- Part 98 Greenhouse Gas reports
- Certificate of Representation forms
- Quarterly Acid Rain report
- Quarterly Acid Rain report & feedback report
- Annual Form 500-ACC

Regional Clean Air Market (RECLAIM)

- Daily submittals
- Monthly submittals
- Quarterly submittals
- SCAQMD QCER Forms
- SCAQMD 500-N Forms
- SCAQMD 500-SAM Forms
- SCAQMD 500-ACC Form
- SCAQMD APEP Form
- SCAQMD AER Report
- SCAQMD Rule 218 Semi-annual reports
- RECLAIM RTC holdings records

South Coast Air Quality Management District (SCAQMD)

- NOV & NTCs issued by the SCAQMD
- SCAQMD responses to 500-N forms
- Monthly Natural H₂S gas test reports

Orange County Sanitation District (OCSAN)

- Monthly Effluent Water reports
- Semi-annual

Calibration Records

- Fuel flow meter calibration report
- Water flow meter calibration report
- NH₃ flow meter calibration report
- SCR DP transducer calibration report
- SCR inlet temperature transducer Cal report
- SCR outlet temperature transducer Cal report

Calibration gas logs

- Linearity test reports
- Part 75 RATA test reports
- RECLAIM RATA test reports
- Rule 218 (CO) RATA test reports
- NH₃ slip test reports

Triennial compliance testing

- VOC, PM₁₀ and ROG emissions

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 8
UN-PLANNED FACILITY CLOSURE PLAN REVIEW

An “Un-Planned Facility Closure Plan” was drafted and submitted to the California Energy Commission (CEC) in the First Quarter of 2014. Currently, no revisions or changes are required.

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 9

Notice of Violation Notice to Comply
Issued in CY 2023

One (1) Notice of Violation
Issued by a Regulatory Agency in the CY 2023

No Notices to Comply
Issued by a Regulatory Agency in the CY 2023



NOTICE OF VIOLATION

DATE OF VIOLATION		
Month:	Day:	Year:
05	07	2022

Facility Name:	CANYON POWER PLANT	Facility ID#	153992	Sector:	OE
Location Address:	3071 E MIRALOMA AVE	City:	ANAHEIM	Zip:	92806
Mailing Address:	3071 E MIRALOMA AVE	City:	ANAHEIM	Zip:	92806

YOU ARE HEREBY NOTIFIED THAT YOU HAVE BEEN CITED FOR ONE OR MORE VIOLATIONS OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) RULES, STATE LAW OR FEDERAL LAW. IF PROVEN, SUCH VIOLATION(S) MAY RESULT IN THE IMPOSITION OF CIVIL OR CRIMINAL PENALTIES.

EACH DAY A VIOLATION OCCURS MAY BE HANDLED AS A SEPARATE OFFENSE REGARDLESS OF WHETHER OR NOT ADDITIONAL NOTICES OF VIOLATION ARE ISSUED.

DESCRIPTION OF VIOLATIONS

#	Authority*	Code Section or Rule No.	SCAQMD Permit to Operate or CARB Registration No.	Condition No. (If Applicable)	Description of Violation
1	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	2004 (f)(1)		A99.1 A99.2 C1.1	FAILURE OF FACILITY PERMIT HOLDER TO COMPLY WITH PERMIT CONDITIONS A99.1, A99.2, AND C1.1.
2	☒ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR	3002 (c)(1)		A99.1 A99.2 C1.1	FAILURE OF FACILITY PERMIT HOLDER TO COMPLY WITH PERMIT CONDITIONS A99.1, A99.2, AND C1.1.
3	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR			_____ _____ _____	_____ _____ _____
4	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR			_____ _____ _____	_____ _____ _____
5	☐ SCAQMD ☐ CH&SC ☐ CCR ☐ CFR			_____ _____ _____	_____ _____ _____

Served To:	RON HOFFARD	Phone:	714.765.4536	Served By:	CHRISTOPHER BALUYOT	Date Notice Served:	05/12/2023
Title:	GENERATION PLANT MANAGER	Email:	RHOFFARD@ANAHEIM.NET	Phone No:	☒ 909-396-3054 ☐ 310-233-	Email:	CBALUYOT@aqmd.gov

*Key to Authority Abbreviations:

SCAQMD -- South Coast Air Quality Management District
CCR -- California Code of Regulations

CH&SC -- California Health and Safety Code
CFR -- Code of Federal Regulations

Method of Service:

☐ In Person

☒ Certified Mail
+ E-MAIL

ORIGINAL

SCAQMD FORM 500-N
Title V – Deviations, Emergencies & Breakdowns
Submitted by Canyon Power Plant



South Coast Air Quality Management District

Form 500-N**Title V - Deviations, Emergencies & Breakdowns**

*This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.

Mail To:
SCAQMD
P.O. Box 4941
Diamond Bar, CA 91765-0941

Tel: (909) 395-3385
www.aqmd.gov

Section I - Operator Information

1. Facility Name (Business Name of Operator That Appears On Permit): <u>CANYON POWER PLANT Unit 4 (D19)</u>		2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): <u>153992</u>	
3. Address: <u>3071 E. MIRALOMA AVE</u> (where incident occurred) Street Address			
<u>ANAHEIM</u> City		<u>CA</u> State	<u>92806</u> Zip
4. Mailing Address: _____ (if different from Item 3) Street Address			
_____ City		_____ State	_____ Zip
5. Provide the name, title, and phone number of the person to contact for further information:			
<u>Ronald Hoffard</u> Name		<u>Generation Plant Manager</u> Title	<u>(714) 765-4536</u> Phone #

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. This written notification is to report a(n):			
Type of Incident	Verbal Report Due*	Written Report Due	
a. ☐ Emergency under Rule 3002(g)	Within 1 hour of discovery	Within 2 working days from when the emission limit was exceeded.	
b. ☒ Breakdown under: ☐ Rule 430 (Non-RECLAIM) ☒ Rule 2004 (RECLAIM) ☐ Rule 218 (Non-RECLAIM) [See Rule 218(f)(3)]	For Rules 430 & 2004 - Within 1 hour of discovery. For Rule 218 - Within 24 hours or next business day for failure/shutdown exceeding 24 hours	For Rules 430 & 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from start of the breakdown, unless a written extension is granted. For Rule 218 - With required semi-annual reports.	
c. ☐ Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation.	Within 14 days of discovery of the deviation.	
d. ☐ Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual monitoring reports.	
2. The incident was first discovered by: <u>TED NGUYEN</u> on <u>02/03/2023</u> <u>07:45</u> ☒ AM ☐ PM Name Date Time			
3. The incident was first reported by: <u>OPERATOR #8</u> on <u>02/03/2023</u> <u>08:58</u> ☒ AM ☐ PM Name of AQMD Staff Person Date Time			
a. ☒ Via Phone		Notification Number (Required): <u>732458</u>	
b. ☐ In Person			
4. When did the incident actually occur? <u>02/03/2023</u> <u>05:30</u> ☒ AM ☐ PM Date Time			

AQMD USE ONLY	Received By:		Assigned By:		Inspector:	
	Date/Time Received:		Date/Time Assigned:		Date/Time Received Assignment:	
	Date Delivered To Team:		Date Reviewed Inspector Report:		Date Inspected Facility:	
	Team:	Sector:	Breakdown/Deviation Notification No.		Date Completed Report:	
	Recommended Action:		Cancel Notification	Grant Relief	Issue NOV No. _____	Other. _____
	Final Action:		Cancel Notification	Grant Relief	Issue NOV No. _____	Other. _____

5. Has the incident stopped? a. ☒ Yes, on: 02/03/2023 05:50 ☒ AM b. ☐ No
Date Time ☐ PM
6. What was the total duration of the incident? 20 min
Days Hours
7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occurred? _____
Date Time ☐ AM ☐ PM
8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.
See attached report
9. The incident may have resulted in a:
a. ☒ Violation of Permit Condition(s): A99.1 NOx lbs/hr > 14.27 lbs Start-up
b. ☐ Violation of AQMD Rule(s): _____
10. What was the probable cause of the incident? Attach additional pages as necessary.
See attached report
11. Did the incident result in excess emissions? ☐ No ☒ Yes (Complete the following and attach calculations.)
☐ VOC _____ lbs ☒ NOx 31.520 lbs ☐ SOx _____ lbs ☐ H2S _____ lbs
☐ CO _____ lbs ☐ PM _____ lbs ☐ Other: _____ lbs _____ pollutant
12. For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY: If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?
a. ☒ Yes, for: ☐ NOx ☐ SOx b. ☐ No, for: ☐ NOx ☐ SOx
If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.
13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.
See attached report
14. Was the facility operating properly prior to the incident?
a. ☒ Yes b. ☐ No, because: _____
15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?
a. ☐ Yes b. ☒ No, because: Water valve relay failure
16. Has the facility returned to compliance?
a. ☐ No, because: _____
b. ☒ Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: ☒ I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

1. Signature of Responsible Official: 	2. Title of Responsible Official: GENERATION PLANT MANAGER
3. Print Name: RONALD HOFFARD	4. Date: 02/08/2023
5. Phone #: (714) 765-4536	6. Fax #:
7. Address of Responsible Official: 3071 E. MIRALOMA AVE Anaheim CA 92806 Street # City State Zip	

AQMD 500N Episode Date: 2/3/2023

Identify issue: Water Injection Valve failed to open

Canyon Power Plant: Unit 4/ID# 153992

Notification: 732458

Question 8 - Describe the incident and identify each piece of equipment:

All four Units were remote started on 02/03/2023 at 0525 hours. The Canyon Plant Operators arrived at 0537 hours to take over operation of the generating units and noted all units operating within compliance except for Unit 4. Unit 4 NOx ppm was high and Unit 4 control system displayed zero NOx water injection flow. Shut down on Unit 4 was immediately initiated at 0540 hours. The data showed that the unit's NOx water injection valve failed to open after start initiated. Unfortunately, the unit's NOx startup limit had been exceeded (**see attachment #1**).

Question 10 – What was the probable cause of the incident?

The cause of high NOx ppm startup limit exceedance was due to failure of NOx water injection flow caused by failure of the relay that opens the NOx water injection valve (**See attachment #3**).

Question 13 – Describe the steps taken to correct the problem:

Technician troubleshooting revealed that the NOx water injection valve was functional. The electric control for actuating the NOx water injection valve failed to actuate the valve. Further troubleshooting revealed a failed electric relay in the control system. The relay was replaced by a spare from the plants spare parts inventory.

Question 16 – Facility returned to compliance?

Unit 4 returned to compliance February 3, 2023 at 0754 hours at the end of the test run (**See attachment #2**).

ID 193992

ATTACHMENT #1

Unit 4 Episode												
Date/Time	4_GasFlow kscfh	4_NOX_CORR ppm	4_NH3_Flow #/hr	4_H2O_FLOW k#/hr	4_NOX_LBHR #/hr	4_NOxlb_SU #/hr	4_NOxlb_SD #/hr	4_CO_CORR ppm	Breakdown			
02/03/2023 05:24	0.3	0	0	0	0	0	0	0	0			
02/03/2023 05:25	70.8	0	0	0	0	0	0	536.24	Startup minute			
02/03/2023 05:26	105.3	8.36	0	0	3.43	3.43	3.43	283.53	H2O flow failed to open			
02/03/2023 05:27	112.9	39.08	0	0	17.06	17.06	17.06	15.41				
02/03/2023 05:28	136.3	42.21	0	0	22.18	22.18	22.18	3.16				
02/03/2023 05:29	215.1	48.39	0	0	40.21	40.21	40.21	2.2				
02/03/2023 05:30	278.6	86.48	0	0	93.31	93.31	93.31	1.42	NH3 flow first minute			
02/03/2023 05:31	331.6	117.96	11.78	0	151.47	151.47	151.47	0.86				
02/03/2023 05:32	332.6	164.24	75.25	0	211.27	211.27	211.27	0.73				
02/03/2023 05:33	332.4	152.83	79.38	0	196.49	196.49	196.49	0.78				
02/03/2023 05:34	332	148.35	79.35	0	190.68	190.68	190.68	0.79				
02/03/2023 05:35	331.4	146.42	79.29	0	187.57	187.57	187.57	0.72				
02/03/2023 05:36	330.8	146.34	79.35	0	187.19	187.19	187.19	0.63				
02/03/2023 05:37	330.5	146.97	79.51	0	187.73	187.73	187.73	0.54				
02/03/2023 05:38	330.1	147.25	79.49	0	187.86	187.86	187.86	0.47				
02/03/2023 05:39	330.2	147.18	79.36	0	187.91	187.91	187.91	0.42				
02/03/2023 05:40	329.8	147.39	79.47	0	188.04	188.04	188.04	0.37				
02/03/2023 05:41	329.7	147.45	79.33	0	187.99	187.99	187.99	0.34				
02/03/2023 05:42	308.6	149.05	77.15	0	177.88	177.88	177.88	0.33				
02/03/2023 05:43	243.4	141.25	67.49	0	132.91	132.91	132.91	0.35				
02/03/2023 05:44	168.4	122.56	60.06	0	79.91	79.91	79.91	0.37				
02/03/2023 05:45	101.9	85.88	42.09	0	33.81	33.81	33.81	0.42				
02/03/2023 05:46	98.6	54.41	40.74	0	20.7	20.7	20.7	0.63				
02/03/2023 05:47	96.1	47.75	40.03	0	17.76	17.76	17.76	0.92				
02/03/2023 05:48	100.1	46.57	40.99	0	18.08	18.08	18.08	1.2				
02/03/2023 05:49	98.2	45.8	40.71	0	17.42	17.42	17.42	1.29				
02/03/2023 05:50	49.1	44.33	20.15	0	8.41	8.41	8.41	1.32	Shutdown			
02/03/2023 05:51	0.3	0	0	0	0	0	0	0				
02/03/2023 05:52	0.3	0	0	0	0	0	0	0				
02/03/2023 05:53	0.3	0	0	0	0	0	0	0				
02/03/2023 05:54	0.2	0	0	0	0	0	0	0				
02/03/2023 05:55	0.3	0	0	0	0	0	0	0				
02/03/2023 05:56	0.3	0	0	0	0	0	0	0				
02/03/2023 05:57	0.2	0	0	0	0	0	0	0				
02/03/2023 05:58	0.3	0	0	0	0	0	0	0				
02/03/2023 05:59	0.3	0	0	0	0	0	0	0				
02/03/2023 06:00	0.3	0	0	0	0	0	0	0				
02/03/2023 06:01	0.3	0	0	0	0	0	0	0				
02/03/2023 06:02	0.3	0	0	0	0	0	0	0				
02/03/2023 06:03	0.3	0	0	0	0	0	0	0				
02/03/2023 06:04	0.3	0	0	0	0	0	0	0				
02/03/2023 06:05	0.3	0	0	0	0	0	0	0				
02/03/2023 06:06	0.3	0	0	0	0	0	0	0				
02/03/2023 06:07	0.3	0	0	0	0	0	0	0				
02/03/2023 06:08	0.3	0	0	0	0	0	0	0				
02/03/2023 06:09	0.3	0	0	0	0	0	0	0				
02/03/2023 06:10	0.3	0	0	0	0	0	0	0				
02/03/2023 06:11	0.3	0	0	0	0	0	0	0				
02/03/2023 06:12	0.3	0	0	0	0	0	0	0				
02/03/2023 06:13	0.3	0	0	0	0	0	0	0				
02/03/2023 06:14	0.3	0	0	0	0	0	0	0				
02/03/2023 06:15	0.3	0	0	0	0	0	0	0				
02/03/2023 06:16	0.3	0	0	0	0	0	0	0				
02/03/2023 06:17	0.3	0	0	0	0	0	0	0				
02/03/2023 06:18	0.2	0	0	0	0	0	0	0				
02/03/2023 06:19	0.3	0	0	0	0	0	0	0				
02/03/2023 06:20	0.3	0	0	0	0	0	0	0				
02/03/2023 06:21	0.3	0	0	0	0	0	0	0				
02/03/2023 06:22	0.3	0	0	0	0	0	0	0				
02/03/2023 06:23	0.3	0	0	0	0	0	0	0				
02/03/2023 06:24	0.3	0	0	0	0	0	0	0				
60 Min Aver						45.79 lbs						
Startup Limit						14.27 lbs						
Exceedance						31.52 lbs						

ATTACHMENT #2

Unit 4 Tested for Compliance									
Date/Time	4_GasFlow kscfh	4_NOX_CORR ppm	4_NH3_Flow #/hr	4_H2O_FLOW k#/hr	4_NOX_LBHR #/hr	4_NOxlb_SU #/hr	4_NOxlb_SD #/hr	4_CO_CORR ppm	Unit 4 Issue resolved
02/03/2023 06:57	0.3	0	0	0	0	0	0	0	
02/03/2023 06:58	89.8	0.4	0	0	0.09	0.09	0.09	588.79	Startup minute
02/03/2023 06:59	113	21.96	0	0	9.61	9.61	9.61	150.55	
02/03/2023 07:00	107.7	58.95	0	0.1	24.54	24.54	24.54	6.86	H2O flow first minute
02/03/2023 07:01	152.4	76.38	0	3.2	44.96	44.96	44.96	2.44	
02/03/2023 07:02	236.5	50.02	0	6.1	45.69	45.69	45.69	1.98	
02/03/2023 07:03	303.6	32.95	0	11.6	38.57	38.57	38.57	1.69	
02/03/2023 07:04	344.3	27.49	0	15.1	36.51	36.51	36.51	1.49	
02/03/2023 07:05	347.6	24.56	38.23	15.5	32.85	32.85	32.85	1.64	NH3 flow first minute
02/03/2023 07:06	358.5	21.85	81.84	16.3	30.49	30.49	30.49	1.9	
02/03/2023 07:07	358.1	7.58	83.15	16.3	10.53	10.53	10.53	1.99	
02/03/2023 07:08	357.7	2.51	83.01	16.3	3.38	3.38	3.38	1.95	
02/03/2023 07:09	358.3	1.61	83.16	16.3	2.26	2.26	2.26	1.89	
02/03/2023 07:10	357.7	1.44	82.95	16.4	1.88	1.88	1.88	1.81	
02/03/2023 07:11	357.6	0	83.16	16.4	0	0	0	0	
02/03/2023 07:12	357.6	0	83.25	16.3	0	0	0	0	
02/03/2023 07:13	357.2	0	83.36	16.3	0	0	0	0	
02/03/2023 07:14	357.7	0	83.42	16.3	0	0	0	0	
02/03/2023 07:15	357.6	0	83.59	16.4	0	0	0	0	
02/03/2023 07:16	357.2	0	83.71	16.3	0	0	0	0	
02/03/2023 07:17	357.5	0	83.7	16.3	0	0	0	0	
02/03/2023 07:18	358	0	83.71	16.3	0	0	0	0	
02/03/2023 07:19	357.4	0	83.83	16.4	0	0	0	0	Online Cal performed
02/03/2023 07:20	357.3	0	83.92	16.3	0	0	0	0	
02/03/2023 07:21	357.6	0	83.83	16.3	0	0	0	0	
02/03/2023 07:22	357.3	0	83.93	16.3	0	0	0	0	
02/03/2023 07:23	357.6	0	83.99	16.3	0	0	0	0	
02/03/2023 07:24	357.4	0	83.88	16.3	0	0	0	0	
02/03/2023 07:25	357.5	0	83.99	16.3	0	0	0	0	
02/03/2023 07:26	357.1	0	84.14	16.3	0	0	0	0	
02/03/2023 07:27	357.5	0	84.06	16.3	0	0	0	0	
02/03/2023 07:28	357.4	0	84.14	16.3	0	0	0	0	
02/03/2023 07:29	357.6	1.43	84.02	16.4	1.88	1.88	1.88	1.58	
02/03/2023 07:30	357.6	1.3	83.45	16.3	1.88	1.88	1.88	1.58	
02/03/2023 07:31	357.5	1.19	82.3	16.3	1.5	1.5	1.5	1.61	
02/03/2023 07:32	356.9	1.12	81.02	16.3	1.5	1.5	1.5	1.61	
02/03/2023 07:33	357	1.09	79.62	16.3	1.5	1.5	1.5	1.61	
02/03/2023 07:34	357.4	1.05	78.1	16.3	1.5	1.5	1.5	1.6	
02/03/2023 07:35	357.1	1.04	76.58	16.3	1.5	1.5	1.5	1.6	
02/03/2023 07:36	357.2	1.05	74.9	16.3	1.5	1.5	1.5	1.58	
02/03/2023 07:37	357.2	1.06	73.62	16.3	1.5	1.5	1.5	1.55	
02/03/2023 07:38	357.2								

ID 153992
ATTACHEMENT #3

Unit 4 Water valve relay





South Coast Air Quality Management District

Form 500-N**Title V - Deviations, Emergencies & Breakdowns**

*This written report is in addition to requirements to verbally report certain types of incidents. Verbal reports may be made by calling AQMD at 1-800-288-7664 (1-800-CUT-SMOG) or AQMD enforcement personnel.

Mail To:
SCAQMD
P.O. Box 4941
Diamond Bar, CA 91765-0941
Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. Facility Name (Business Name of Operator That Appears On Permit): <u>CANYON POWER PLANT Unit 1 (D1)</u>		2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): <u>153992</u>	
3. Address: (where incident occurred) <u>3071 E. MIRALOMA AVE</u> <u>ANAHEIM</u> City		Street Address <u>CA</u> State <u>92806</u> Zip	
4. Mailing Address: (if different from Item 3) City		Street Address State Zip	
5. Provide the name, title, and phone number of the person to contact for further information: <u>Bertha A Hernandez</u> Name <u>Environmental Svcs Spec</u> Title <u>(714) 765-7481</u> Phone #			

Section II - Reporting of Breakdowns, Deviations, and Emergencies

1. This written notification is to report a(n):			
Type of Incident	Verbal Report Due*	Written Report Due	
a. ☐ Emergency under Rule 3002(g)	Within 1 hour of discovery	Within 2 working days from when the emission limit was exceeded.	
b. ☐ Breakdown under: ☐ Rule 430 (Non-RECLAIM) ☐ Rule 2004 (RECLAIM) ☐ Rule 218 (Non-RECLAIM) [See Rule 218(f)(3)]	For Rules 430 & 2004 - Within 1 hour of discovery. For Rule 218 - Within 24 hours or next business day for failure/shutdown exceeding 24 hours	For Rules 430 & 2004 - Within 7 calendar days after breakdown is corrected, but no later than 30 days from start of the breakdown, unless a written extension is granted. For Rule 218 - With required semi-annual reports.	
c. ☒ Deviation with excess emissions [See Title V Permit, Section K, Condition No. 22B]	Within 72 hours of discovery of the deviation or shorter reporting period if required by an applicable State or Federal Regulation.	Within 14 days of discovery of the deviation.	
d. ☐ Other Deviation [See Title V Permit, Section K, Condition Nos. 22D & 23]	None	With required semi-annual monitoring reports.	
2. The incident was first discovered by: <u>JEFFREY HACKER</u> on <u>03/17/2023</u> <u>05:58</u> ☐ AM ☒ PM Name Date Time			
3. The incident was first reported by: <u>Voicemail left at 800-CUT-SMOG</u> on <u>03/17/2023</u> <u>06:18</u> ☐ AM ☒ PM Name of AQMD Staff Person Date Time			
a. ☒ Via Phone b. ☐ In Person			
Notification Number (Required): <u>738304</u>			
4. When did the incident actually occur? <u>03/17/2023</u> <u>02:05</u> ☐ AM ☒ PM Date Time			

AQMD USE ONLY	Received By:		Assigned By:		Inspector:	
	Date/Time Received:		Date/Time Assigned:		Date/Time Received Assignment:	
	Date Delivered To Team:		Date Reviewed Inspector Report:		Date Inspected Facility:	
	Team:	Sector:	Breakdown/Deviation Notification No.		Date Completed Report:	
	Recommended Action:		Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____
	Final Action:		Cancel Notification	Grant Relief	Issue NOV No. _____	Other: _____

5. Has the incident stopped? a. ☒ Yes, on: 03/17/2023 03:04 ☒ AM ☐ PM b. ☐ No
Date Time
6. What was the total duration of the incident? 01
Days Hours
7. For equipment with an operating cycle, as defined in Rule 430 (b)(3)(A), when was the end of the operating cycle during which the incident occurred? _____
Date Time ☐ AM ☐ PM
8. Describe the incident and identify each piece of equipment (by permit, application, or device number) affected. Attach photos (when available) of the affected equipment and attach additional pages as necessary.
See Attachment A
9. The incident may have resulted in a:
a. ☒ Violation of Permit Condition(s): A99.1 NOx lbs/hr > 4.07 lbs shutdown
b. ☐ Violation of AQMD Rule(s): _____
10. What was the probable cause of the incident? Attach additional pages as necessary.
See Attachment A
11. Did the incident result in excess emissions? ☐ No ☒ Yes (Complete the following and attach calculations.)
☐ VOC _____ lbs ☒ NOx 1.180 lbs ☐ SOx _____ lbs ☐ H2S _____ lbs
☐ CO _____ lbs ☐ PM _____ lbs ☐ Other: _____ lbs _____ pollutant
12. For RECLAIM facilities Subject to Rule 2004 (i)(3) ONLY: If excess emissions of NOx and/or SOx were reported in Item 11, do you want these emissions to be counted when determining compliance with your annual allocations?
a. ☒ Yes, for: ☐ NOx ☐ SOx b. ☐ No, for: ☐ NOx ☐ SOx
If box 12(b) above is checked, include all information specified in Rule 2004(i)(3)(B) and (C), as applicable.
13. Describe the steps taken to correct the problem (i.e., steps taken to mitigate excess emissions, equipment repairs, etc.) and the preventative measures employed to avoid future incidents. Include photos of the failed equipment if available and attach additional pages as necessary.
See Attachment A
14. Was the facility operating properly prior to the incident?
a. ☒ Yes b. ☐ No, because: _____
15. Did the incident result from operator error, neglect or improper operation or maintenance procedures?
a. ☒ Yes b. ☐ No, because: _____
16. Has the facility returned to compliance?
a. ☐ No, because: _____
b. ☒ Yes (Attach evidence such as emissions calculations, contemporaneous operating logs or other credible evidence.)

Section III - Certification Statement

I certify under penalty of law that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

For Title V Facilities ONLY: ☒ I also certify under penalty of law that that I am the responsible official for this facility as defined in AQMD Regulation XXX.

1. Signature of Responsible Official: 	2. Title of Responsible Official: ENVIRONMENTAL SERVICES SPECIALIST
3. Print Name: BERTHA A HERNANDEZ	4. Date: <u>03/23/2023</u>
5. Phone #: (714) 765-7481	6. Fax #:
7. Address of Responsible Official: 3071 E. MIRALOMA AVE Anaheim CA 92806 Street # City State Zip	

AQMD 500N Episode Date: 03/17/2023
Identify issue: Shutdown NOx lbs > 4.07
Canyon Power Plant: Unit 1/ID# 153992
Notification: 738304

Question 8 - Describe the incident and identify each piece of equipment:

After the Hydraulic Starter Clutch was replaced Unit 1 operated at 1405 hours for testing purposes. There were no issues during the testing period and the unit operated in compliance. Prior to shutting down the unit, the operator reviewed and logged all information to ensure compliance during the shutdown hour. As such, the operator initiated a shutdown at 1458 hours and did not realized that a potential shutdown exceedance would occur (see **Attachment B**).

At 1745 hours the operator returned to the control room and observed an episode on the DAHS. The operator immediately contacted staff to review the episode and then proceeded to report the incident to SCAQMD.

Question 10 – What was the probable cause of the incident?

In preparation of a Unit shutting down an operator reviews and logs the shutdown lbs and ppm average values 30 minutes prior to shutdown. If the shutdown lbs and ppm average values are at or below the shutdown limits the unit can begin the shutdown process and shutdown in compliance. If the shutdown lbs and ppm average values exceed the shutdown limits the operator will extend the operation time to avoid an episode. However, the operator reviewed and logged the shutdown lbs and ppm average values but failed to recognize the shutdown limitations and proceeded to shutdown the unit which resulted in a shutdown NOx lbs emissions exceedance (see **Attachment C**).

Question 13 – Describe the steps taken to correct the problem:

During the shutdown period the operator did not recognize the shutdown limitations and proceeded to shutdown the unit which resulted in a NOx lbs shutdown exceedance episode.

Plant supervisor discussed and reviewed the Canyon Power Plant Emission Compliance Log (see **Attachment C**) with staff. Staff was directed to monitor the DAHS during operations and to accurately record all compliance data necessary to evaluate permit limitations and take the necessary action to avoid an exceedance.

Question 16 – Facility returned to compliance?

On Friday, March 17, 2023, U1 was in compliance.

Date/Time	1_NOXPPM	1_NOX_CORR	1_NOX_LBHR		1_NOxlb_SU	1_NOxlbSUH	1_NOxlb_SD	1_NOxlbSDH	1_GasFlow	1_Shutdown
	ppm	ppm	#/hr	status	#/hr	pounds	#/hr	pounds	kscfh	1=ON
03/17/2023 14:00	0	0	0	P	0	-99.99	0	0	0.4	0
03/17/2023 14:01	0	0	0	P	0	-99.99	0	0	0.3	0
03/17/2023 14:02	0	0	0	P	0	-99.99	0	0	0.3	0
03/17/2023 14:03	-0.01	0	0	P	0	-99.99	0	0	0.3	0
03/17/2023 14:04	0	0	0		0	0	0	0	35.6	0
03/17/2023 14:05	0.87	2.58	0.99		0.99	0.02	0	0	94.5	0 Start-up period
03/17/2023 14:06	10.86	26.81	9.88		9.88	0.18	0	0	95	0
03/17/2023 14:07	15.48	36.1	16.27		16.27	0.45	0	0	116.5	0
03/17/2023 14:08	14.39	27.3	19.23		19.23	0.77	19.23	0	181.3	0
03/17/2023 14:09	10.99	15.81	15.53		15.53	1.03	15.53	5.25	255	0
03/17/2023 14:10	11.56	14.09	17.87		17.87	1.33	17.87	5.25	327.2	0
03/17/2023 14:11	19.64	21.42	34.14		34.14	1.9	34.14	5.25	411.6	0
03/17/2023 14:12	24.49	23.88	42.29		42.29	2.6	42.29	5.25	457.7	0
03/17/2023 14:13	8.07	7.56	13.71		13.71	2.83	13.71	5.25	466.5	0
03/17/2023 14:14	3.06	2.83	4.91		4.91	2.91	4.91	5.25	467.1	0
03/17/2023 14:15	2.4	2.22	3.93		3.93	2.98	3.93	5.25	467.9	0
03/17/2023 14:16	2.37	2.18	3.93		3.93	3.04	3.93	5.25	467.4	0
03/17/2023 14:17	2.48	2.29	3.93		3.93	3.11	3.93	5.25	467.8	0
03/17/2023 14:18	2.77	2.55	4.43		4.43	3.18	4.43	5.25	468.6	0
03/17/2023 14:19	2.94	2.71	4.93		4.93	3.27	4.93	5.25	469.9	0
03/17/2023 14:20	2.88	2.64	4.95		4.95	3.35	4.95	5.25	471.4	0
03/17/2023 14:21	2.6	2.38	4.46		4.46	3.42	4.46	5.25	471.7	0
03/17/2023 14:22	2.25	2.06	3.96		3.96	3.49	3.96	5.25	471.8	0
03/17/2023 14:23	2.07	1.89	3.47		3.47	3.55	3.47	5.25	472.3	0
03/17/2023 14:24	2	1.83	3.47		3.47	3.6	3.47	5.25	471.8	0
03/17/2023 14:25	2.01	1.84	3.47		3.47	3.66	3.47	5.25	472.3	0
03/17/2023 14:26	2.06	1.89	3.47		3.47	3.72	3.47	5.25	472.4	0
03/17/2023 14:27	2.09	1.91	3.47		3.47	3.78	3.47	5.25	472	0
03/17/2023 14:28	2.1	1.92	3.47		3.47	3.84	3.47	5.25	472.2	0
03/17/2023 14:29	2.09	1.91	3.47		3.47	3.89	3.47	5.25	472.8	0
03/17/2023 14:30	2.09	1.91	3.48		3.48	3.95	3.48	5.25	473.3	0
03/17/2023 14:31	2.07	1.89	3.48		3.48	4.01	3.48	5.25	473.2	0
03/17/2023 14:32	2.06	1.88	3.48		3.48	4.07	3.48	5.25	473.1	0
03/17/2023 14:33	2.06	1.88	3.48		3.48	4.13	3.48	5.25	472.9	0
03/17/2023 14:34	2.08	1.9	3.47		3.47	4.18	3.47	5.25	472.8	0

Date/Time	1_NOXPPM ppm	1_NOX_CORR ppm	1_NOX_LBHR #/hr	status	1_NOxlb_SU #/hr	1_NOxlbSUH pounds	1_NOxlb_SD #/hr	1_NOxlbSDH pounds	1_GasFlow kscfh	1_Shutdown 1=ON
03/17/2023 14:00	0	0	0 P		0	-99.99	0	0	0.4	0
03/17/2023 14:35	2.09	1.91	3.47		3.47	4.24	3.47	5.25	472.6	0
03/17/2023 14:36	2.08	1.9	3.48		3.48	4.3	3.48	5.25	473.3	0
03/17/2023 14:37	2.06	1.88	3.48		3.48	4.36	3.48	5.25	473.3	0
03/17/2023 14:38	2.06	1.88	3.48		3.48	4.42	3.48	5.25	473.1	0
03/17/2023 14:39	2.06	1.88	3.48		3.48	4.47	3.48	5.25	473.1	0
03/17/2023 14:40	2.07	1.89	3.48		3.48	4.53	3.48	5.25	473.2	0
03/17/2023 14:41	2.06	1.88	3.48		3.48	4.59	3.48	5.25	473.1	0
03/17/2023 14:42	2.03	1.85	3.48		3.48	4.65	3.48	5.25	473.4	0
03/17/2023 14:43	2.01	1.84	3.48		3.48	4.71	3.48	5.25	473.2	0
03/17/2023 14:44	2.01	1.83	3.48		3.48	4.76	3.48	5.25	473	0
03/17/2023 14:45	2.01	1.83	3.48		3.48	4.82	3.48	5.25	473	0
03/17/2023 14:46	2.01	1.83	3.48		3.48	4.88	3.48	5.25	473.1	0
03/17/2023 14:47	2	1.82	3.48		3.48	4.94	3.48	5.25	472.9	0
03/17/2023 14:48	1.99	1.81	3.48		3.48	5	3.48	5.25	472.9	0
03/17/2023 14:49	1.96	1.79	3.48		3.48	5.05	3.48	5.25	473.4	0
03/17/2023 14:50	1.94	1.77	3.48		3.48	5.11	3.48	5.25	473.1	0
03/17/2023 14:51	1.93	1.76	2.98		2.98	5.16	2.98	5.25	473.5	0
03/17/2023 14:52	1.95	1.78	3.48		3.48	5.22	3.48	5.25	473.3	0
03/17/2023 14:53	1.96	1.79	3.48		3.48	5.28	3.48	5.25	473.1	0
03/17/2023 14:54	1.99	1.81	3.48		3.48	5.34	3.48	5.25	473.3	0
03/17/2023 14:55	2	1.82	3.48		3.48	5.39	3.48	5.25	473.5	0
03/17/2023 14:56	2	1.82	3.48		3.48	5.45	3.48	5.25	473.7	0
03/17/2023 14:57	2.01	1.83	3.48		3.48	5.51	3.48	5.25	473.5	0
03/17/2023 14:58	2.02	1.84	3.34		3.34	5.51	3.34	5.25	454.9	1
03/17/2023 14:59	1.97	1.97	2.8		2.8	5.51	2.8	5.25	381	1
03/17/2023 15:00	1.62	1.75	1.93		1.93	5.51	1.93	5.25	306.2	1
03/17/2023 15:01	0.86	1.03	0.93		0.93	5.51	0.93	5.25	222.5	1
03/17/2023 15:02	0.68	1.01	0.62		0.62	5.51	0.62	5.25	148.6	1
03/17/2023 15:03	0.64	1.23	0.51		0	5.51	0.51	5.25	96.5	1
03/17/2023 15:04	0.59	1.32	0.47		0	5.51	0.47	5.25	90.4	1
03/17/2023 15:05	0.56	1.25	0.47		0	5.49	0.47	5.25	90.3	1
03/17/2023 15:06	0.54	1.2	0.38		0	5.33	0.38	5.25	90.3	1
03/17/2023 15:07	0.53	1.18	0.38	5.25	0	5.06	0.38	5.25	90.2	1 Shutdown period
03/17/2023 15:08	0.53	0	0 P		0	4.74	0	0	30.4	1

Date/Time	1_NOXPPM	1_NOX_CORR	1_NOX_LBHR		1_NOxlb_SU	1_NOxlbSUH	1_NOxlb_SD	1_NOxlbSDH	1_GasFlow	1_Shutdown
	ppm	ppm	#/hr	status	#/hr	pounds	#/hr	pounds	kscfh	1=ON
03/17/2023 14:00	0	0	0	P	0	-99.99	0	0	0.4	0
03/17/2023 15:09	0.54	0	0	P	0	4.48	0	0	0.3	0
03/17/2023 15:10	0.42	0	0	P	0	4.18	0	0	0.4	0
03/17/2023 15:11	0.17	0	0	P	0	3.61	0	0	0.4	0
03/17/2023 15:12	0.04	0	0	P	0	2.91	0	0	0.3	0
03/17/2023 15:13	0.03	0	0	P	0	2.68	0	0	0.3	0
03/17/2023 15:14	0.01	0	0	P	0	2.6	0	0	0.3	0
03/17/2023 15:15	0.01	0	0	P	0	2.53	0	0	0.3	0
03/17/2023 15:16	0	0	0	P	0	2.46	0	0	0.3	0
03/17/2023 15:17	0	0	0	P	0	2.4	0	0	0.4	0
03/17/2023 15:18	0	0	0	P	0	2.33	0	0	0.4	0
03/17/2023 15:19	0	0	0	P	0	2.24	0	0	0.3	0
03/17/2023 15:20	0	0	0	P	0	2.16	0	0	0.5	0
03/17/2023 15:21	0	0	0	P	0	2.09	0	0	0.4	0
03/17/2023 15:22	0	0	0	P	0	2.02	0	0	0.4	0
03/17/2023 15:23	0	0	0	P	0	1.96	0	0	0.3	0
03/17/2023 15:24	0	0	0	P	0	1.9	0	0	0.4	0
03/17/2023 15:25	0	0	0	P	0	1.85	0	0	0.4	0
03/17/2023 15:26	0	0	0	P	0	1.79	0	0	0.4	0
03/17/2023 15:27	0	0	0	P	0	1.73	0	0	0.5	0
03/17/2023 15:28	0	0	0	P	0	1.67	0	0	0.3	0
03/17/2023 15:29	0	0	0	P	0	1.62	0	0	0.4	0
03/17/2023 15:30	0	0	0	P	0	1.56	0	0	0.4	0

NOx lbs/hr

5.25 lbs

Shutdown Emissions

Startup limit 14.27 lbs

4.07 lbs

Shutdown Limit Condition A99.1

Shutdown limit 4.07 lbs

1.18 lbs

Excess Emissions over the limit

Canyon Power Plant Emission Compliance Log

Date: 3-17-23

ALL HRS OF OPERATION ACCORDING TO DAHS CLOCK			UNIT 1		Unit 2		UNIT 3		Unit 4	
			1st Start	2nd Start	1st Start	2nd Start	1st Start	2nd Start	1st Start	2nd Start
OPERATOR		INITIALS	TW	JH	TW		TW		TW	JH
Flame On		DAHS TIME	00359	1404	1455		00381		0355	1700
NOx LBS SUH during first 5 min. Startup	LBS	If < 7 then OK to Proceed	37	74	82		352		138	160
CO LBS SUH during first 5 min. Startup	LBS	If < 7 then OK to Proceed	308	263	321		—		236	219
NOx Corr after Compliance (< 2.5 PPM)		DAHS TIME	0405	1415			0437		0404	1910
		PPM	215	222			182		221	198
CO Corr after Compliance (< 4.0 PPM)		DAHS TIME	0610	1411			0433		0359	1703
		PPM	373	341			309		282	172
Online Calibration										
	DAHS TIME									
NOxC_1hr [Prior to Calibration < 2.5 PPM]	PPM									
COC_1hr [Prior to Calibration < 4.0 PPM]	PPM									
SHUTDOWN HOUR										
	DAHS TIME	0608	1451/208	0650		0650		0650	2034	
NoxC_1hr [PRIOR TO SHUTDOWN < 2.5 PPM]	PPM	147	184/146	281		172		181	168	
COC_1hr [PRIOR TO SHUTDOWN < 4.0 PPM]	PPM	284	254/294	214		224		208	164	
Noxlb60m [PRIOR TO SHUTDOWN < 4.07 LBS]	LBS	246	659/245	322		311		349	179	
COlb60m [PRIOR TO SHUTDOWN < 4.15 LBS]	LBS	744	616/239	270		251		301	108	
Flame Off		DAHS TIME	0452	1508/208	0721		0722		0722	2108
OPERATOR		INITIALS	TW	JH	TW		TW		TW	JH

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

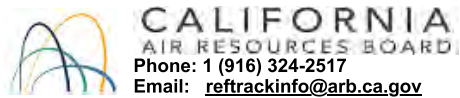
ATTACHMENT 10

CONDITION HAZ-1

List of Hazardous Materials contained at the facility:

- **Aqua Ammonia 19%**
- **Acetylene**
- **Argon**
- **Oxygen**
- **Batteries**
- **Bromine**
- **Calibration gases for the CEMS**
- **CO₂**
- **Diesel Fuel**
- **Fire suppression chemicals**
- **Florescent light bulbs**
- **Freon for the chiller systems R-123**
- **Gas Turbine oil**
- **Gas compressor oil**
- **Reagents for the water treatment system**
- **SF₆ in switch gear**
- **Anti-scalent RL 9007**
- **ChemTreat BL124**
- **Microbiocide ChemTreat CL2156**
- **ChemTreat CL6855**
- **12.5% Sodium Hypochlorite Solution**
- **Simple Green**
- **ChemTreat CL41**
- **ChemTreat CL6855**
- **Powerback Concentrate with Anti-Foam Agent**
- **Unleaded gasoline**
- **Propane**

Location Information		Chemical Identification			Fire Code Hazard Class Information			
1a*	201	205	207*	209	210a	210b	212	215
CERSID	ChemicalLocation	ChemicalName	CommonName	CASNumber	PFCodeHazardClass	SFCodeHazardClass	RadioActive	LargestContainer
10445230	RO WATER TREATMENT & DRUM STORAGE AREA		ANTISCALENT RL 9007				N	350
10445230	AMMONIA STORAGE TANK		AQUA AMMONIA (19%)		5	31	N	10000
10445230	BENEATH BACK-UP GENERATOR		DIESEL FUEL		2		N	500
10445230	IN TURBINE ENGINES and DRUM STORAGE AREA		MOBIL JET OIL II		3		N	150
10445230	ELECTRIC GENERATORS AND DRUM STORAGE AREA		MOBIL DTE LIGHT OIL		4		N	500
10445230	HYDRAULIC STARTERS AND DRUM STORAGE AREA		MOBIL DTE 25 OIL		4		N	55
10445230	NATURAL GAS COMPRESSORS AND DRUM STORAGE AREA		MOBIL PEGASUS 805 OIL		4		N	55
10445230	IN TRANSFORMERS		MINERAL OIL		4		N	5680
10445230	NEAR COOLING TOWER AND IN DRUM STORAGE AREA		BIOCIDE (CHEMTREAT CL41)				N	330
10445230	NEAR COOLING TOWER AND IN DRUM STORAGE AREA		SODIUM HYPOCHLORITE SOLUTION		5		N	330
10445230	WAREHOUSE, NEAR EXHAUST TOWERS, & MEE BLDG		CALIBRATION GAS				N	150
10445230	SHOP-WAREHOUSE	PROPANE	PROPANE	74-98-6	8		N	290
10445230	SUBSTATION BUILDING	SULFUR HEXAFLUORIDE	SF6	2551-62-4			N	2400
10445230	IN FIRE FIGHTING EQUIPMENT - VARIOUS AREAS	CARBON DIOXIDE	CO2	124-38-9			N	437
10445230	Chiller Enclosure	Freon R-123	Freon	306-83-2			N	920
10445230	WATER TREATMENT		MICROBIOCIDE CL206 CHEMTREAT				N	120
10445230	WATER TREATMENT		ChemTreat BL 124		5		N	320
10445230	WATER TREATMENT		ChemTreat CL 2156		5		N	320
10445230	WATER TREATMENT		ChemTreat CL6855		5		N	320
10445230	DRUM STORAGE AREA		Simple Green				N	55
10445230	DRUM STORAGE AREA		POWERBACK CONCENTRATE WITH ANTIFOAM AGENT				N	55
10445230	DRUM STORAGE AREA	Oil	WASTE OIL	8012-95-1	4		N	55
10445230	SHOP-WAREHOUSE	Acetylene	Acetylene	74-86-2	33	8	N	225
10445230	SHOP-WAREHOUSE	Oxygen	Oxygen Gas	7782-44-7	18		N	250
10445230	GAS COMPRESSOR YARD	Natural Gas	Natural Gas	8006-14-2	8		N	16700
10445230	12 kV Substation, Electrical Building (BPO EEE Room)		Lead Acid Batteries		5		N	4.8



File Report for "Canyon Power Plant"

Year of Filing: 2022

Submitted Date: 02/13/2023

Company Profile

Company Name : City of Anaheim Federal tax ID : *****970

Contact Person Details

Person Name : Mr. Ronald Hoffard (Generation Manager)

Phone : Contact: 7147654536

Email : rhoffard@anaheim.net

Mailing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
CA

Billing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
Anaheim

Facility Profile

Facility Name : Canyon Power Plant Federal tax ID : *****970

Contact Person Details

Person Name : Mr. Ronald Hoffard (Generation Manager)

Phone : Contact: 7147654536

Email : rhoffard@anaheim.net

Mailing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
CA

Billing Address Information

3071 East Miraloma Ave.
Anaheim, 92806
Anaheim

Refrigeration System Listing

Number	System ID	Full Charge (lbs)	Refrigerant Type	Installation Date	Temperature Class	Equipment Type	Manufacturer	Operational Status	Model	Model Year	Serial Number	Location	Floor Plan (Y/N)
1	CH-100	5200.00	R-123	05/12/2011	Medium	Chiller (Refrigeration/Industrial Process Cooling)	Trane	Normal Operation	CDHF3000	2011	L10A00350	North side of facility, in dedicated chiller enclosure.	Y
2	CH-200	5200.00	R-123	05/12/2011	Medium	Chiller (Refrigeration/Industrial Process Cooling)	Trane	Normal Operation	CDHF3000	2011	L10B00882	North side of facility in dedicated chiller enclosure.	Y

Leak detection System

Number	ALD ID	Refrigeration System ID	Installation Date	ALD Type	Detection Limit	Alarm Set Point	Concentration Monitor Type	Manufacturer	Number of Sensors	Sensor Type	Sensor Manufacturer	Location of Sensors/Inlets
--------	--------	-------------------------	-------------------	----------	-----------------	-----------------	----------------------------	--------------	-------------------	-------------	---------------------	----------------------------

Refrigeration System Inspection and Servicing

Number	Service Date	System ID	Leaks Detected?	Date Leak Detected	Date Leak Repaired	Number of Days	Refrigerant Added (lbs)	Cause of Leak	Service Provided	Date of Initial VT	Date of Follow-up VT	Purpose of Added Refrigerant	Technician Name	Certificate #	Certificate Type
1	02/03/2022	CH-100	No			0	0.00								
2	02/05/2022	CH-200	No			0	0.00								
3	02/07/2022	CH-100	No			0	0.00								
4	02/08/2022	CH-200	No			0	0.00								
5	02/09/2022	CH-200	No			0	0.00								
6	02/10/2022	CH-200	No			0	0.00								
7	02/16/2022	CH-200	No			0	0.00								
8	02/17/2022	CH-200	No			0	0.00								
9	02/15/2022	CH-100	No			0	0.00								
10	02/09/2022	CH-200	No			0	0.00								
11	05/25/2022	CH-200	No			0	0.00								
12	08/03/2022	CH-200	No			0	0.00								
13	10/31/2022	CH-100	No			0	0.00								
14	11/01/2022	CH-200	No			0	0.00								
15	12/21/2022	CH-100	No			0	0.00								

Leak Detection System Inspection and Servicing

Number	Service Date	ALD ID	Service Type	Description of Service
1	08/03/2022	301-IRF A	Calibration	Performed calibration test on ref monitor and calibrated both sensors at different levels of detection. Verified operation on both expansion modules.

Refrigerant Purchase Information

Type	Total Purchased (lbs.)	Total Charged (lbs.)	Total Recovered (lbs.)	Total Stored (lbs.)	Total Shipped (lbs.)
R-123	0.00	0.00	0.00	0.00	0.00

Do you claim any of this information is confidential under California law? No

Comment

Submitted By: Ronald Hoffard



CALIFORNIA AIR RESOURCES BOARD

Phone: (916) 324-2517
Email: rmp@arb.ca.gov
URL: www.arb.ca.gov/rmp/rmp.htm

Invoice Detail



Invoice No: 124638

Invoice For Year: 2022

ARB REFERENCE CODE: RMP

Dated: 02/13/2023

City of Anaheim

#	Facility Name	Amount Due(\$)	Exemption	Total (\$)
1	Canyon Power Plant (CIT003-001)	370.00	0	370.00
TOTAL CHARGES				370.00

Please return a copy on the invoice with your payment to the address below.

"Checks should be made payable to the California Air Resources Board.

If required for your company records, the CARB Federal Tax ID is 68-0288069. A \$10 service fee may apply for returned checks."

Air Resources Board

Attn: Accounting

P.O. Box 1436

1001 I St., Floor 20

Sacramento, CA 95812-1436



CALIFORNIA
AIR RESOURCES BOARD
Phone: (916) 324-2517
Email: reftrackinfo@arb.ca.gov



Online Payment Receipt

Invoice No: 124638

Dated: 2023-02-13

Invoice For Year: 2022

Payment Amount: \$370.00

ARB Reference Code: RMP

Transaction Time: 02/13/2023 10:20:21 AM

Payment Transaction Id: 130223C1B-BBEC2E5E-D5D2-49AA-8D72-C6864E8037A4

Payment Result: APPROVAL

Payment Approval Code: 013367

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 11
CONDITION HAZ-8

In the annual compliance report, the project owner shall include the following statements:

“All current project employee and appropriate contractor background investigations have been performed and that updated certification statements have been appended to the operations security plan”.

All current project employee and appropriate contractor background investigations have been performed and that updated certification statements have been appended to the operations security plan.

“The operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations”.

The operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 12

SOIL & WATER USE REPORT-7

Monthly Water Reading Reports
Recycle and Potable water usage
&
Wastewater Flow Meter Calibration Report

Company: City of Anaheim/Canyon Power Plant
 Plant Location: 3071 E. Miraloma Ave.
 City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2023
 Period End: 12/31/2023

Recycle Water Usage

Annual Total Gallons	Annual Total Acre Feet	Monthly Average Gallons	Monthly Average Acre Feet	Monthly Minimum Gallons	Monthly Minimum Acre Feet	Monthly Maximum Gallons	Monthly Maximum Acre Feet	Average Gallons Per Day
197,459,018	605.98	16,454,918	50.50	436,861	1.34	20,287,864	62.26	542,843

Company: City of Anaheim/Canyon Power Plant
 Plant Location: 3071 E. Miraloma Ave.
 City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2023
 Period End: 12/31/2023

Potable Water Usage

Annual Total Gallons	Annual Total Acre Feet	Monthly Average Gallons	Monthly Average Acre Feet	Monthly Minimum Gallons	Monthly Minimum Acre Feet	Monthly Maximum Gallons	Monthly Maximum Acre Feet	Average Gallons Per Day
284,319	0.87	11,847	0.04	0.00	0.00	169,059	0.52	385

Annual Data

	Recycle Water		Portable Water	
	Annual Total Acre Feet	Annual Total Gallons	Annual Total Acre Feet	Annual Total Gallons
2018	73.09	23,817,912	6.99	2,277,132
2019	60.04	19,563,004	0.33	106,201
2020	605.98	197,459,018	0.87	284,319
Average	246.37	80,279,978	2.73	889,217
Min	60.04	19,563,004	0.33	106,201
Max	605.98	197,459,018	6.99	2,277,132

Company: City of Anaheim
Plant Location: 3071 E. Miraloma Ave.
City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2023
Period End: 12/31/2023

Recycled Water Usage

Date	Start Cubic-ft	End Cubic-ft	Total Cubic-ft	Month gal	Daily gal	Month Acre-ft
1/1/2023	27,429,800	27,488,200	58,400	436,861.20	14,092.30	1.34
2/1/2023	24,872,600	27,584,700	2,712,100	20,287,864.05	724,566.57	62.26
3/1/2023	25,033,100	27,733,600	2,700,500	20,201,090.25	651,648.07	61.99
4/1/2023	25,303,600	27,870,400	2,566,800	19,200,947.40	640,031.58	58.93
5/1/2023	25,494,400	28,006,700	2,512,300	18,793,260.15	606,234.20	57.67
6/1/2023	25,641,200	28,118,500	2,477,300	18,531,442.65	617,714.76	56.87
7/1/2023	25,872,700	28,526,900	2,654,200	19,854,743.10	640,475.58	60.93
8/1/2023	26,152,900	28,779,900	2,627,000	19,651,273.50	633,912.05	60.31
9/1/2023	26,614,800	28,897,000	2,282,200	17,071,997.10	569,066.57	52.39
10/1/2023	27,017,200	29,033,600	2,016,400	15,083,680.20	486,570.33	46.29
11/1/2023	27,177,600	29,095,400	1,917,800	14,346,102.90	478,203.43	44.03
12/1/2023	27,328,600	29,200,100	1,871,500	13,999,755.75	451,605.02	42.96
Annual Total:			26,396,500	197,459,018.25		605.98
Average:			2,199,708	16,454,918.19	542,843.37	50.50
Monthly Minimum:			58,400	436,861.20		1.34
Monthly Maximum:			2,712,100	20,287,864.05		62.26

Company: City of Anaheim
Plant Location: 3071 E. Miraloma Ave.
City/State/Zip: Anaheim, CA 92806

Period Start: 1/1/2023
Period End: 12/31/2023

Potable Water Usage

HCF-1

Date	Start Cubic-ft	End Cubic-ft	Total Cubic-ft	Month gal	Daily gal	Month Acre-ft
1/1/2023	1,127,300	1,127,500	200.00	1,496.10	48.26	0.00
2/1/2023	1,127,500	1,127,500	0.00	0.00	0.00	0.00
3/1/2023	1,127,500	1,127,500	0.00	0.00	0.00	0.00
4/1/2023	1,127,500	1,127,500	0.00	0.00	0.00	0.00
5/1/2023	1,127,500	1,127,500	0.00	0.00	0.00	0.00
6/1/2023	1,127,500	1,127,700	200.00	1,496.10	49.87	0.00
7/1/2023	1,127,700	1,127,700	0.00	0.00	0.00	0.00
8/1/2023	1,127,700	1,150,300	22,600.00	169,059.30	5,453.53	0.52
9/1/2023	1,150,300	1,150,300	0.00	0.00	0.00	0.00
10/1/2023	1,150,300	1,150,300	0.00	0.00	0.00	0.00
11/1/2023	1,150,300	1,150,500	200.00	1,496.10	49.87	0.00
12/1/2023	1,150,500	1,150,500	0.00	0.00	0.00	0.00
Annual Total:			23,200.00	173,547.60		0.53
Average:			1,933.33	14,462.30	466.79	0.04
Monthly Minimum:			0.00	0.00		0.00
Monthly Maximum:			22,600.00	169,059.30		0.52

HCF-2

Date	Start Cubic-ft	End Cubic-ft	Total Cubic-ft	Month gal	Daily gal	Month Acre-ft
1/1/2023	283,013	283,797	784	5,864.71	189.18	0.02
2/1/2023	283,797	284,955	1,158	8,662.42	309.37	0.03
3/1/2023	284,955	285,593	638	4,772.56	153.95	0.01
4/1/2023	285,593	286,595	1,002	7,495.46	249.85	0.02
5/1/2023	286,595	288,294	1,699	12,709.37	409.98	0.04
6/1/2023	288,294	289,591	1,297	9,702.21	323.41	0.03
7/1/2023	289,591	290,706	1,115	8,340.76	269.06	0.03
8/1/2023	290,706	292,887	2,181	16,314.97	526.29	0.05
9/1/2023	292,887	294,066	1,179	8,819.51	293.98	0.03
10/1/2023	294,066	295,242	1,176	8,797.07	283.78	0.03
11/1/2023	295,242	296,431	1,189	8,894.31	296.48	0.03
12/1/2023	296,431	297,821	1,390	10,397.90	335.42	0.03
Annual Total:			14,808.00	110,771.24		0.34
Average:			1,234.00	9,230.94	303.40	0.03
Monthly Minimum:			638.00	4,772.56		0.01
Monthly Maximum:			2,181.00	16,314.97		0.05

Summary for both meters

Annual Total:	38,008.00	284,318.84		0.87
Average:	1,583.67	11,846.62	385.09	0.04
Monthly Minimum:	0.00	0.00		0.00
Monthly Maximum:	22,600.00	169,059.30		0.52

January 17, 2024

Mr. Kevin Nugent
Source Control Program
Orange County Sanitation Districts
10844 Ellis Avenue
Fountain Valley, CA 92708

Subject: Effluent Flow Meter Hydraulic Calibration Report

Facility: City of Anaheim
Canyon Power Plant
3071 E. Miraloma Ave.
Anaheim, CA 92806
I.W. Permit No. 1-600296

Dear Mr. Nugent,

Enclosed is our report on the effluent flow meter hydraulic calibration completed at the subject facility on January 17, 2024. The calibration was conducted in accordance with requirements of the Orange County Sanitation District, and the meter was determined to be operating within $\pm 5\%$ accuracy limits for the entire range tested.

If you have any questions regarding this calibration report, please contact me directly, or Bertha A. Hernandez, Environmental Services Specialist.

Sincerely,



Marco A. Gomez, P.E.
Project Engineer

Enclosures

cc: Bertha A. Hernandez, Environmental Services Specialist

**WASTEWATER FLOW METER
HYDRAULIC CALIBRATION**

PREPARED BY



FOR

**City of Anaheim
Canyon Power Plant
3071 E. Miraloma Ave.
Anaheim, CA 92806**

I.W. Permit No. 1-600296

January 17, 2024



EFFLUENT FLOW METER CALIBRATION REPORT

Company Name: City of Anaheim

Permit No.: 1-600296

Discharge Address: 3071 E. Miraloma Ave. Anaheim, CA 92806

Mailing Address: 201 S. Anaheim Blvd. Suite 1101 Anaheim, CA 92805

Meter Location

[Use Meter Location Form (page 3) to identify location]

☐ a ☐ b ☐ c ☐ d ☒ Other: (Attach sketch)

Effluent Meter Description

Open Channel

A. Flume:

- ☐ Parshall Flume
☐ Palmer-Bowlus Flume
☐ Trapezoidal
☐ Other, Specify: _____

B. Weir.

- ☐ V-notch
☐ Rectangular
☐ Trapezoidal
☐ Other, Specify: _____

C. Other

Description: _____

In-line

- ☒ Magnetic
☐ Propeller
☐ Ultrasonic
☐ Other, Specify: _____

Effluent Meter Description

Primary Element

Size: 4"

Manufacturer: Badger

Meter Series 2000

Secondary Element

Manufacturer: N/A

Recorder's 100% span = N/A GPM

Totalizer Units: = 1 Gallons per Count

Sampling Signal Contact Closure Frequency: 1 closure per N/A gallons discharged.

Current Facility Wastewater Discharge Rate to Sewer Determined by Calibration Engineer

Average 200 GPM

Peak 300 GPM



EFFLUENT FLOW METER CALIBRATION REPORT

5. Calibration Results

Type of Calibration: ☒ Hydraulic ☐ Instrument

Calibration System		Existing Meter				Error (%)	
Flow Rate GPM	Total Discharge Gallons	Primary Element's Head	Flow Rate, GPM		Total Discharge Gallons	Recorder	Totalizer
			Indicator	Recorder			
280	988	--	276	--	984	--	-0.4
200	706	--	198	--	700	--	-0.8
151	533	--	149	--	527	--	-1.1
102	360	--	99.2	--	350	--	-2.8

A copy of all data collected and of any calculations performed must be attached to this form.

6. Method of Calibration Results *(attach additional sheets if necessary)*

Hydraulic: (For in line flow meters describe calibration/simulator system)

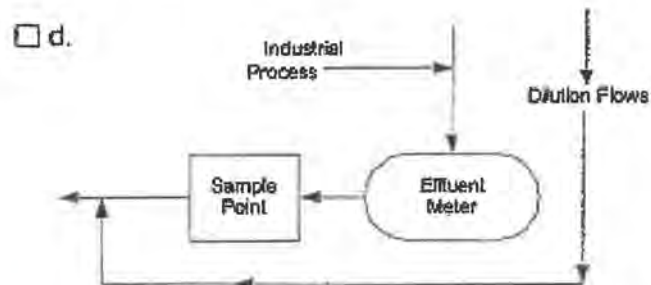
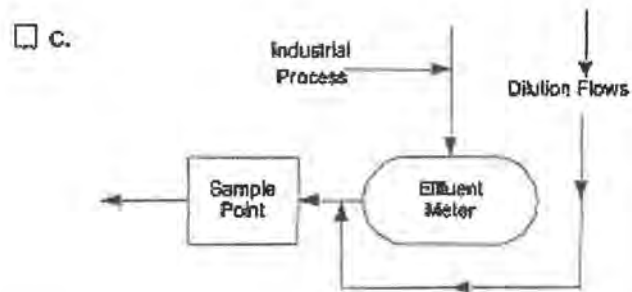
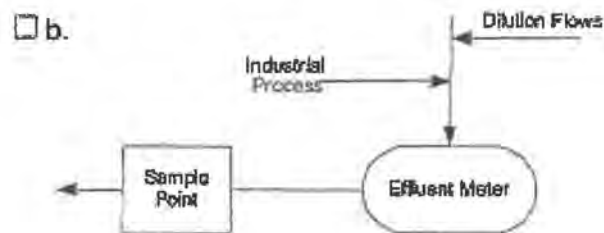
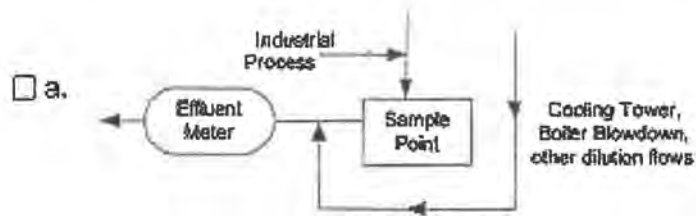
Various flow rates were achieved using 125' of 2.5" fire hose from a local hydrant to the test meter. A 2" Halliburton turbine was used to measure the water flow. At each rate tested, the meter totalizer was timed using an electronic stopwatch for a number of counts. The accumulated volume was then compared to the actual volume to determine the totalizer accuracy.

Instrument:

7. Corrective Measures *(describe condition of flow meter prior to calibration and state if any adjustments were made):*

No corrective measures were required.

EFFLUENT FLOW METER LOCATION FORM

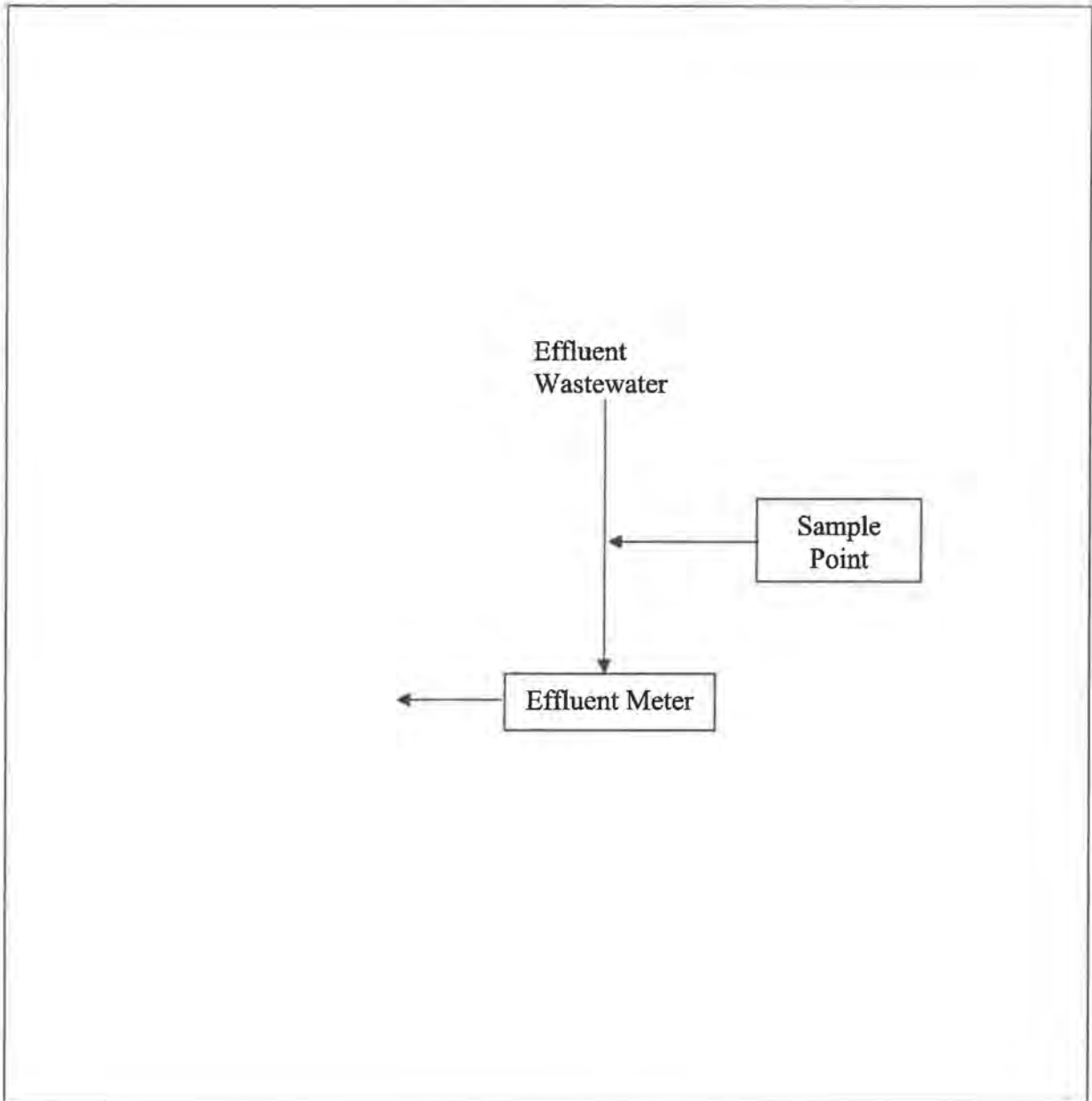


☒ Other

Please provide a schematic of the location of the effluent flow meter

Attachment:

Effluent Flow Meter Location





EFFLUENT FLOW METER MAINTENANCE RECORDS

Company Name: City of Anaheim

Permit No.: 1-600296

Discharge Address: 3071 E. Miraloma Ave., Anaheim, CA 92806

Mailing Address: 201 S. Anaheim Blvd., Suite 1101, Anaheim, CA 92805

Name of Responsible Person : Bertha A. Hernandez

Telephone No. 714-765-4243

Recorder's 100% span = N/A GPM

Totalizer: 1 Gallons per Count

Type of Flow Meter: 4" Badger Meter Series 2000

Recorder Chart Change Frequency: ☐ Daily ☐ Weekly ☐ Monthly *(not applicable)*

REGULAR CLEANING MAINTENANCE

Primary Element Cleaned	Level Measuring Equipment Cleaned	Other (describe)	Date	By
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	02/11/15	Yip / Paz
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	02/11/16	Yip / Paz
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	02/09/17	Yip / Paz
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/10/18	Yip / Vitug
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/10/19	Paz / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/10/20	Yip / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/20/21	Yip / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/20/22	Yip / Gomez
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/09/23	Yip / Paz
N/A	N/A	Hydraulic Calibration by Flowtrace Division of The Conservtech Group	01/17/24	Yip / Gomez



CERTIFICATION OF CALIBRATION CHECK

(Certification of Test Results by a California Registered Professional Engineer)

I hereby certify that I am knowledgeable in the field of wastewater flow measurement and that I have supervised the calibration of the flow monitoring system as described on the previous page, and also have reviewed and approved all details of the method of calibration. I consider the calibration method and procedures used to be technically sound, and assume professional responsibility for the validity and accuracy of the results reported.

(Signature)

Marco A. Gomez, P.E.

(Full Name – Please Print or Type)



M40596 Expires 12/31/25

(California Professional
Engineering Certification No.)

Mechanical

(Engineering Discipline)

1/17/24
(Date)

CERTIFICATION OF TEST RESULTS BY AN ADMINISTRATIVE OFFICIAL OF THE COMPANY

City of Anaheim

(Company Name)

1-600296

(Permit No.)

I hereby certify that the flow monitoring system certified as properly calibrated above is so arranged and operated, so as to accurately measure and record the industrial wastewater flow to the sewer system.

(Signature)

RONALD HOFFARD

(Full Name – Please Print or Type)

GENERATION PLANT MANAGER

(Administrative Position in Company)

1/30/24
(Date)

Appendix:

Field Calibration Data
Calibration Certificate

Recorder: MAX = <u> -- </u> GPM AVG = <u> 200 </u> PK = <u> 300 </u>	Totalizer: Finish: <u> 116690563 </u> Start: <u> 116686053 </u> Diff: <u> 4510 </u> MULT: <u> 1 </u> Total: <u> 4510 </u> gallons	Client: <u>City of Anaheim - Canyon Power Plant</u> Date: <u> 1/17/24 </u> IW#: <u> 1-600296 </u> Element: <u>4" Pipe</u> Instrument: <u>4" Badger Meter M2000</u> Recorder: <u> -- </u>
Sampler: Contact Closure = <u> N/A </u> gallons/pulse		

Calibrated Flows and Data									Meter		Recorder			Totalizer	
Turbine		Manometer - inches					Duration	Total	W.C.	Flow	Reading		Error	Total	Error
cycles	gpm	+	-	Δ	w.c.	gpm	min	gal	in.	gpm	%	gpm	%	gal	%
	280						3.53	988		276				984	-0.4
	200						3.53	706		198				700	-0.8
	151						3.53	533		149				527	-1.1
	102						3.53	360		99.2				350	-2.8

Calibration Type <u> </u> Instrumentation <u> X </u> Hydraulic	Hydraulic Meter Used: <u> </u> Turbine Meter, 1", Haliburton, Threaded <u> </u> Turbine Meter, 1.5", XO Technologies, 150# Flange <u> X </u> Turbine Meter, 2", Haliburton, flanged <u> </u> Turbine Meter, 4", XO Technologies, 150# Flange <u> </u> Turbine Meter, 4", Haliburton, flanged Other: <u> </u>
K: 4.86	

Notes:

①

$$\begin{array}{r} 87768 \\ - 86784 \\ \hline 984 \end{array} @ 3:32$$

②

$$\begin{array}{r} 89141 \\ - 88441 \\ \hline 700 \end{array} @ 3:32$$

③

$$\begin{array}{r} 89940 \\ - 89413 \\ \hline 527 \end{array} @ 3:32$$

④

$$\begin{array}{r} 90512 \\ - 90162 \\ \hline 350 \end{array} @ 3:32$$



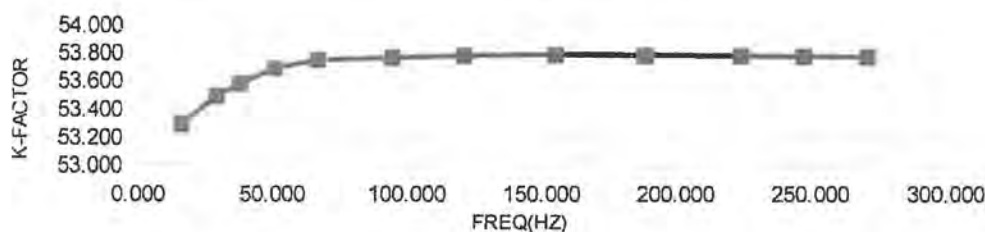
CERTIFICATE OF CALIBRATION

CUSTOMER: CONSERVTECH COMMERCE, CA
VSR NUMBER: 9629
INST. MANUFACTURER: HALLIBURTON
INST. DESCRIPTION: TURBINE METER
MODEL NUMBER: 458.99101 (2")
SERIAL NUMBER: 2SBF3677
RATED ACCURACY: +/- 5% R.D.
UNCERTAINTY GIVEN: TOTAL measurement uncertainty +/- .151% RD K=2
CALIBRATION DATE: 08/11/23
CALIBRATION DUE: 08/11/24
PROCEDURE: NAVAIR17-20MG,NIST250
CALIBRATION FLUID: H2O @ 70°F
ARRIVAL CONDITIONS: WITHIN MFG. SPEC.
RETURNED CONDITIONS: WITHIN MFG. SPEC.
AMBIENT CONDITIONS: 758mmHGA 42%RH 72°F
CERTIFICATE FILE #: 503393.2023

NOTES: ** CALIBRATED WITH DMC. MAG COIL **

DECISION RULE: SIMPLE ACCEPTANCE. MEASUREMENT UNCERTAINTIES NOT TAKEN INTO CONSIDERATION WHEN DETERMINING PASS/FAIL

TEST POINT NUMBER	INDICATED UUT FREQ(HZ)	DM.STD. ACTUAL GPM	ACTUAL K-FACTOR PUL/GAL.
1	15.858	17.856	53.286
2	28.951	32.478	53.485
3	37.791	42.326	53.572
4	50.692	56.658	53.682
5	66.515	74.258	53.743
6	94.367	105.326	53.757
7	120.795	134.785	53.772
8	154.792	172.698	53.779
9	188.324	210.124	53.775
10	223.770	249.687	53.772
11	247.127	275.769	53.768
12	270.730	302.125	53.765



STANDARDS USED:

A14 (VOLUME PROVER 5-50GPM) +/- .02% BY VOLUME CMC +/- .151% RD FLOW TRACE# 1446135470,1453296155	DUE	11/30/23
A710 (ENDRESS+HAUSER 0-1000GPM) +/- .022% BY VOLUME CMC +/- .15% RD FLOW TRACE# 1446135470,14248463640	DUE	06/08/24
A350 (PLATFORM SCALE & TANK: 10,000LBS/ 10-2800GPM) +/- .075 BY MASS TRACE# 1615795567,5567,5419,5146,4932	DUE	03/15/24

All instruments used in the performance of the shown calibration have traceability to the National Institute of Standards and Technology (NIST). The uncertainty ratio between the calibration standards (DM.STD.) and the Unit Under Test (UUT) is a minimum of 4:1, unless otherwise noted. Calibration has been performed according to the shown procedure. The use of IAS/ILAC logo indicates calibrations are in accordance to ISO/IEC 17025:2017.

Dick Munns Company • 11133 Winners Circle, Los Alamitos, CA 90720
Phone: 714-827-1215 • www.dickmunns.com

This Calibration Certificate shall not be reproduced except, in full, without approval by Dick Munns Company. The data shown applies only to the instrument being calibrated and under the stated conditions of calibration.

Issuing Date:

Approved By:

Cal. Technician:

Calibrated at: ☒ Lab
☐ On-Site (Customer's)

Page 1 of 1

08/11/2023

[Signature]

EA1

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 13
SOIL & WATER REPORTS-8

**OCSD Wastewater Quality Semi-Annual
Monitoring Reports**

TX Result Report

P 1

04/24/2023 12:57

Serial No. A7PY011022705

TC: 82934

Addressee	Start Time	Time	Prints	Result	Note
OCSD	04-24 12:55	00:01:46	008/008	OK	

Note

TMR:Timer TX, POL:Polling, ORG:Original Size Setting, FME:Frame Erase TX,
 DRS:Page Separation TX, MIX:Mixed Original TX, CALL:Manual TX, CSD:CSF,
 FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original,
 FCODE:F-code, RTX:Re-TX, RLV:Relay, MBX:Confidential, BUL:Bulletin, SIP:SIP Fax,
 IPADR:IP Address Fax, I-FAX:Internet Fax

Result

OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF,
 TEL: RX from TEL, NG: Other Error, Cont: Continue, No Ans: No Answer,
 Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOUR:Receiving length over,
 POUA:Receiving page over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error,
 DSN:DSN Response Error, PRINT:Compulsory Memory Document Print,
 DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



CITY OF ANAHEIM
PUBLIC UTILITIES DEPARTMENT
 Environmental Services
 Letter of Transmittal

To: Ms. Kiranpreet Kaur Orange County Sanitation District Resource Protection Division 10644 Ellis Avenue Fountain Valley, CA 92708-7018		Date: 04/24/2023
Subject: Canyon Power Plant 3071 E. Miraloma Ave. Anaheim, CA 92806		Project: Semi-Annual Self-Monitoring

We are sending you:

Copy of Original	Description
1	Completed Semi-Annual Form OCSD Self-Monitoring Form for City of Anaheim Canyon Power Plant (Permit No. 1-600296).

These are transmitted:

☐ 1	As requested	☐	For your action	☐	For your files
☐	For approval	☐	For your review	☐	For your information

Via: ☐ US Mail ☒ FAX # 8 of pgs.
 (714) 583-7799 ☐ Hand Delivery

Remarks:

Please contact me at (714) 765-7481 or bhernandez@anaheim.net if you have any questions regarding this submittal.

By: Beth A Hernandez Environmental Services Specialist

City of Anaheim Public Utilities Department
 Environmental Services Division
 200 S. Anaheim Boulevard, Suite 1101
 Anaheim, CA 92807



CITY OF ANAHEIM
PUBLIC UTILITIES DEPARTMENT
Environmental Services
Letter of Transmittal

To:	Ms. Kiranpreet Kaur Orange County Sanitation District Resource Protection Division 10844 Ellis Avenue Fountain Valley, CA 92708-7018	Date:	04/24/2023
		Project:	Canyon Power Plant 3071 E. Miraloma Ave. Anaheim, CA 92806
		Subject:	Semi-Annual Self-Monitoring

We are sending you:

Copy of Original	Description
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Via: ☐ US Mail ☒ FAX # 8 of pgs. ☐ Hand Delivery
(714) 593-7799

Remarks:

Please contact me at (714) 765-7481 or bhernandez@anaheim.net if you have any questions regarding this submittal.

By: 
Bertha A Hernandez, Environmental Services Specialist



**ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM**

April 04, 2023

Ronald Hoffard, Generation Plant Manager
City of Anaheim, Public Utilities Department
3071 E. Miraloma Ave.
Anaheim, CA 92806

Subject: **REMINDER TO CONDUCT SELF-MONITORING**
Permit No. 1-600296

Please be reminded that Self-Monitoring must be conducted between **April 01, 2023 – April 16, 2023** in accordance with your company's permit requirements. Self-Monitoring must be conducted during a production day in accordance with the guidelines detailed in your company's permit.

It is your responsibility to comply with the requirements set forth in your company's permit. Failure to comply with all the directives, conditions, and requirements of the permit may result in enforcement action against your company.

If your company's permit shows a self-monitoring requirement for total toxic organics (TTOs) and your company has received a waiver from this self-monitoring, you are now required to submit a signed TTOs SMR form to us to comply with the TTO waiver requirements of the U.S. Environmental Protection Agency. Please indicate in the "Sample Comments" that you have received a TTOs self-monitoring waiver from us.

For permittees that have monthly as well as quarterly and/or semi-annual self-monitoring requirements, the forms may list more than the SMR constituents required for the monthly self-monitoring. We ask that you adhere to your permit's self-monitoring requirements and sample only for the constituent(s) required on a monthly basis, except when the quarterly and semi-annual self-monitoring are also required in the same month, in which case all constituents listed on the form must be analyzed for as specified in your permit.

Finally, for those who are required to submit meter readings, a list of the meter readings submitted within the last year is attached to the SMR form for your reference and comparison to current readings.

Thank you for your patience and cooperation. If you have any questions, please contact Kiranpreet Kaur at 714-593-7213.

Kiranpreet Kaur
Senior Engineer



ORANGE COUNTY SANITATION DISTRICT SELF-MONITORING FORM

SMR No.: S-190686

SMR Type: Standard

City of Anaheim, Public Utilities Department

General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sampling Dates: 04/01/2023 to 04/16/2023Submit By Date: 04/30/2023Sample Start Date: 04/10/2023Sample End Date: 04/11/2023Sample Start Time: 0830 AMSample End Time: 0830 AM

Sampling Point Location: Sampling Structure located in the center of the site

Contact Person:

RONALD HOFFARD

Contact Phone:

714-765-4536

Contact Email:

RHOFFARD@ANAHEIM.NET☐ No Discharge

Water Meter Readings: (If this is a batch discharge, enter volume only)

Location	Meter Type	Meter ID	Stop Reading	Start Reading	Volume	Units	Digits	Int
Center of site adjacent to the final clarifier/vault	Effluent Flow Meter	EM_1_60029 6	<u>112345479</u>	<u>112324360</u>	<u>21119</u>	G	9	

Composite

Sample Results: (If constituent is not detected or is less than detection limit, enter as reported in the lab results.)

Constituent	Result	Units	EPA Method
BOD T	<u>ND</u>	mg/L	<u>SM 5210B</u>
TSS	<u>ND</u>	mg/L	<u>SM 2540D</u>

Sample Comments:

Please note that OC San's fax number has changed. Please use the new fax number (714) 378-1277 effective immediately if submitting completed form by fax.

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource
Protection Division, 10844 Ellis Avenue,
Fountain Valley, CA, 92708-7018



Questions: Contact Kiranpreet Kaur at
714-593-7213

Ronald Hoffard, please initial each page and submit all pages



**ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM**

SMR No.: S-190686

SMR Type: Standard

City of Anaheim, Public Utilities Department

General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

**This form must be completely filled out and Laboratory Analysis Report and
Chain of Custody must be attached.**

Please check if composite sample was obtained using an automatic sampling device: (X) Yes () No

In accordance with 40 CFR 403.12, the results presented herein must be verified and signed under penalty of perjury by: (i) a responsible corporate officer; (ii) general partner or proprietor; or (iii) a representative who has responsibility for the overall operation of the permitted facility, who has been authorized by the corporate officer, general partner or proprietor to sign such reports, and such authorization has been made in writing and submitted to the District.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. [40 C.F.R. § 403.6(a)(2)(ii) (2005)]

Signature (Ronald Hoffard)

Title (Generation Plant Manager)

Date

Print Name

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource
Protection Division, 10844 Ellis Avenue,
Fountain Valley, CA, 92708-7018

Questions: Contact Kiranpreet Kaur at
714-593-7213

Ronald Hoffard, please initial each page and submit all pages



**ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM**

SMR No.: S-190686

SMR Type: Standard

City of Anaheim, Public Utilities Department

General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sample Location: Compliance

<u>Meter Type</u>	<u>Equipment Name</u>	<u>Event ID</u>	<u>Start - End Date</u>	<u>End</u>	<u>Reading</u>	<u>Start</u>	<u>Vol</u>	
EFFLUENT	EM_1_600296	167684	10/10/2022 - 10/11/2022	109621916	Gallon	109591195	Gallon	30721 GPD
EFFLUENT	EM_1_600296	167683	4/11/2022 - 4/12/2022	104550876	Gallon	104525833	Gallon	25043 GPD

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource
 Protection Division, 10844 Ellis Avenue,
 Fountain Valley, CA, 92708-7018

Questions: Contact Kiranpreet Kaur at
 714-593-7213

Ronald Hoffard, please initial each page and submit all pages



ALS Group USA, Corp.
3337 Michelson Drive, Suite CN750
Irvine, CA 92612
T +1 714 730 6239

Report

Client: Canyon Power Plant
3071 E Miraloma Ave
Anaheim, CA 92806

Work Order No.: 23D0105

Printed: 04/20/2023

Attention: Bertha Hernandez

Project Name: Canyon Power Plant Semi-Annually Wastewater

Project Number: Canyon Power Plant

P.O. Number: MA-106-491110 (exp 8/31/18)

CASE NARRATIVE

Date & Time Sample Start: 4/10/2023 8:30 AM

Date & Time Sample Stop: 4/11/2023 8:30 AM

Date & Time Meter Read Start: 4/10/2023 8:30 AM

Date & Time Meter Read Stop: 4/11/2023 11:15 AM

Flow Start Number: 112324360 GAL

Flow Stop Number: 112345479 GAL

Total Flow, GPD: 21119

SAMPLE RECEIPT SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
52-2-758 Composite	23D0105-01	Wastewater	Composite	04/11/2023 08:30	04/11/2023 00:00

DEFINITIONS

Symbol	Definition
SC	Seed Control oxygen depletions were outside the method acceptance limit.
BD	Blank unseeded oxygen depletion was greater than the method acceptance limit.
DF	Dilution Factor
MDL	Method Detection Limit
ND	Not Detected
RL	Reporting Limit

Respectfully yours,

Zondria L. Tuggles For Shelly Brady
Customer Service Manager

This report applies to the sample(s), or product(s), investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed. This report shall not be reproduced without the written consent of ALS Group, USA, Corp., and must be reproduced in its entirety.



Client: Canyon Power Plant

Project Name: Canyon Power Plant Semi-Annually Wastewater

Project Number: Canyon Power Plant

Printed: 04/20/2023

52-2-758 Composite

23D0105-01 (Wastewater)

Analyte	Result	RL	Units	DF	Batch	Analyzed	Analyst	Method	Notes
---------	--------	----	-------	----	-------	----------	---------	--------	-------

ALS Group USA, Corp.

Wet Chemistry

Total Suspended Solids	ND	2.50	mg/L	1	2304271	04/14/2023 09:00 KDE		SM 2540 D	
------------------------	----	------	------	---	---------	----------------------	--	-----------	--

General Chemistry

Biochemical Oxygen Demand	ND	2.00	mg/L	1	2304291	04/17/2023 16:44 AEG		SM 52108 - 5 Day	BD. SC
---------------------------	----	------	------	---	---------	----------------------	--	------------------	-----------

This report applies to the sample(s), or product(s), investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed. This report shall not be reproduced without the written consent of ALS Group, USA, Corp., and must be reproduced in its entirety.



☒ X TURNAROUND TIME Normal TAT ▼
 DATE: 4/10 - 4/11/23 PAGE: 1 OF 1

Page 3 of 3

[illegible]

TX Result Report

P 1
10/30/2023 10:15
Serial No. A7PY011022705
TC: 88113

Addressee	Start Time	Time	Prints	Result	Note
OCSD	10-30 10:14	00:01:15	008/008	OK	

Note

TMR:Timer TX, PDL:Polling, ORG:Original Size Setting, FME:Frame Erase TX,
DPS:Page Separation TX, MIX:Mixed Original TX, CALL:Manual TX, CSAC:CSAC,
FWD:Forward, PC:PC-FAX, BND:Double-Sided Binding Direction, SP:Special Original,
FCODE:FC-Code, RTX:Re-TX, RLY:Relay, NCK:Confidential, BUL:Bulletin, SIP:SIP Fax,
IPADR:IP Address Fax, I-FAX:Internet Fax

Result

OK: Communication OK, S-OK: Stop Communication, PW-OFF: Power Switch OFF,
TEL: RX from TEL, NG: Other Error, CONT: Continue, No Ans: No Answer,
Refuse: Receipt Refused, Busy: Busy, M-Full:Memory Full, LOVR:Receiving length Over,
DQVR:Receiving page Over, FIL:File Error, DC:Decode Error, MDN:MDN Response Error,
DSN:DSN Response Error, PRINT:Compulsory Memory Document Print,
DEL:Compulsory Memory Document Delete, SEND:Compulsory Memory Document Send.



CITY OF ANAHEIM
PULIC UTILITIES DEPARTMENT
Environmental Services
Letter of Transmittal

To:	Ms. Kiranpreet Kaur Orange County Sanitation District Resource Protection Division 10844 Ellis Avenue Fountain Valley, CA 92708-7018	Date:	10/30/2023
		Project	Canyon Power Plant 3071 E. Miraloma Ave. Anaheim, CA 92806
		Subject:	Semi-Annual Self-Monitoring

We are sending you:

Copy of Original	Description
1	Completed Semi-Annual Form OCSD Self-Monitoring Form for City of Anaheim Canyon Power Plant (Permit No. 1-600296).

These are transmitted:

☒ 1	As requested	☐	For your action	☐	For your files
☐	For approval	☐	For your review	☐	For your information

Via: ☐ US Mail ☒ FAX # 8 of pgs. ☐ Hand Delivery
(714) 593-7799

Remarks:

Please contact me at (714) 765-7481 or berthandez@anaheim.net if you have any questions regarding this submittal.

By: Bertha A Hernandez, Environmental Services Specialist



CITY OF ANAHEIM
PUBLIC UTILITIES DEPARTMENT
Environmental Services
Letter of Transmittal

To:	Ms. Kiranpreet Kaur Orange County Sanitation District Resource Protection Division 10844 Ellis Avenue Fountain Valley, CA 92708-7018	Date:	10/30/2023
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(714) 593-7799

Remarks:

Please contact me at (714) 765-7481 or bhernandez@anaheim.net if you have any questions regarding this submittal.

By: Bertha A Hernandez, Environmental Services Specialist



ORANGE COUNTY SANITATION DISTRICT SELF-MONITORING FORM

October 24, 2023

Ronald Hoffard, Generation Plant Manager
City of Anaheim, Public Utilities Department
201 S. Anaheim Blvd., #802
Anaheim, CA 92805

Subject: **REMINDER TO CONDUCT SELF-MONITORING**
Permit No. 1-800296

Please be reminded that Self-Monitoring must be conducted between **October 01, 2023 -- October 16, 2023** in accordance with your company's permit requirements. Self-Monitoring must be conducted during a production day in accordance with the guidelines detailed in your company's permit.

It is your responsibility to comply with the requirements set forth in your company's permit. Failure to comply with all the directives, conditions, and requirements of the permit may result in enforcement action against your company.

If your company's permit shows a self-monitoring requirement for total toxic organics (TTOs) and your company has received a waiver from this self-monitoring, you are now required to submit a signed TTOs SMR form to us to comply with the TTO waiver requirements of the U.S. Environmental Protection Agency. Please indicate in the "Sample Comments" that you have received a TTOs self-monitoring waiver from us.

For permittees that have monthly as well as quarterly and/or semi-annual self-monitoring requirements, the forms may list more than the SMR constituents required for the monthly self-monitoring. We ask that you adhere to your permit's self-monitoring requirements and sample only for the constituent(s) required on a monthly basis except when the quarterly and semi-annual self-monitoring are also required in the same month, in which case all constituents listed on the form must be analyzed for as specified in your permit.

Finally, for those who are required to submit meter readings, a list of the meter readings submitted within the last year is attached to the SMR form for your reference and comparison to current readings.

Thank you for your patience and cooperation. If you have any questions, please contact Kiranpreet Kaur at 714-593-7213.

Kiranpreet Kaur
Senior Engineer



ORANGE COUNTY SANITATION DISTRICT SELF-MONITORING FORM

SMR No.: S-190687

SMR Type: Standard

City of Anaheim, Public Utilities Department

General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sampling Dates: 10/01/2023 to 10/16/2023Submit By Date: 10/31/2023Sample Start Date: 10/11/2023Sample End Date: 10/12/2023Sample Start Time: 10:30 AMSample End Time: 10:30 AM

Sampling Point Location: Sampling Structure located in the center of the site

Contact Person: RONALD HOFFARDContact Phone: 714-765-4536Contact Email: RHOFFARD@ANAHEIM.NET☐ No Discharge

Water Meter Readings: (If this is a batch discharge, enter volume only)

Location	Meter Type	Meter ID	Stop Reading	Start Reading	Volume	Units	Digits	Int
Center of site adjacent to the final clarifier/vault	Effluent Flow Meter	EM_1_600296	<u>115602738</u>	<u>115585420</u>	<u>17318</u>	G	9	

Composite

Sample Results: (If constituent is not detected or is less than detection limit, enter as reported in the lab results.)

Constituent	Result		EPA Method
	Result	Units	
BOD T	<u>2.78</u>	mg/L	<u>SM 5210B</u>
TSS	<u>ND</u>	mg/L	<u>SM 2540D</u>

Sample Comments: _____

Please note that OC San's fax number has changed. Please use the new fax number (714) 378-1277 effective immediately if submitting completed form by fax.

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource Protection Division, 10844 Ellis Avenue, Fountain Valley, CA, 92708-7018



Questions: Contact Kiranpreet Kaur at
 714-593-7213

Ronald Hoffard, please initial each page and submit all pages



**ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM**

SMR No.: S-190687

SMR Type: Standard

City of Anaheim, Public Utilities Department

General Pretreatment Regulations For Existing And New Sources Of Pollution

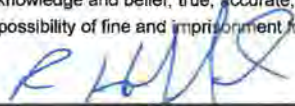
Permit No. 1-600296

**This form must be completely filled out and Laboratory Analysis Report and
Chain of Custody must be attached.**

Please check if composite sample was obtained using an automatic sampling device: (☒) Yes (☐) No

In accordance with 40 CFR 403.12, the results presented herein must be verified and signed under penalty of perjury by: (i) a responsible corporate officer; (ii) general partner or proprietor; or (iii) a representative who has responsibility for the overall operation of the permitted facility, who has been authorized by the corporate officer, general partner or proprietor to sign such reports, and such authorization has been made in writing and submitted to the District.

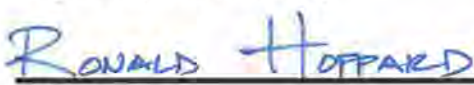
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. [40 C.F.R. § 403.6(a)(2)(ii) (2005)]


Signature (Ronald Hoffard)

Title (Generation Plant Manager)

Date

10/30/23


Print Name

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource
Protection Division, 10844 Ellis Avenue,
Fountain Valley, CA, 92708-7018

Questions: Contact Kiranpreet Kaur at
714-593-7213




Ronald Hoffard, please initial each page and submit all pages



**ORANGE COUNTY SANITATION DISTRICT
SELF-MONITORING FORM**

SMR No.: S-190687

SMR Type: Standard

City of Anaheim, Public Utilities Department

General Pretreatment Regulations For Existing And New Sources Of Pollution

Permit No. 1-600296

Sample Location: Compliance

<u>Meter Type</u>	<u>Equipment Name</u>	<u>Event ID</u>	<u>Start - End Date</u>	<u>End</u>	<u>Reading</u>	<u>Start</u>	<u>Vol</u>	
EFFLUENT	EM_1_600296	190686	4/10/2023 - 4/11/2023	112345479	Gallon	112324360	Gallon	21119 GPD
EFFLUENT	EM_1_600296	167684	10/10/2022 - 10/11/2022	109621916	Gallon	109591195	Gallon	30721 GPD

To Submit Data - Fax: (714) 378-1277 or
Mail: Orange County Sanitation District, Resource
 Protection Division, 10844 Ellis Avenue,
 Fountain Valley, CA, 92708-7018

Questions: Contact Kiranpreet Kaur at
 714-593-7213

RASH

Ronald Hoffard, please initial each page and submit all pages



ALS Group USA, Corp.
3337 Michelson Drive, Suite CN750
Irvine, CA 92612
T +1 714 730 6239

Report

Client: Canyon Power Plant
3071 E Miraloma Ave
Anaheim, CA 92806

Work Order No.: 23J0210
Printed: 10/23/2023

Attention: Bertha Hernandez
Project Name: Canyon Power Plant Semi-Annually Wastewater
Project Number: Canyon Power Plant
P.O. Number: MA-106-491110 (exp 8/31/18)

CASE NARRATIVE

Date & Time Installed: 10/11/2023 10:30 AM
Date & Time Removed: 10/12/2023 10:30 AM

Flow Start Number: 115585420 GAL
Flow Stop Number: 115602738 GAL
Total Flow, GPD: 17318

SAMPLE RECEIPT SUMMARY

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
1-600296 Composite	23J0210-01	Wastewater	Composite	10/12/2023 10:30	10/12/2023 13:50

DEFINITIONS

Symbol	Definition
SC	Seed Control oxygen depletions were outside the method acceptance limit.
BD	Blank unseeded oxygen depletion was greater than the method acceptance limit.
DF	Dilution Factor
MDL	Method Detection Limit
ND	Not Detected
RL	Reporting Limit

Respectfully yours,

Zondria L. Tuggles For Shelly Brady
Customer Service Manager

This report applies to the sample(s), or product(s), investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed. This report shall not be reproduced without the written consent of ALS Group, USA, Corp., and must be reproduced in its entirety.



Client: Canyon Power Plant

Project Name: Canyon Power Plant Semi-Annually Wastewater

Project Number: Canyon Power Plant

Printed: 10/23/2023

1-600296 Composite
23J0210-01 (Wastewater)

Analyte	Result	RL	Units	DF	Batch	Analyzed	Analyst	Method	Notes
---------	--------	----	-------	----	-------	----------	---------	--------	-------

ALS Group USA, Corp.

Wet Chemistry

Total Dissolved Solids	110	50.0	mg/L	1	2310308	10/18/2023 15:52	SMC	SM 2540 C	
Total Suspended Solids	ND	2.50	mg/L	1	2310367	10/20/2023 08:10	LxH	SM 2540 D	

General Chemistry

Biochemical Oxygen Demand	2.78	2.00	mg/L	1	2310328	10/18/2023 15:41	AEG	SM 5210B - 5 Day	BD, SC
---------------------------	------	------	------	---	---------	------------------	-----	------------------	--------

This report applies to the sample(s), or product(s), investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed. This report shall not be reproduced without the written consent of ALS Group, USA, Corp., and must be reproduced in its entirety.

ALS GROUP USA - IRVINE

3337 Michelson Drive, Suite CN750, Irvine, CA 92612

(714) 730-6239 - FAX (714) 730-6462

CHAIN OF CUSTODY

23J0210

☒

TURNAROUND TIME Normal TAT

DATE: 10/11 - 10/12/23 PAGE: 1 OF 1

METHODS

[illegible]

OC Sanitation District

**No Violations or Corrective Actions
To report for CY 2023**

CANYON POWER PLANT

ANNUAL COMPLIANCE REPORT

ATTACHMENT 14

VIS-4

**SURFACE TREATMENT OF PROJECT
STRUCTURES AND BUILDINGS**

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 14

VIS-4
SURFACE TREATMENT OF PROJECT
STRUCTURES AND BUILDINGS

VIS-4: Surface Treatment of Project Structures and Buildings

Condition of Certification VIS-4 requires a status report of the surface treatment maintenance for the structures and buildings in the Annual Compliance Report. The report shall specify the following:

- 1. The condition of surfaces of all structures and buildings at the end of the reporting year 2023:**
 - a. Butler Building (Administrative and Warehouse)
 - b. Main Electrical Enclosure (MEE)
 - c. Balance of Plan (BOPEE)
 - d. Substation Building
 - e. Chiller
 - f. RO Skid (open wall with roof sheet metal covering)
 - i. The exterior building material is fabricated sheet metal. The colors and finishes do not create excessive glare and consistent with local policies and ordinances. All structure and buildings visual inspection showed no trouble items and all are in good working order.
 - g. Gas Turbines (4 identical units)
- 2. Maintenance activities that occurred in CY 2023:**
 - a. May Planned Outage
 - i. Semi-annual maintenance performed
 - b. December Planned Outage moved to January 2023
 - i. Semi-annual maintenance performed
- 3. Schedule maintenance activities for CY 2024:**
 - a. May 2023 Planned Outage
 - i. Semi-annual maintenance
 - b. January 2024 Planned Outage
 - i. Semi-annual maintenance

Status report regarding condition of Structures and Buildings

The photographs below shows the surface treatment of project structures and buildings. All buildings comply with condition VIS-4.



Warehouse Building (1/24/24)



Administrative Building (1/24/24)



Main Electrical Enclosure Building (1/24/24)



Substation Building (1/24/24)



Chiller Building (1/24/24)



RO Skid Structure (1/24/24)



Balance of Plant Building (1/24/24)



LM 6000 Turbines (1/24/24)

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 15
LANDSCAPE SCREENING

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 15

LANDSCAPE SCREENING

VIS-5: Landscape Screening

Condition of Certification VIS-5 requires a status report in the Annual Compliance Report regarding landscape maintenance activities. At the Canyon Power Plant the landscape maintenance activities were performed according to the contract and consistent with policies and requirements of the City of Anaheim plan and zoning ordinance.

The contracted company performed the following landscape maintenance activities:

Contracted Landscape Services – Landscape West Mgmt. Service, Inc. (Period: Jan 1, through December 31, 2023).

Activity Type	Frequency
<u>Weed Control</u> Landscape areas Hardscape areas Gravel areas	2x/wk. 1x/Mo
<u>Fertilization</u> Shrubs Ground cover Trees	2x/year
<u>Pest Control</u> Rodents	As needed
<u>Irrigation Maintenance</u> Inspect all Sprinklers/Systems	As needed
<u>Trees</u> Canopy Trees	As needed
<u>Maintenance/Clean-Up</u> Ground Cover and Shrubs Trash & Litter at Landscape area Trash & Litter at enclosed gravel areas Monthly Inspection	2x/wk.

The photographs below taken by staff on 1/24/2024 of the landscape maintenance demonstrating compliance pursuant VIS-5 condition:

Landscaping - Exterior Plants



Miraloma Avenue, south wall (1/24/24)



Miraloma Avenue, south wall (1/24/24)

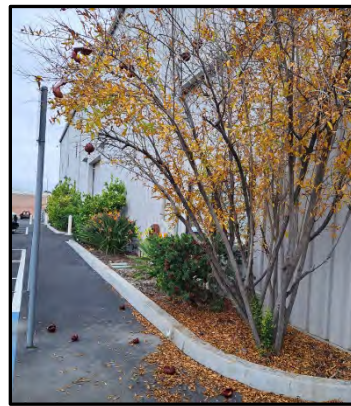


East wall ivy (1/24/24)

Landscaping - Interior Plant



Administration Building Planter (1/24/24)



Admin and Warehouse Building Planter (1/24/24)



Warehouse Planter (1/24/24)

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 16

AQ-9
NH3 SLIP TESTING

**TEST REPORT FOR
THIRD QUARTER 2023 AMMONIA SLIP TEST AT
CANYON POWER PLANT – UNIT 2
FACILITY ID: 153992, DEVICE ID: D7**

Prepared For:

Canyon Power Plant
3071 E. Mira Loma Avenue
Anaheim, California 92806

For Submittal To:

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4178

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Rik Dupont

Test Date: **July 27, 2023**
Production Date: **September 25, 2023**
Report Number: **W002AS-029212-RT-5107**



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REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 9/25/2023
Name: Rik Dupont Title: Field Project Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 9/25/2023
Name: Surya Adhikari Title: Senior Reporting QC Specialist

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION AND SUMMARY	5
2.0 UNIT AND CEMS DESCRIPTION	6
2.1 UNIT DESCRIPTION	6
2.2 CEMS DESCRIPTION	7
2.3 TEST CONDITIONS	7
2.4 SAMPLE LOCATION	7
3.0 TEST DESCRIPTION	8
4.0 TEST RESULTS AND OVERVIEW	9
4.1 TEST RESULTS	9
4.2 TEST OVERVIEW	9

LIST OF APPENDICES

A TEST DATA	10
A.1 SCAQMD Method 1.1 Data	11
A.2 Sample Data Sheets	13
A.3 Laboratory Data	17
A.4 QA/QC Data	23
B FACILITY CEMS DATA	27
C CALCULATIONS	32
C.1 General Emissions Calculations	33
C.2 Spreadsheet Summaries	37
D QUALITY ASSURANCE	41
D.1 Quality Assurance Program Summary	42
D.2 SCAQMD and STAC Certifications	48
D.3 Individual QI Certificate	51
D.4 Statement of No Conflict of Interest	54
E APPLICABLE PERMIT SECTIONS	56

LIST OF TABLES

1-1 AMMONIA SLIP TEST RESULTS SUMMARY	5
4-1 AMMONIA SLIP TEST RESULTS	9

LIST OF FIGURES

2-1 SIMPLIFIED PROCESS BLOCK DIAGRAM	6
3-1 SCAQMD METHOD 207.1 SAMPLING EQUIPMENT	8

1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) was contracted by the Canyon Power Plant to perform an ammonia slip test at Unit 2 as required by the facility Permit (Facility ID 153992) Condition Number D29.2. This report documents the results of the ammonia slip tests performed on July 27, 2023. The test was performed by Rik Dupont, Ray Madrigal, Danny Avila, and Nestor Gonzalez of MAQS. Rik Dupont was the on-site Qualified Individual for MAQS. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods. Bertha Hernandez coordinated the test for Canyon Power Plant.

The test consisted of duplicate ammonia tests performed at 48 MW. The test program followed the procedures described in the initial compliance test protocol (MAQS document R038842). The results of the test are summarized in Table 1-1. The table shows that the ammonia slip from this unit was less than the permitted limit of 5 ppm corrected to 15% O₂.

**TABLE 1-1
AMMONIA SLIP TEST RESULTS SUMMARY
CANYON POWER PLANT
UNIT 2
JULY 27, 2023**

Parameter/Units	Result ⁽¹⁾	Limit
NH₃		
ppm	1.8	--
ppm at 15%O ₂	1.7	5

(1) Maximum of duplicate runs, as required by SCAQMD Method 207.1.

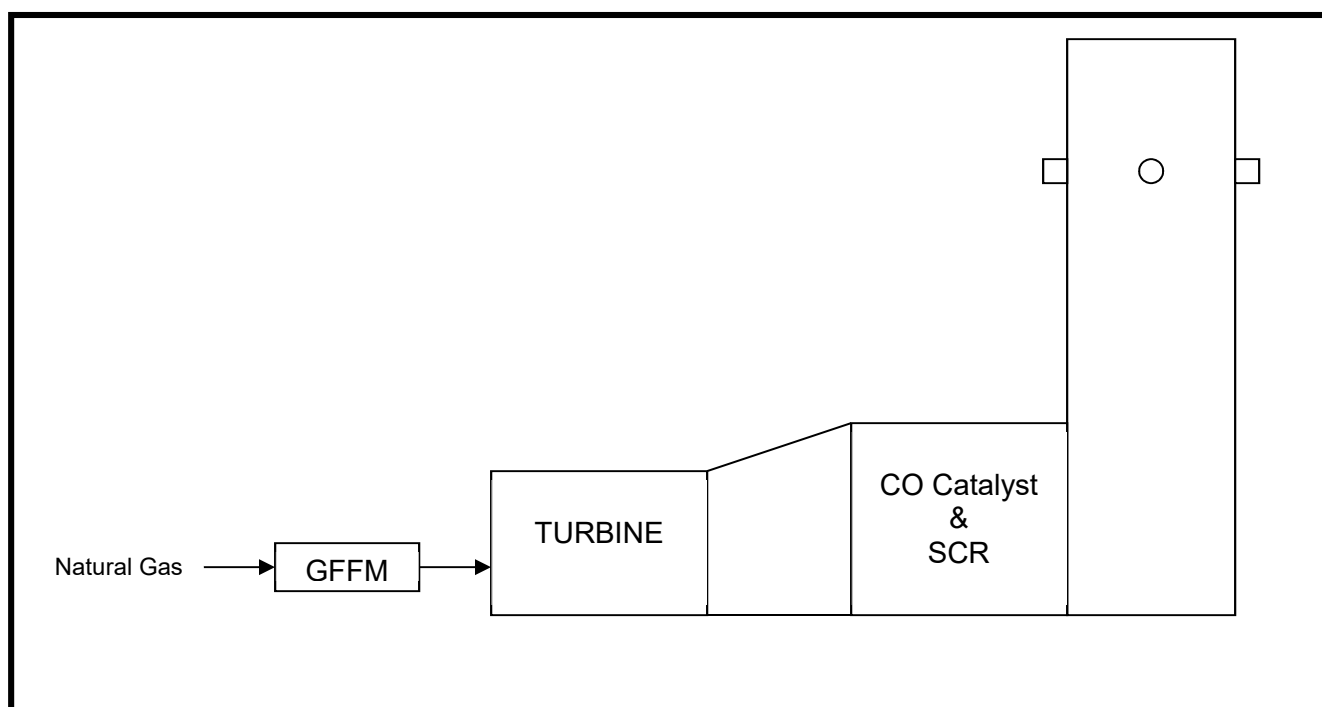
Section 2 of this document provides a brief description of the unit, test conditions, sample location, and CEMS. Details of the test procedures are provided in Section 3. Section 4 provides the results of each individual test. All raw data, calculations, quality assurance data, unit operating conditions, and CEMS data are provided in the appendices.

2.0 UNIT AND CEMS DESCRIPTION

2.1 UNIT DESCRIPTION

The City of Anaheim Canyon Power Plant is located at 3071 E. Mira Loma Avenue, Anaheim, California 92806. The facility consists of four identical generating units. Each unit consists of a natural gas fired, GE Model LM6000PC Sprint simple cycle, gas turbine. The units are natural gas fired with a rated heat input of 479 MMBtu per hour at 46°F, with water injection. The units are equipped with a CO catalyst and Selective Catalytic Reduction (SCR) system for CO and NO_x control respectively. A simplified process block diagram of the unit is presented as Figure 2-1.

**FIGURE 2-1
SIMPLIFIED PROCESS BLOCK DIAGRAM
CANYON POWER PLANT
UNIT 2**



Stack Inside Diameter:	11 feet, 8 inches
Distance from Upstream Disturbance:	23 feet, 4 inches (2.0 Diameters)
Distance from Stack Exit:	16 feet, 6 inches (1.4 Diameters)

2.2 CEMS DESCRIPTION

NO_x and CO emissions from the unit are monitored by a dry, extractive Continuous Emission Monitoring System (CEMS). Stack flow rate is determined from fuel flow rate, O₂ concentration, standard F-Factor, and fuel higher heating value using EPA Method 19.

2.3 TEST CONDITIONS

The tests were performed with the unit operating at an average load of 48 MW. Tests were performed while the unit was firing natural gas and operating under normal conditions. Unit operation was established by the Canyon Power Plant operators.

2.4 SAMPLE LOCATION

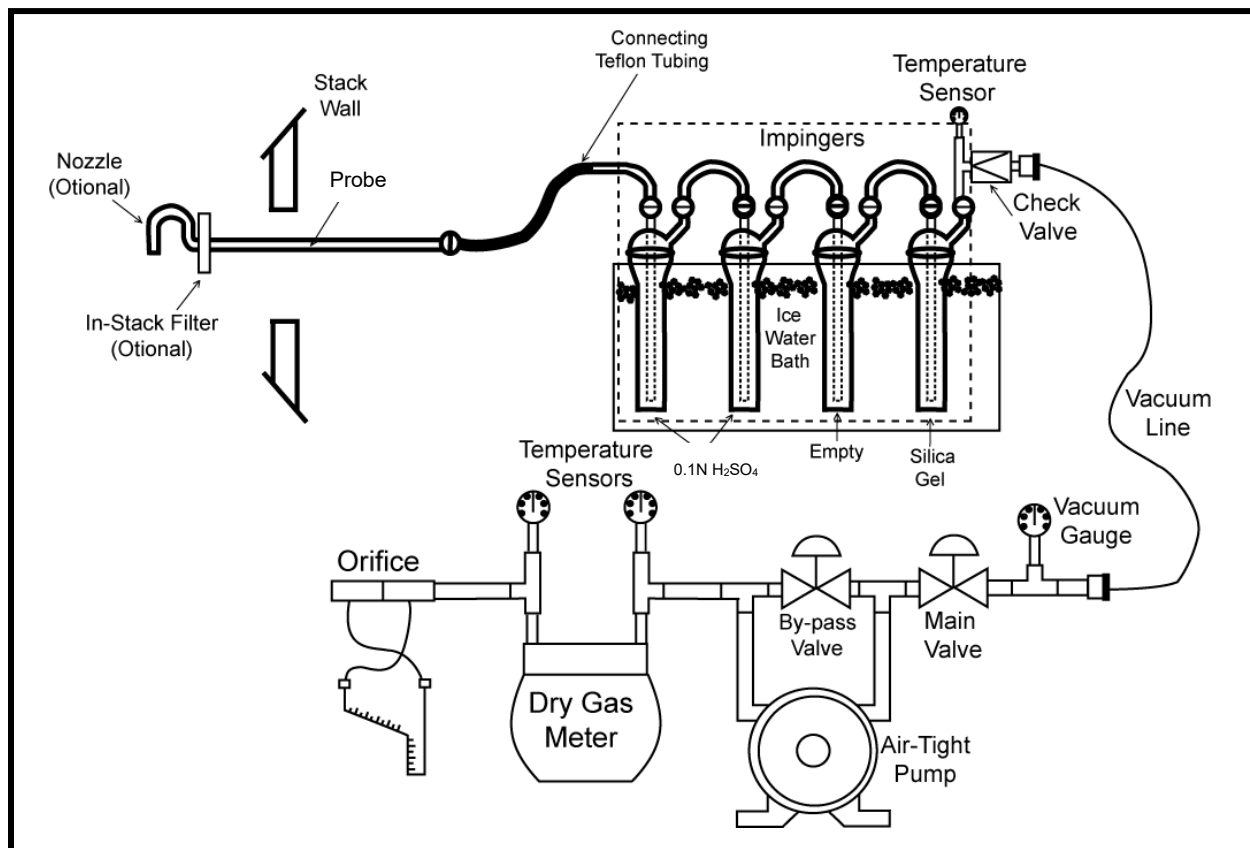
The measurements were made from sample ports located on the exhaust stack. There are four sample ports equally spaced at this location. The stack inside diameter at the sample plane is 11 feet, 8 inches. The sample ports are located 23 feet, 4 inches (2.0 diameters) downstream of the nearest flow disturbance and 16 feet, 6 inches (1.4 diameters) from the stack exit. A diagram of the stack sample location and traverse points is presented in Appendix A.1.

3.0 TEST DESCRIPTION

Flue gas samples were collected non-isokinetically using a SCAQMD Method 207.1 sample train. The samples were collected using a 12-point traverse at the exhaust stack location. Each test was performed over a 60 minute interval. The sample gas was drawn through a titanium probe, Teflon sample line, two impingers each containing 100 ml of 0.1N H₂SO₄, an empty impinger, an impinger containing silica gel, and a dry gas meter. The optional nozzle and filter were not used since the source is natural gas fired. The contents of the sample line and the first three impingers were recovered and analyzed by SCAQMD Method 207.1 for ammonia concentration by Ion Specific Electrode analysis. A diagram of the sampling equipment is presented as Figure 3-1.

Stack O₂ and NO_x concentrations, and stack volumetric flow rate data were recorded from the Continuous Emission Monitoring System (CEMS) which is installed on the unit. These data were used to correct the ammonia concentration to 15% O₂ and to report the mass emission rates.

FIGURE 3-1
SCAQMD METHOD 207.1 SAMPLING EQUIPMENT



4.0 TEST RESULTS AND OVERVIEW

4.1 TEST RESULTS

The results of the test are summarized in Table 4-1. The results show that the ammonia slip was 1.7 ppm @ 15% O₂ which is less than the permitted limit of 5 ppm @ 15% O₂.

**TABLE 4-1
AMMONIA SLIP TEST RESULTS
CANYON POWER PLANT
UNIT 2
JULY 27, 2023**

Parameter/Units	1-NH ₃	2-NH ₃	Average	Maximum ⁽¹⁾	Limit
Start/Stop Time	1830/1936	2002/2108			--
Stack Flow , dscfm @ T _{ref} ⁽²⁾	230,652	231,636	231,144	--	--
O₂ , % ⁽²⁾	14.45	14.47	14.46	--	--
NO_x , ppmc ⁽²⁾	2.3	2.1	2.2	--	2.5
NH₃					
ppm	1.8	0.9	1.4	1.8	--
ppmc	1.7	0.9	1.3	1.7	5
lb/hr	1.1	0.6	0.9	1.1	--
lb/MMBtu	0.002	0.001	0.002	0.002	--
lb/MMSCF	2.4	1.2	1.8	2.4	--

(1) Maximum of duplicate test runs, as required by SCAQMD Method 207.1.

(2) From facility CEMS.

4.2 TEST OVERVIEW

The test program was successful in meeting the program objectives. The sample train was leak checked before and after the test and all QA/QC requirements of SCAQMD Method 207.1 were satisfied.

APPENDIX A TEST DATA

Appendix A.1

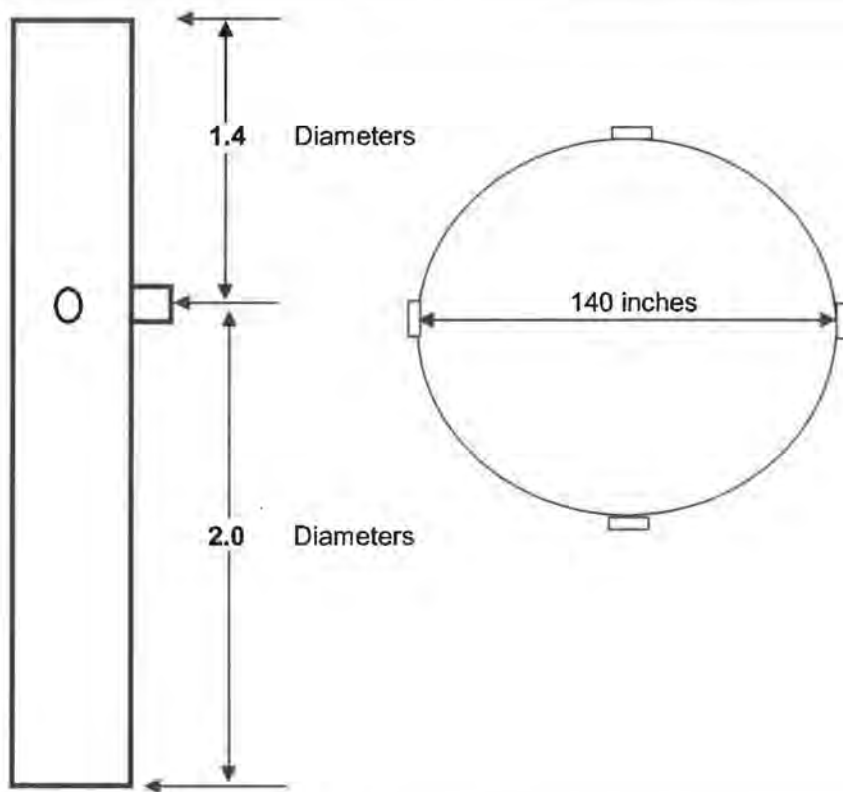
SCAQMD Method 1.1 Data

METHOD 1 DATA SHEET SAMPLE LOCATION

 Client: SCPPA

 Date: 7/27/23

 Sample Location: U2

 Performed By: RD


Diameter (in.)	<u>140.00</u>
Upstream (ft.)	<u>23.33</u>
Downstream (ft.)	<u>16.50</u>
Coupling (in.)	<u>11.25</u>
Stack Area (ft ²)	<u>106.90</u>

Sample Point	% of Diameter	Dist from Wall (inches)	Dist from Port (inches)
1	4.4	6.1	17.3
2	14.6	20.5	31.8
3	29.6	41.4	52.7
4	70.4	98.6	109.8
5	85.4	119.5	130.7
6	95.6	133.9	145.2

Appendix A.2

Sample Data Sheets

Appendix A.3 Laboratory Data

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION DATA

District Method: SCAQMD 207.1



Project Number:	PROJ-029212	Calibration Curve Slope:	-57.3599
Client/Location:	SCCPA-Canyon Power Plant/U2	Y-intercept:	122.5849
Sample Location:	Stack	R ² :	0.9999
Sample Date:	7/27/2023	Thermometer #:	1
Analysis Date:	8/7/2023	ISE Electrode #:	22
Analyst's Initials:	AE		

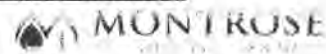
Sample	Total Volume (mL)	Sample Temperature (°C)	Electrode Potential (mV)	Conc. µg NH ₃ / ml as N	C _{avg} as N	C _{avg} as NH ₃	µg NH ₃ / sample
Standard Check: 28 µg NH ₃ / ml as N	NA	22.6	37.4	30.556	30.313	36.847	NA
		22.6	37.8	30.069			
1-NH ₃ -U2	571.1	22.1	106.1	1.938	1.919	2.333	1332.130
		22.1	106.6	1.900			
2-NH ₃ -U2	594.7	22.0	124.0	0.945	0.949	1.153	685.727
		22.0	123.8	0.952			
Spike 1-NH ₃ -U2	NA	22.1	44.2	23.257	22.710	27.605	NA
		22.1	45.4	22.163			
Standard Check: 28 µg NH ₃ / ml as N	NA	22.5	37.9	29.949	30.375	36.923	NA
		22.5	37.2	30.802			
Reagent Blank 0.1N H ₂ SO ₄	NA	23.2	214.0	0.025	0.026	0.031	NA
		23.2	213.2	0.026			
DI H ₂ O Blank	NA	21.8	202.2	0.041	0.041	0.049	NA
		21.8	202.6	0.040			
Field Blank	385.4	22.5	209.9	0.030	0.030	0.036	13.991
		22.5	210.2	0.030			
Standard Check: 28 µg NH ₃ / ml as N	NA	22.5	37.9	29.949	30.009	36.478	NA
		22.5	37.8	30.069			

Notes:

- Measured Concentration of Ammonia (C) in µg NH₃ / ml as N.
- $C = 10^{(P-B)/M}$, P = electrode potential (mV), M=slope and B=intercept.
- Average Measured Ammonia Concentration (C_{avg}) = $(C_1 + C_2)/2$ where C_1 , C_2 are results from duplicate analyses (µg NH₃ / ml as N).
- C_{avg} (µg NH₃/ml as NH₃) = C_{avg} (µg NH₃/ ml as N) * 17.03/14.01.
- µg NH₃ / sample = C_{avg} (µg NH₃/ml as NH₃) * TV.
- Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate, analyzed in duplicate.
- Sample pH and temperatures can be found on the laboratory datasheet.
- Maximum number of samples (including blanks) between 28 µg/ml check standard is 5 samples analyzed in duplicate.
- All samples are collected in 0.1N H₂SO₄ and allowed to equilibrate to room temperature.
- All calibration verification standard (C.V.) are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- Sample solutions, blanks and C.V. Standard temperature must be within ± 2°C.
- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

District Method: SCAQMD 207.1

Project Number: PROJ-029212Client/ Location: SCCPA-Canyon Power Plant/U2Sample Location: StackSample Date: 7/27/2023Analysis Date: 8/7/2023Analyst's Initials: AE

Sample	Recovery (%)	RPD (%)	RPA (%)
Standard Check: 28 µg NH ₃ / ml as N	NA	1.61	8.259
1-NH3-U2	NA	2.01	NA
2-NH3-U2	NA	-0.80	NA
Spike 1-NH3-U2	108.30	4.82	NA
Standard Check: 28 µg NH ₃ / ml as N	NA	-2.81	8.484
Reagent Blank 0.1N H ₂ SO ₄	NA	-3.21	NA
DI H ₂ O Blank	NA	1.61	NA
Field Blank	NA	1.20	NA
Standard Check: 28 µg NH ₃ / ml as N	NA	-0.40	7.175

Notes:

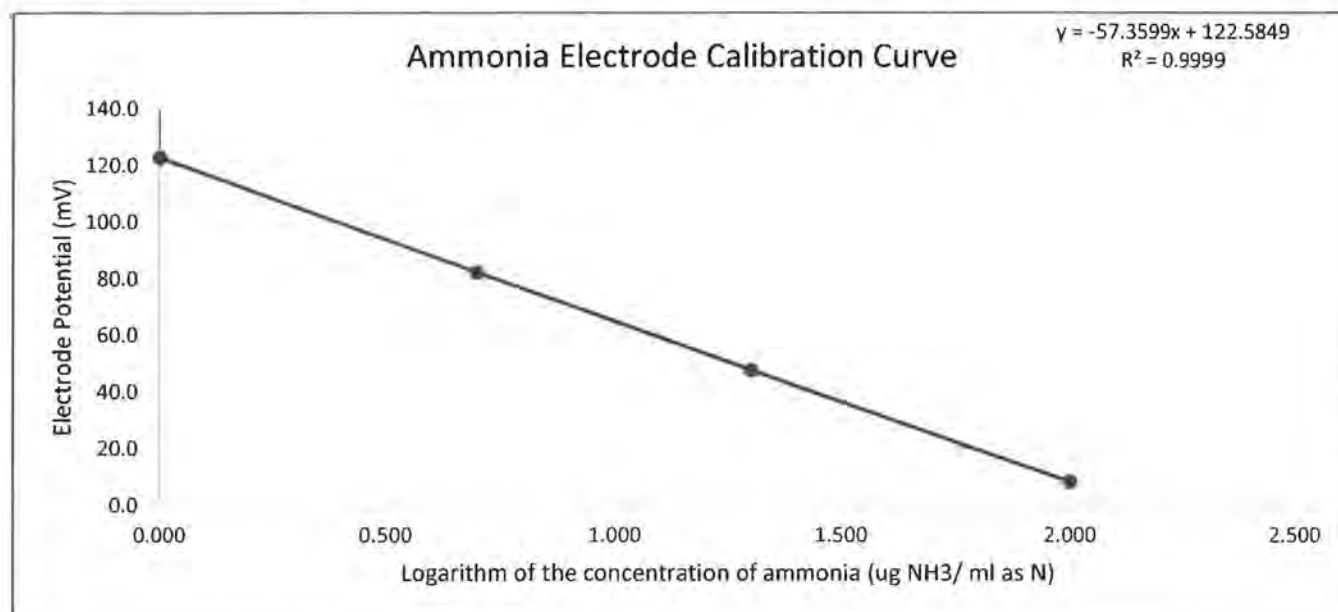
- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.
- Matrix Spike Percent Recovery (%R).
- %R = $(C_{\text{spike}} * 0.104 - C_{\text{sample}} * 0.102) / 2 * 100$.
- C_{spike} = average result of matrix spike (ug NH₃ / ml as N).
- Relative Percent Difference (RPD) = $(C_1 - C_2) / C_{\text{avg}} * 100$ **(must be 5% or less)**.
- Relative Percent Accuracy (RPA) **(must be 10% or less)**.
- RPA = $(C_{\text{avg}} - \text{theoretical value of standard}) / \text{theoretical value of standard} * 100$.

AMMONIA ELECTRODE CALIBRATION CURVE DATA

District Method: SCAQMD 207.1

Date: August 7, 2023Project Number: PROJ-029212Client/Location: SCCPA-Canyon Power Plant/U2

NH ₃ concentration (µg NH ₃ / ml as N)	Log NH ₃ concentration	Electrode Potential (mV)	Sample Temperature (°C)	Room Temperature (°C)
1	0.000	122.9	22.1	22.3
5	0.699	82.2	22.1	22.3
20	1.301	47.6	22.1	22.3
100	2.000	8.2	22.1	22.3



Slope	Y-Intercept	R ²
-57.3599	122.5849	0.9999

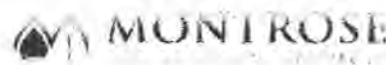
NH ₃ concentration (µg NH ₃ / ml as N)	Value LR line	Difference	% Difference
1	0.9874	-0.0126	-1.2569
5	5.0590	0.0590	1.1793
20	20.2895	0.2895	1.4473
100	98.6645	-1.3355	-1.3355

Notes:

- Regression Line: $P = M \cdot \log(\mu\text{g of NH}_3 / \text{ml as N}) + B$.
- Measured Concentration of Ammonia (C) in µg / ml NH₃ as N: $C = 10^{(P-B)/M}$ where P = electrode potential, M = slope and B = intercept.
- All standards are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- Slope of calibration curve must be between -54 and -60.
- R² must be 0.997 or greater.
- Calibration solution temperature must be within ± 2°C.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS DATA

District Method: SCAQMD 207.1



Project Number: PROJ-029212
 Client/Location: SCCPA-Lanyon Power Plant/V2
 Sample Location: stack
 Sample Date: 7/27/23
 Analysis Date: 8/7/23

Calibration Curve: $y = -57.359x + 122.5849$
 R^2 : 0.9999
 Thermometer #: 1
 ISE Electrode #: 22
 Analyst's Initials: AF

NH ₃ concentration (μ g NH ₃ / ml as N)	Electrode Potential (mV)	Sample Temperature (°C)	Room Temperature (°C)
1	122.9	22.1	22.3
5	82.2	22.1	22.3
20	47.6	22.1	22.3
100	8.2	22.1	22.3

Sample	Total Volume (mL)	Sample Temperature (°C)	Electrode Potential (mV)	Blue after ISA (Y/N)	pH
Standard Check: 28 μ g NH ₃ / ml as N	NA	22.6	37.4	Y	NA
		22.6	37.8	Y	
1-NH ₃ -V2	571.1	22.1	106.1	Y	<2
		22.1	106.6	Y	
2-NH ₃ -V2	594.7	22.0	124.0	Y	<2
		22.0	123.8	Y	
Spike: 1-NH ₃ -V2	NA	22.1	44.2	Y	NA
		22.1	45.4	Y	
Standard Check: 28 μ g NH ₃ / ml as N	NA	22.5	37.9	Y	NA
		22.5	37.2	Y	
Reagent Blank 0.1N H ₂ SO ₄	NA	23.2	214.0	Y	NA
		23.2	213.5	Y	
DI H ₂ O Blank	NA	21.8	202.5	Y	NA
		21.8	202.6	Y	
Field Blank	385.4	22.5	209.9	Y	<2
		22.5	210.2	Y	
Standard Check: 28 μ g NH ₃ / ml as N	NA	22.5	37.4	Y	NA
		22.5	37.8	Y	

Notes:

- Used 100 ml of samples or standards with 2 ml ISA and constant stirring rate.
- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.
- All calibration solution and calibration verification standard (C.V.) are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- All samples are collected in 0.1N H₂SO₄ and allowed to equilibrate to room temperature.
- All solutions turned blue and remained blue with ISA unless otherwise indicated.
- Maximum number of samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.
- All samples must have a pH of less than 2.
- Sample solutions, calibration solution and C.V. standard temperature must be within $\pm 2^\circ\text{C}$ of one another.
- Slope of calibration curve must be between -54 and -60.
- R^2 must be 0.997 or greater.

CHAIN OF CUSTODY

CLIENT: SCPPA - Canyon Power PlantPROJECT #: PROJ-029212TEST DATE(S): 7/27/2023LOCATION: U2SAMPLER(S): DA, RM, NGSAMPLE LOCATION: StackPROJECT MANAGER: RDTEST METHOD(S): SCAQMD 207.1DATE DUE: 8/3/2023OUTSIDE LAB REQUIRED?: NoCOMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
7/27/2023	1830/1936	1-NH3-U2	Probe, Line, Impingers	1	DA, RM, NG	
7/27/2023	2002/2108	2-NH3-U2	Probe, Line, Impingers	1	DA, RM, NG	
7/27/2023		Reagent Blank	0.1 N H ₂ SO ₄	1	RD	
7/27/2023		Reagent Blank	DI H ₂ O	1	RD	
7/27/2023		FB-NH3-U2	Probe, Line, Impingers	1	DA, RM, NG	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
<i>Ly My</i>	7/28/23 1230	<i>Adrian Enwright</i>	8/7/23 0900

ANALYSIS REQUIRED: NH₃ by SCAQMD 207.1 (ISE)

Appendix A.4

QA/QC Data

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
 English Meter Box Units, English K' Factor
 Filename: W:\SW\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\7-WCS\2023\7WCS Semi Annual Cal 07-07-2023
 File Modified From: APEX 522 Series Meter box Calibration
 Revised: 4/8/2005

Model #: E.S. C-5000 Source Sampler
 ID #: 7-WCS
 Date: 7/7/2023
 Bar. Pressure: 29.80 (in. Hg)
 Performed By: JMS
 Reviewed By: Surya Adhikari

DRY GAS METER READINGS									CRITICAL ORIFICE READINGS			Ambient Temperature		
dH (in H ₂ O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps. Inlet (deg F)	Initial Temps. Outlet (deg F)	Final Temps. Inlet (deg F)	Final Temps. Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.11	26.00	952.000	957.510	5.510	76.0	74.0	77.0	75.0	AA-33	0.1582	19.0	70.0	71.0	70.5
0.11	26.00	957.510	963.010	5.500	77.0	75.0	78.0	77.0	AA-33	0.1582	19.0	71.0	73.0	72.0
0.11	26.00	963.010	968.490	5.480	78.0	77.0	80.0	78.0	AA-33	0.1582	19.0	73.0	73.0	73.0
0.56	12.00	934.000	939.560	5.560	78.0	74.0	78.0	75.0	QI-48	0.3459	17.0	70.0	70.0	70.0
0.56	12.00	939.560	945.140	5.580	78.0	75.0	79.0	75.0	QI-48	0.3459	17.0	70.0	70.0	70.0
0.56	12.00	945.140	950.720	5.580	79.0	75.0	80.0	76.0	QI-48	0.3459	17.0	70.0	70.0	70.0
1.80	7.00	915.000	920.570	5.570	77.0	71.0	78.0	71.0	QI-63	0.6022	16.0	69.0	69.0	69.0
1.80	7.00	920.570	926.200	5.630	78.0	71.0	79.0	72.0	QI-63	0.6022	16.0	69.0	69.0	69.0
1.80	7.00	926.200	931.820	5.620	79.0	72.0	81.0	73.0	QI-63	0.6022	16.0	69.0	69.0	69.0
3.40	5.00	897.000	902.350	5.350	70.0	68.0	72.0	69.0	AA-73	0.8167	15.0	68.0	68.0	68.0
3.40	5.00	902.350	907.750	5.400	72.0	69.0	75.0	69.0	AA-73	0.8167	15.0	68.0	69.0	68.5
3.40	5.00	907.750	913.150	5.400	75.0	69.0	77.0	71.0	AA-73	0.8167	15.0	69.0	69.0	69.0

DRY GAS METER		ORIFICE			DRY GAS METER	ORIFICE	Individual Run	Individual Orifice	Orifice Average	Orifice Average
VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME NOMINAL	CALIBRATION FACTOR	CALIBRATION FACTOR				
Vm(std) (cu ft)	Vm(std) (liters)	Vcr(std) (cu ft)	Vcr(std) (liters)	Vcr (cu ft)	Y Value (number)	dH@ Value (in H2O)				
5.410	153.2	5.322	150.7	5.371	0.984	1.453	0.95 < Y < 1.05?	Ymax - Ymin < 0.010?	0.98 < Y/Yd < 1.02?	dH@ - dH@ av < 0.155?
5.388	152.6	5.314	150.5	5.378	0.986	1.453	Pass			
5.353	151.6	5.309	150.4	5.383	0.992	1.452	Pass			
Average					0.987	1.453		Pass	Pass	Pass
5.458	154.6	5.373	152.2	5.417	0.984	1.546	Pass			
5.472	155.0	5.373	152.2	5.417	0.982	1.544	Pass			
5.465	154.8	5.373	152.2	5.417	0.983	1.543	Pass			
Average					0.983	1.544		Pass	Pass	Pass
5.505	155.9	5.462	154.7	5.496	0.992	1.647	Pass			
5.556	157.4	5.462	154.7	5.496	0.983	1.646	Pass			
5.534	156.7	5.462	154.7	5.496	0.987	1.642	Pass			
Average					0.987	1.645		Pass	Pass	Pass
5.353	151.6	5.296	150.0	5.319	0.989	1.696	Pass			
5.388	152.6	5.293	149.9	5.322	0.982	1.696	Pass			
5.370	152.1	5.291	149.8	5.324	0.985	1.695	Pass			
Average					0.986	1.696		Pass	Pass	Pass

Average Yd: 0.986 dH@: 1.584

Q @ dH = 1: 0.596

SIGNED: Signature on File

Date: 7/7/2023



DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 7-WCS
 Readout Description: Control Box
 Date: 7/5/2023
 Performed By: L. Olivares

Calibrated Thermocouple ID: TC-Cal
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 805002770
 T3 Reference Thermometer ID: 805002803

T/C I.D. TC-Cal	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (~370 F)	7-WCS	379	379	379	379	375	375	375	375	4.0	0.5%	Pass
T2 (~212 F)	7-WCS	213	213	213	213	210	210	210	210	3.0	0.4%	Pass
T1 (~32 F)	7-WCS	30	30	30	30	32	32	32	32	2.0	0.4%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

T/C Source S/N		T/C - Readout °F				T/C Source °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129462	648	648	648	648	650	650	650	650	2.0	0.2%	Pass
T3 (~370 F)	129462	367	367	367	367	370	370	370	370	3.0	0.4%	Pass
T2 (~212 F)	129462	210	210	210	210	212	212	212	212	2.0	0.3%	Pass
T1 (~32 F)	129462	29	29	29	29	32	32	32	32	3.0	0.6%	Pass

1) Difference % (°R) = Difference (°F) / (Average Tref + 460)

2) Pass if all Differences are less than 1.5% (°R)

Barometric Pressure Determination	
Date:	07/27/23
Data By:	Rik Dupont
Reference:	https://forecast.weather.gov/MapClick.php?lon=-117.85962867946365&lat=33.863355545614255
Reference Barometer ID	FW0063 Fullerton CSU (F0063)
Reference Barometer Location	Lat: 33.8805°N Lon: 117.88417°W Elev: 247ft.
Reference Barometer Other Info.	27 Jul 04:23 PM PDT
Reference Barometer Indication, corrected to sea level	29.90
Reference Barometer Reference Elevation	247
Reference Barometer Actual Pressure	29.65
Test Barometer Location/Site	Canyon Power Plant
Location/Site Elevation	279
Location/Site Barometric Pressure	29.62
Sampling Location Height (above/below site elevation)	60
Sampling Location Barometric Pressure	29.56

APPENDIX B FACILITY CEMS DATA

NM3

Average Values Report
Generated: 7/27/2023 21:49

1-NH3

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 2

Period Start: 7/27/2023 18:31
Period End: 7/27/2023 19:36
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

W002AS-029212-RT-5107

28 of 62

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX_CORR ppm	Average 2_NOX_LBHR #/hr	Average 2_NOX_LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO_CORR ppm	Average 2_CO_LBHR #/hr
07/27/2023 18:31	14.46	2.55	2.34	4.47	0.009	473.4	48.20	234.2	3.64	3.33	3.73
07/27/2023 18:32	14.46	2.55	2.34	4.47	0.009	473.3	48.19	234.1	3.63	3.33	3.73
07/27/2023 18:33	14.46	2.56	2.35	4.48	0.009	473.6	48.22	234.3	3.65	3.34	3.73
07/27/2023 18:34	14.46	2.56	2.35	4.47	0.009	473.3	48.22	234.1	3.66	3.35	3.73
07/27/2023 18:35	14.46	2.58	2.36	4.49	0.009	474.8	48.33	234.9	3.66	3.35	3.74
07/27/2023 18:36	14.44	2.59	2.37	4.49	0.009	474.7	48.32	234.1	3.65	3.33	3.74
07/27/2023 18:37	14.45	2.61	2.39	4.48	0.009	474.6	48.33	234.4	3.62	3.31	3.69
07/27/2023 18:38	14.44	2.64	2.41	4.49	0.009	475.5	48.43	234.5	3.61	3.30	3.69
07/27/2023 18:39	14.43	2.66	2.43	4.49	0.009	475.1	48.39	233.9	3.58	3.26	3.64
07/27/2023 18:40	14.44	2.67	2.44	4.50	0.009	475.7	48.40	234.6	3.56	3.25	3.65
07/27/2023 18:41	14.43	2.67	2.43	4.48	0.009	473.8	48.22	233.3	3.55	3.24	3.63
07/27/2023 18:42	14.47	2.67	2.45	4.47	0.009	473.1	48.19	234.4	3.57	3.28	3.63
07/27/2023 18:43	14.47	2.64	2.42	4.48	0.009	473.6	48.21	234.7	3.60	3.30	3.68
07/27/2023 18:44	14.46	2.61	2.39	4.48	0.009	474.1	48.26	234.5	3.61	3.31	3.68
07/27/2023 18:45	14.46	2.60	2.38	4.47	0.009	473.1	48.21	234.1	3.63	3.33	3.73
07/27/2023 18:46	14.47	2.62	2.40	4.47	0.009	472.9	48.19	234.3	3.62	3.32	3.72
07/27/2023 18:47	14.46	2.60	2.38	4.48	0.009	474.0	48.25	234.5	3.62	3.32	3.68
07/27/2023 18:48	14.47	2.58	2.37	4.47	0.009	472.6	48.14	234.1	3.62	3.32	3.72
07/27/2023 18:49	14.48	2.60	2.39	4.48	0.009	473.6	48.24	235.0	3.63	3.34	3.73
07/27/2023 18:50	14.45	2.60	2.38	4.48	0.009	474.4	48.33	234.3	3.62	3.31	3.69
07/27/2023 18:51	14.46	2.58	2.36	4.47	0.009	472.7	48.15	233.8	3.62	3.32	3.67
07/27/2023 18:52	14.48	2.59	2.38	4.47	0.009	472.6	48.17	234.5	3.62	3.33	3.72
07/27/2023 18:53	14.48	2.57	2.36	4.47	0.009	472.9	48.14	234.6	3.65	3.35	3.72
07/27/2023 18:54	14.47	2.54	2.33	4.47	0.009	473.0	48.19	234.4	3.66	3.36	3.73
07/27/2023 18:55	14.46	2.54	2.33	4.48	0.009	473.6	48.23	234.3	3.66	3.35	3.73
07/27/2023 18:56	14.46	2.56	2.35	4.48	0.009	473.6	48.23	234.3	3.64	3.33	3.73
07/27/2023 18:57	14.45	2.58	2.36	4.48	0.009	474.5	48.37	234.3	3.62	3.31	3.69
07/27/2023 18:58	14.44	2.59	2.37	4.49	0.009	475.2	48.35	234.4	3.59	3.28	3.69
07/27/2023 18:59	14.45	2.61	2.39	4.48	0.009	474.4	48.29	234.3	3.58	3.27	3.64
07/27/2023 19:00	14.44	2.63	2.40	4.48	0.009	474.4	48.30	233.9	3.59	3.28	3.69
07/27/2023 19:01	14.45	2.62	2.40	4.49	0.009	474.8	48.33	234.5	3.62	3.31	3.69
07/27/2023 19:02	14.44	2.60	2.37	4.49	0.009	475.2	48.40	234.4	3.63	3.32	3.69
07/27/2023 19:03	14.44	2.51	2.29	3.98	0.008	474.1	48.24	233.8	3.63	3.32	3.68
07/27/2023 19:04	14.45	2.44	2.23	3.99	0.008	475.3	48.35	234.8	3.63	3.32	3.69
07/27/2023 19:05	14.43	2.42	2.21	3.99	0.008	475.0	48.34	233.9	3.61	3.29	3.69
07/27/2023 19:06	14.44	2.42	2.21	3.99	0.008	475.1	48.38	234.3	3.60	3.29	3.69
07/27/2023 19:07	14.43	2.44	2.23	3.99	0.008	475.2	48.33	234.0	3.60	3.28	3.69
07/27/2023 19:08	14.45	2.44	2.23	3.99	0.008	474.5	48.29	234.3	3.60	3.29	3.69
07/27/2023 19:09	14.44	2.44	2.23	3.98	0.008	473.8	48.25	233.7	3.60	3.29	3.68
07/27/2023 19:10	14.47	2.42	2.22	3.97	0.008	472.8	48.11	234.2	3.60	3.30	3.67
07/27/2023 19:11	14.47	2.39	2.19	3.97	0.008	472.7	48.15	234.2	3.62	3.32	3.72
07/27/2023 19:12	14.47	2.37	2.17	3.97	0.008	473.1	48.17	234.4	3.63	3.33	3.73
07/27/2023 19:13	14.46	2.35	2.15	3.97	0.008	472.8	48.18	233.9	3.64	3.33	3.72
07/27/2023 19:14	14.47	2.35	2.16	3.97	0.008	472.8	48.15	234.2	3.63	3.33	3.72
07/27/2023 19:15	14.46	2.35	2.15	3.98	0.008	474.1	48.27	234.5	3.64	3.33	3.73
07/27/2023 19:16	14.44	2.35	2.15	3.99	0.008	475.0	48.34	234.3	3.64	3.32	3.74
07/27/2023 19:17	14.44	2.37	2.16	4.00	0.008	476.2	48.42	234.8	3.63	3.32	3.70
07/27/2023 19:18	14.43	2.40	2.19	3.99	0.008	475.0	48.33	233.9	3.62	3.30	3.69
07/27/2023 19:19	14.45	2.44	2.23	3.98	0.008	474.0	48.24	234.1	3.62	3.31	3.68

NH3

CEMTEK KVB-Enertec NetDAHS®

Version 48.0

1-NH3

W002AS-029212-RT-5107

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX CORR ppm	Average 2_NOX LBHR #/hr	Average 2_NOX LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO CORR ppm	Average 2_CO LBHR #/hr
07/27/2023 19:20	14.45	2.44	2.23	3.98	0.008	473.5	48.21	233.9	3.61	3.30	3.68
07/27/2023 19:21	14.46	2.40	2.20	3.97	0.008	472.7	48.15	233.8	3.62	3.32	3.67
07/27/2023 19:22	14.46	2.38	2.18	3.98	0.008	474.3	48.26	234.6	3.63	3.33	3.74
07/27/2023 19:23	14.45	2.36	2.16	3.98	0.008	473.6	48.21	233.9	3.63	3.32	3.68
07/27/2023 19:24	14.46	2.37	2.17	3.98	0.008	473.4	48.20	234.2	3.63	3.33	3.73
07/27/2023 19:25	14.46	2.38	2.18	3.98	0.008	473.3	48.17	234.1	3.62	3.32	3.68
07/27/2023 19:26	14.47	2.36	2.17	3.98	0.008	473.4	48.19	234.6	3.62	3.32	3.73
07/27/2023 19:27	14.46	2.36	2.16	3.97	0.008	473.0	48.16	234.0	3.63	3.33	3.73
07/27/2023 19:28	14.47	2.36	2.17	3.97	0.008	472.9	48.16	234.3	3.64	3.34	3.72
07/27/2023 19:29	14.46	2.35	2.15	3.98	0.008	473.5	48.19	234.2	3.64	3.33	3.73
07/27/2023 19:30	14.45	2.34	2.14	3.98	0.008	473.9	48.23	234.1	3.64	3.33	3.73
07/27/2023 19:31	14.44	2.36	2.16	3.99	0.008	474.5	48.26	234.0	3.64	3.32	3.74
07/27/2023 19:32	14.44	2.39	2.18	3.99	0.008	475.3	48.35	234.4	3.61	3.30	3.69
07/27/2023 19:33	14.43	2.40	2.19	4.00	0.008	475.8	48.36	234.3	3.60	3.28	3.70
07/27/2023 19:34	14.43	2.42	2.21	3.99	0.008	474.8	48.30	233.8	3.60	3.28	3.69
07/27/2023 19:35	14.44	2.41	2.20	4.00	0.008	475.7	48.38	234.6	3.60	3.29	3.70
07/27/2023 19:36	14.42	2.41	2.19	4.00	0.008	476.0	48.42	234.0	3.60	3.28	3.70
Daily Average*	14.45	2.49	2.28	4.22	0.008	474.0	48.26	234.2	3.62	3.31	3.70
Maximum*	14.48	2.67	2.45	4.50	0.009	476.2	48.43	235.0	3.66	3.36	3.74
Minimum*	14.42	2.34	2.14	3.97	0.008	472.6	48.11	233.3	3.55	3.24	3.63
	07/27/2023 18:53	07/27/2023 18:42	07/27/2023 18:42	07/27/2023 18:40	07/27/2023 19:02	07/27/2023 19:17	07/27/2023 18:38	07/27/2023 18:49	07/27/2023 18:55	07/27/2023 18:54	07/27/2023 19:31
	07/27/2023 19:36	07/27/2023 19:30	07/27/2023 19:30	07/27/2023 19:28	07/27/2023 19:36	07/27/2023 18:52	07/27/2023 19:10	07/27/2023 18:41	07/27/2023 18:41	07/27/2023 18:41	07/27/2023 18:42

* Does not include Invalid Averaging Periods ("N/A")

29 of 62

N43

Average Values Report
Generated: 7/27/2023 21:51

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 2

Period Start: 7/27/2023 20:03
Period End: 7/27/2023 21:08
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX_CORR ppm	Average 2_NOX_LBHR #/hr	Average 2_NOX_LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO_CORR ppm	Average 2_CO_LBHR #/hr
07/27/2023 20:03	14.44	2.43	2.22	4.00	0.008	475.9	48.44	234.7	3.66	3.34	3.75
07/27/2023 20:04	14.44	2.42	2.21	3.99	0.008	474.5	48.31	234.0	3.66	3.34	3.74
07/27/2023 20:05	14.47	2.42	2.22	3.98	0.008	473.4	48.18	234.6	3.65	3.35	3.73
07/27/2023 20:06	14.47	2.41	2.21	3.99	0.008	474.9	48.32	235.3	3.64	3.34	3.74
07/27/2023 20:07	14.46	2.36	2.16	4.00	0.008	475.6	48.38	235.3	3.66	3.35	3.75
07/27/2023 20:08	14.46	2.34	2.14	3.98	0.008	473.5	48.16	234.2	3.68	3.37	3.78
07/27/2023 20:09	14.48	2.36	2.17	3.99	0.008	474.5	48.30	235.4	3.72	3.42	3.84
07/27/2023 20:10	14.47	2.36	2.17	3.99	0.008	475.3	48.37	235.5	3.74	3.43	3.84
07/27/2023 20:11	14.46	2.35	2.15	3.99	0.008	475.4	48.35	235.2	3.73	3.42	3.84
07/27/2023 20:12	14.46	2.36	2.16	4.00	0.008	475.6	48.43	235.3	3.71	3.40	3.80
07/27/2023 20:13	14.44	2.36	2.16	3.99	0.008	475.3	48.36	234.4	3.70	3.38	3.79
07/27/2023 20:14	14.47	2.38	2.18	3.98	0.008	473.3	48.21	234.5	3.71	3.40	3.78
07/27/2023 20:15	14.47	2.38	2.18	3.99	0.008	474.5	48.29	235.1	3.71	3.40	3.79
07/27/2023 20:16	14.47	2.35	2.16	3.99	0.008	475.4	48.38	235.5	3.72	3.41	3.84
07/27/2023 20:17	14.45	2.34	2.14	4.00	0.008	476.0	48.45	235.1	3.73	3.41	3.85
07/27/2023 20:18	14.45	2.36	2.16	4.00	0.008	475.7	48.38	235.0	3.73	3.41	3.85
07/27/2023 20:19	14.47	2.38	2.18	3.98	0.008	474.1	48.27	234.9	3.73	3.42	3.83
07/27/2023 20:20	14.48	2.38	2.19	3.98	0.008	473.4	48.17	234.9	3.72	3.42	3.83
07/27/2023 20:21	14.49	2.37	2.18	3.98	0.008	474.2	48.28	235.7	3.70	3.41	3.78
07/27/2023 20:22	14.47	2.34	2.15	3.98	0.008	474.0	48.23	234.8	3.70	3.40	3.78
07/27/2023 20:23	14.48	2.32	2.13	3.98	0.008	473.2	48.16	234.8	3.72	3.42	3.83
07/27/2023 20:24	14.49	2.31	2.13	3.97	0.008	472.9	48.16	235.0	3.75	3.45	3.82
07/27/2023 20:25	14.49	2.30	2.12	3.98	0.008	474.1	48.24	235.6	3.77	3.47	3.88
07/27/2023 20:26	14.48	2.30	2.11	3.99	0.008	474.9	48.33	235.6	3.79	3.48	3.89
07/27/2023 20:27	14.47	2.30	2.11	3.99	0.008	475.4	48.36	235.5	3.78	3.47	3.89
07/27/2023 20:28	14.47	2.34	2.15	3.99	0.008	474.6	48.31	235.1	3.78	3.47	3.89
07/27/2023 20:29	14.47	2.36	2.17	4.00	0.008	475.8	48.40	235.7	3.76	3.45	3.85
07/27/2023 20:30	14.46	2.35	2.15	3.97	0.008	473.0	48.14	234.0	3.77	3.45	3.82
07/27/2023 20:31	14.49	2.35	2.16	3.98	0.008	474.3	48.26	235.7	3.79	3.49	3.88
07/27/2023 20:32	14.48	2.33	2.14	3.98	0.008	473.4	48.20	234.9	3.79	3.48	3.88
07/27/2023 20:33	14.49	2.31	2.13	3.98	0.008	474.0	48.26	235.6	3.78	3.48	3.88
07/27/2023 20:34	14.48	2.31	2.12	3.98	0.008	474.2	48.26	235.3	3.79	3.48	3.88
07/27/2023 20:35	14.48	2.31	2.12	3.98	0.008	474.0	48.25	235.2	3.80	3.49	3.88
07/27/2023 20:36	14.49	2.31	2.13	3.98	0.008	473.6	48.24	235.4	3.80	3.50	3.88
07/27/2023 20:37	14.48	2.30	2.11	3.98	0.008	473.8	48.19	235.1	3.80	3.49	3.88
07/27/2023 20:38	14.49	2.30	2.12	3.98	0.008	473.3	48.19	235.2	3.81	3.51	3.93
07/27/2023 20:39	14.49	2.30	2.12	3.98	0.008	473.8	48.22	235.5	3.81	3.51	3.93
07/27/2023 20:40	14.48	2.29	2.10	3.98	0.008	473.7	48.24	235.1	3.81	3.50	3.93
07/27/2023 20:41	14.48	2.28	2.10	3.99	0.008	474.5	48.31	235.4	3.80	3.49	3.89
07/27/2023 20:42	14.48	2.29	2.10	3.99	0.008	474.9	48.32	235.6	3.77	3.46	3.89
07/27/2023 20:43	14.47	2.31	2.12	3.99	0.008	475.4	48.38	235.5	3.76	3.45	3.84
07/27/2023 20:44	14.47	2.32	2.13	3.98	0.008	474.0	48.23	234.8	3.76	3.45	3.83
07/27/2023 20:45	14.48	2.33	2.14	3.98	0.008	474.0	48.22	235.2	3.79	3.48	3.88
07/27/2023 20:46	14.49	2.32	2.14	3.98	0.008	473.3	48.19	235.2	3.81	3.51	3.93
07/27/2023 20:47	14.49	2.31	2.13	3.98	0.008	473.6	48.20	235.4	3.83	3.53	3.93
07/27/2023 20:48	14.49	2.29	2.11	3.98	0.008	473.8	48.23	235.5	3.84	3.53	3.93
07/27/2023 20:49	14.48	2.28	2.10	3.98	0.008	473.8	48.19	235.1	3.82	3.51	3.93
07/27/2023 20:50	14.48	2.28	2.10	3.98	0.008	473.2	48.19	234.8	3.81	3.50	3.93
07/27/2023 20:51	14.49	2.28	2.10	3.97	0.008	473.0	48.13	235.1	3.80	3.50	3.87

NH3

2-NH3

W002AS-029212-RT-5107

Period Start:	Average 2_O2 %	Average 2_NOXPPM ppm	Average 2_NOX CORR ppm	Average 2_NOX_LBHR #/hr	Average 2_NOX_LBMM #/MBTU	Average 2_GasFlow kscfh	Average 2_LOAD MW	Average 2_STACKFLW kscfm	Average 2_COPPM ppm	Average 2_CO_CORR ppm	Average 2_CO_LBHR #/hr
07/27/2023 20:52	14.49	2.27	2.09	3.97	0.008	473.1	48.16	235.1	3.82	3.52	3.92
07/27/2023 20:53	14.49	2.25	2.07	3.98	0.008	474.1	48.25	235.6	3.84	3.53	3.93
07/27/2023 20:54	14.48	2.23	2.05	3.98	0.008	474.4	48.28	235.4	3.85	3.54	3.93
07/27/2023 20:55	14.48	2.25	2.07	3.99	0.008	474.9	48.34	235.6	3.86	3.55	3.99
07/27/2023 20:56	14.47	2.28	2.09	4.00	0.008	475.9	48.40	235.8	3.85	3.53	3.95
07/27/2023 20:57	14.46	2.30	2.11	4.00	0.008	475.8	48.40	235.4	3.84	3.52	3.95
07/27/2023 20:58	14.46	2.31	2.12	4.00	0.008	475.7	48.42	235.3	3.82	3.50	3.95
07/27/2023 20:59	14.46	2.34	2.14	3.99	0.008	475.0	48.30	235.0	3.81	3.49	3.89
07/27/2023 21:00	14.48	2.37	2.18	3.98	0.008	473.8	48.16	235.1	3.77	3.46	3.88
07/27/2023 21:01	14.49	2.37	2.18	3.98	0.008	473.8	48.25	235.5	3.75	3.45	3.83
07/27/2023 21:02	14.48	2.35	2.16	3.99	0.008	474.5	48.30	235.4	3.73	3.43	3.84
07/27/2023 21:03	14.47	2.38	2.18	4.00	0.008	475.6	48.40	235.6	3.70	3.40	3.80
07/27/2023 21:04	14.46	2.41	2.21	3.99	0.008	475.2	48.29	235.1	3.68	3.37	3.79
07/27/2023 21:05	14.48	2.39	2.20	3.98	0.008	473.5	48.16	235.0	3.73	3.43	3.83
07/27/2023 21:06	14.47	2.36	2.17	4.00	0.008	475.7	48.35	235.7	3.77	3.46	3.90
07/27/2023 21:07	14.46	2.35	2.15	4.00	0.008	476.5	48.40	235.7	3.78	3.46	3.90
07/27/2023 21:08	14.47	2.35	2.16	3.97	0.008	473.0	48.15	234.4	3.78	3.47	3.87
Daily Average*	14.47	2.33	2.14	3.99	0.008	474.4	48.28	235.2	3.76	3.45	3.86
Maximum*	14.49	2.43	2.22	4.00	0.008	476.5	48.45	235.8	3.86	3.55	3.99
	07/27/2023 21:01	07/27/2023 20:03	07/27/2023 20:05	07/27/2023 21:07	07/27/2023 21:08	07/27/2023 21:07	07/27/2023 20:17	07/27/2023 20:56	07/27/2023 20:55	07/27/2023 20:55	07/27/2023 20:55
Minimum*	14.44	2.23	2.05	3.97	0.008	472.9	48.13	234.0	3.64	3.34	3.73
	07/27/2023 20:13	07/27/2023 20:54	07/27/2023 20:54	07/27/2023 21:08	07/27/2023 21:08	07/27/2023 20:24	07/27/2023 20:51	07/27/2023 20:30	07/27/2023 20:06	07/27/2023 20:06	07/27/2023 20:05

* Does not include Invalid Averaging Periods ("N/A")

31 of 62

APPENDIX C CALCULATIONS

Appendix C.1

General Emissions Calculations

GENERAL EMISSIONS CALCULATIONS

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$$MW_{dry} = 0.44 * \% CO_2 + 0.32 * \% O_2 + 0.28 * \% N_2$$

$$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6} \right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528^\circ R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric Flow Rate

A. Actual stack gas volumetric flow rate, wacfm

$$Q = V_s * A_s * 60$$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{\text{ppm} * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{\text{lb}}{\text{MMBtu}} = \frac{\text{ppm} * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \% O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo}) * V_s * P_s * Dn^2} * \frac{520^\circ R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
 $C = 0.01543 (M_n/V_{m \text{ std}})$

(b) Grain loading at 12% CO₂, gr/dscf
 $C_{12\% \text{ CO}_2} = C (12\% \text{ CO}_2)$

(c) Mass emissions, lb/hr
 $M = C * Q_{sd} * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$

(d) Particulate emission factor

$$\text{lb}/10^6 \text{ Btu} = Cx \frac{1 \text{ lb}}{7000 \text{ gr}} * F * \frac{20.9}{20.9 - \% O_2}$$

Nomenclature:

A_s	=	stack area, ft ²
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO_2}$	=	particulate grain loading, gr/dscf corrected to 12% CO ₂
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
D_n	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O ₂
H	=	orifice differential pressure, iwg
I	=	% isokinetics
M_n	=	mass of collected particulate, mg
M_i	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M_{wi}	=	molecular weight of specie i:
		SO ₂ : 64
		NO _x : 46
		CO: 28
		HC: 16
t	=	sample time, minutes
ΔP	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	=	barometric pressure, inches Hg
P_s	=	stack absolute pressure, inches Hg
P_{sg}	=	stack static pressure, iwbg
Q	=	wet stack flow rate at actual conditions, wacfm
Q_{sd}	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft ³ /lb-mole
T_m	=	meter temperature, °R
T_{ref}	=	reference temperature, °R
T_s	=	stack temperature, °R
V_s	=	stack gas velocity, ft/sec
V_{lc}	=	volume of liquid collected in impingers, ml
V_m	=	uncorrected dry meter volume, dcf
V_{mstd}	=	dry meter volume at standard conditions, dscf
V_{wstd}	=	volume of water vapor at standard conditions, scf
Y_d	=	meter calibration coefficient

Appendix C.2

Spreadsheet Summaries

SCAQMD 207.1 EXAMPLE CALCULATION

TEST NUMBER: 1-NH3-U2

Identifier	Description	Units	Equation	Value
A	Reference Temperature	F	—	60
B	Reference Temperature	R	$A + 460$	520
C	Meter Calibration Factor (Yd)	—	—	0.986
D	Barometric Pressure	" Hg	—	29.56
E	Meter Volume	acf	—	37.808
F	Meter Temperature	F	—	79.8
G	Meter Temperature	R	$F + 460$	539.8
H	Delta H	" H ₂ O	—	1.0
I	Meter Volume (standard)	dscf	$0.03342 * E * (D + H/13.6) * B/G * C$	35.565
J	Liquid Collected	grams	—	112.2
K	Water vapor volume	scf	$0.0472 * J * B/528$	5.216
L	Moisture Content	—	$K/(K + I)$	0.128
M	Gas Constant	ft-lbf/lb-mole-R	—	1545.33
N	Specific Molar Volume	SCF/lb-mole	$385.3 * B / 528$	379.5
O	F-Factor	dscf/MMBtu	—	8,710
P	HHV	Btu/SCF	—	1,050
Q	Mass Conversion Factor	lb/ug	—	2.2046E-09
R	O ₂ Correction Factor	—	—	15
S	Stack Flow Rate @ 68 F	dscfm	—	234,200
T	Stack Flow Rate @ Tref	dscfm	$S * B/528$	230,652
U	Mass NH ₃	ug	—	1,332
V	Mass NH ₃	lb	$U * Q$	2.94E-06
W	MW of NH ₃	lb/lb-mole	—	17.03
X	NH ₃	ppm	$(V * N * 10^6)/(I * W)$	1.8
Y	Flue Gas O ₂	%	—	14.45
Z	NH ₃	ppmc	$X * (20.9 - R)/(20.9 - Y)$	1.7
AA	NH ₃	lb/hr	$X * T * W * 60/(N * 10^6)$	1.1
AB	NH ₃	lb/MMBtu	$(X * W * O)/(385.3 * 10^6) * 20.9/(20.9 - Y)$	0.002
AC	NH ₃	lb/MMSCF	$AB * P$	2.4

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

SCAQMD METHOD 207.1 DATA WORKSHEET AND SUMMARY

Facility.....	Canyon	Parameter.....	NH ₃		
Unit.....	U2	Fuel.....	Natural gas		
Sample Location.....	Stack	Data By.....	RD		
Test Number.....	1-NH3-U2	2-NH3-U2	Average	Maximum	Limit
Reference Temperature (°F).....	60	60			
Test Date.....	7/27/2023	7/27/2023			
Test Method.....	SCAQMD 207.1	SCAQMD 207.1			
Sample Train.....	7-WCS	7-WCS			
Meter Calibration Factor.....	0.986	0.986			
Stack Area (ft ²).....	106.90	106.90			
Sample Time (Minutes).....	60	60			
Barometric Pressure ("Hg).....	29.56	29.56			
Start/Stop Time	1830/1936	2002/2108			
Meter Volume (acf).....	37.808	37.556			
Meter Temperature (°F).....	79.8	71.9			
Meter Pressure (iwg).....	1.0	1.0			
Liquid Volume (ml).....	112.2	106.8			
Stack O ₂ (%).....	14.45	14.47	14.46	(from facility CEMS)	
Unit Load (MW).....	48.26	48.28	48.3		
Standard Sample Volume (SCF).....	35.565	35.852			
Moisture Fraction.....	0.128	0.122			
Stack Flow Rate (dscfm, 68 °F).....	234,200	235,200	234,700	(from facility CEMS)	
Stack Flow Rate (@ Tref).....	230,652	231,636	231,144		
Gas Constant (ft-lbf/lb-mole-R).....	1545.33	1545.33			
Molecular Weight NH ₃ (lb/lb-mole).....	17.03	17.03			
Specific Molar Volume (ft ³ /lb-mole)....	379.5	379.5			
F-Factor (dscf/MMBtu).....	8,710	8,710			
HHV(Btu/SCF).....	1,050	1,050			
Mass Conversion (lb/ug).....	2.2046E-09	2.2046E-09			
O ₂ Correction Factor (%).....	15	15			
Mass NH ₃ (ug).....	1,332.130	685.727			
Mass NH ₃ (lb).....	2.94E-06	1.51E-06			
NH ₃ (ppmv, flue gas)	1.84	0.94	1.39	1.84	
NH ₃ (ppmv @ O ₂ Correction Factor)...	1.68	0.86	1.27	1.68	5
NH ₃ (lb/hr).....	1.14	0.58	0.86	1.14	
NH ₃ (lb/MMBtu).....	0.002	0.001	0.002	0.002	
NH ₃ (lb/MMSCF).....	2.41	1.23	1.82	2.41	

Note: SCAQMD Method 207.1 requires the higher of the duplicate runs be reported as the test result.

1-NH3-U2

Point	Meter Volume	Delta H	Tm In	Tm Out
3	27.846	1.0	85	84
2			84	82
1			83	82
3			84	82
2			81	80
1			80	79
3			80	78
2			79	77
1			79	76
3			78	76
2			78	75
1			79	75
Stop	65.654			
Result	37.808	1.0	79.8	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	944.6	743.9	200.7
2	776.4	774.0	2.4
3	592.8	591.9	0.9
4	933.2	925.0	8.2
Line Rinse	0.0	100.0	-100.0
			112.2

2-NH3-U2

Point	Meter Volume	Delta H	Tm In	Tm Out
3	67.607	1.0	74	73
2			74	72
1			75	72
3			74	71
2			73	71
1			73	70
3			73	71
2			73	70
1			72	70
3			72	70
2			71	70
1			71	70
Stop	105.163			
Result	37.556	1.0	71.9	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	933.1	736.2	196.9
2	751.9	749.8	2.1
3	655.4	654.4	1.0
4	907.8	901.0	6.8
Line Rinse	0.0	100.0	-100.0
			106.8

APPENDIX D QUALITY ASSURANCE

Appendix D.1

Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (Montrose) ASTM D7036-04 certification, Montrose is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. Montrose quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Assignment of an Internal QA Officer: Montrose has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: Montrose has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of Montrose's QA efforts. The manual is revised upon periodic review and as Montrose adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. Montrose training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the Montrose QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of Montrose's emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: Montrose maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: Montrose maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to Montrose source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to Montrose office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)
- Flame Resistant Clothing (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
EQUIPMENT MAINTENANCE SCHEDULE

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Van Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling Lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

TABLE 2
MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO _x Analyzer	Daily	NO ₂ → NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	± 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	± 5%
Barometer	Semi-Annually	Adjusted to mercury-in-glass or National Weather Service Station	± 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	± 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	± 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	± 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements are used.

Appendix D.2

SCAQMD and STAC Certifications



**South Coast
Air Quality Management District**

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

May 18, 2023

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have completed our review of Montrose Air Quality Services' revised renewal application, which was submitted as notification of Montrose's recent acquisition of AirKinetics, Inc. under the South Coast AQMD Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning May 18, 2023, and ending September 30, 2023, for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4	South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1
South Coast AQMD Methods 10.1 and 100.1	South Coast AQMD Methods 25.1 and 25.3 (Sampling)
USEPA CTM-030 and ASTM D6522-00	Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling	

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2 Protocols includes satellite facilities located at:

McKenna Boiler 1510 North Spring Street Los Angeles, CA 90012	Noritz America Corp. 11160 Grace Avenue Fountain Valley, CA 92708	Ajax Boiler, Inc. 2701 S. Harbor Blvd. Santa Ana, CA 92704
VA Laundry Bldg., Greater LA Healthcare Sys. 508 Constitution Avenue Los Angeles, CA 90049	So Cal Gas – Engr Analysis Ctr, Bldg H 8101 Rosemead Blvd Pico Rivera, CA 90660	

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

230518 LapRenewal.doc



American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.



Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix D.3

Individual QI Certificate

CERTIFICATE OF COMPLETION	
Rik Dupont	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
SCAQMD Methods 1.1 - 4.1	
Certificate Number: <u>002-2021-41</u>	
 Tate Strickler, VP – Quality Systems	DATE OF ISSUE: <u>12/02/2021</u>
	DATE OF EXPIRATION: <u>12/01/2026</u>
 MONTROSE ENVIRONMENTAL	

CERTIFICATE OF COMPLETION	
Rik Dupont	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
SCAQMD Method 207.1	
Certificate Number: <u>002-2021-26</u>	
	DATE OF ISSUE: <u>8/19/21</u>
Tate Strickler, VP – Quality Systems	DATE OF EXPIRATION: <u>8/19/26</u>
	

Appendix D.4

Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	153992
Date(s) Tested:	July 27, 2023
Facility Name:	Canyon Power Plant
Equipment Address:	3071 E. Mira Loma Avenue
	Anaheim, California 92806
Equipment Tested:	Unit 2
Device ID, A/N, P/N:	D7

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.

Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in **District Rule 304(k)**:

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:

- (1) The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof -*
- (2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;*
- (3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and*
- (4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.*

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature: _____

Date: 9/25/2023

Rik Dupont

Field Project Manager

(714) 279-6777

9/25/2023

(Name)

(Title)

(Phone)

(Date)

APPENDIX E

APPLICABLE PERMIT SECTIONS



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: POWER GENERATION					
GAS TURBINE, NO. 2, NATURAL GAS, GENERAL ELECTRIC, MODEL LM6000PC SPRINT, SIMPLE CYCLE, 479 MMBTU/HR AT 46 DEG F, WITH INLET CHILLING, WITH WATER INJECTION WITH A/N: 555829	D7	C9	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 2005, 12-4-2015]; NOX: 25 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 1.67 LBS/HR NATURAL GAS (5C) [RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SO2: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A99.1, A99.2, A99.3, A195.1, A195.2, A195.3, A327.1, B61.1, D12.1, D29.2, D29.3, D82.1, D82.2, E193.1, H23.1, I298.2, K40.1
GENERATOR, 50.95 MW					

* (1) (1A) (1B) Denotes RECLAIM emission factor

(3) Denotes RECLAIM concentration limit

(5) (5A) (5B) Denotes command and control emission limit

(7) Denotes NSR applicability limit

(9) See App B for Emission Limits

(2) (2A) (2B) Denotes RECLAIM emission rate

(4) Denotes BACT emission limit

(6) Denotes air toxic control rule limit

(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)

(10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: POWER GENERATION					
CO OXIDATION CATALYST, NO. 2, BASF, 110 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 476657	C9	D7 C10			
SELECTIVE CATALYTIC REDUCTION, NO. 2, CORMETECH CMHT-21, 1012 CU.FT.; WIDTH: 2 FT 6 IN; HEIGHT: 25 FT 9 IN; LENGTH: 18 FT WITH A/N: 476657 AMMONIA INJECTION	C10	C9 S12		NH3: 5 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A195.5, D12.2, D12.3, D12.4, E179.1, E179.2, E193.1
STACK, TURBINE NO. 2, HEIGHT: 86 FT ; DIAMETER: 11 FT 8 IN A/N: 555829	S12	C10			

- * (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements
- ** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : C4, C10, C16, C22]

- D12.5 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[RULE 1110.2, 2-1-2008; RULE 1110.2, 11-1-2019; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 9-1-2017; RULE 1470, 5-4-2012; RULE 2012, 5-6-2005; 40CFR 60 Subpart IIII, 7-7-2016]

[Devices subject to this condition : D25]

- D29.2 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NH3 emissions	District method 207.1	1 hour	Outlet of the SCR serving this equipment



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The test(s) shall be conducted quarterly during the first twelve months of operation of the catalytic control device and annually thereafter when four consecutive quarterly source tests demonstrate compliance with the ammonia emission limit. If an annual test is failed, four consecutive quarterly source tests must demonstrate compliance with the ammonia emissions limits prior to resuming annual source tests.

The South Coast AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one calendar year, then no testing is required during that calendar year.

The NO_x concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NO_x emissions using South Coast AQMD Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the South Coast AQMD within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[RULE 1135, 11-2-2018; RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1, D7, D13, D19]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Sampling Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	District-approved averaging time	Fuel sample



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

VOC emissions	District Method 25.3 Modified	1 hour	Outlet of the SCR serving this equipment
PM emissions	District method 5.1	4 hours	Outlet of the SCR serving this equipment

THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Rik Dupont
Title: Field Project Manager
Region: West
Email: RDupont@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

**TEST REPORT FOR
FOURTH QUARTER 2023 AMMONIA SLIP TEST
AT CANYON POWER PLANT UNIT 3
FACILITY ID: 153992, DEVICE ID: D13**

Prepared For:

Canyon Power Plant
3071 E. Mira Loma Avenue
Anaheim, California 92806

For Submittal To:

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4178

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Rik Dupont

Test Date: **October 25, 2023**
Production Date: **December 5, 2023**
Report Number: **W002AS-029212-RT-5447**

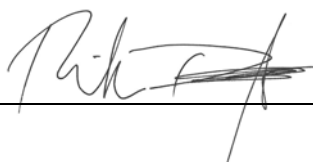


CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 12/5/2023
Name: Rik Dupont Title: Field Project Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

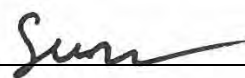
Signature:  Date: 12/5/2023
Name: Surya Adhikari Title: Senior Reporting QC Specialist

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION AND SUMMARY	5
2.0 UNIT AND CEMS DESCRIPTION	6
2.1 UNIT DESCRIPTION	6
2.2 CEMS DESCRIPTION	7
2.3 TEST CONDITIONS	7
2.4 SAMPLE LOCATION	7
3.0 TEST DESCRIPTION	8
4.0 TEST RESULTS AND OVERVIEW	9
4.1 TEST RESULTS	9
4.2 TEST OVERVIEW	9

LIST OF APPENDICES

A TEST DATA	10
A.1 SCAQMD Method 1.1 Data	11
A.2 Sample Data Sheets	13
A.3 Laboratory Data	17
A.4 QA/QC Data	23
B FACILITY CEMS DATA	27
C CALCULATIONS	32
C.1 General Emissions Calculations	33
C.2 Spreadsheet Summaries	37
D QUALITY ASSURANCE	41
D.1 Quality Assurance Program Summary	42
D.2 SCAQMD and STAC Certifications	48
D.3 Individual QI Certificate	51
D.4 Statement of No Conflict of Interest	54
E APPLICABLE PERMIT SECTIONS	56

LIST OF TABLES

1-1 AMMONIA SLIP TEST RESULTS SUMMARY	5
4-1 AMMONIA SLIP TEST RESULTS	9

LIST OF FIGURES

2-1 SIMPLIFIED PROCESS BLOCK DIAGRAM	6
3-1 SCAQMD METHOD 207.1 SAMPLING EQUIPMENT	8

1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) was contracted by Southern California Public Power Authority (SCPPA) Canyon Power Plant to perform an ammonia slip test at Unit 3 as required by the facility Permit (Facility ID 153992) Condition Number D29.2. This report documents the results of the ammonia slip tests performed on October 25, 2023. The test was performed by Rik Dupont, Ray Madrigal, Nestor Gonzalez, and Luis Olivares. Rik Dupont was the on-site Qualified Individual for MAQS. Ms. Bertha Hernandez of SCPPA City of Anaheim coordinated the test for Canyon Power Plant.

MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods.

The test consisted of duplicate ammonia tests performed at 49.9 MW. The test program followed the procedures described in the initial compliance test protocol (MAQS document R038842). The results of the test are summarized in Table 1-1. The table shows that the ammonia slip from this unit was less than the permitted limit of 5 ppm corrected to 15% O₂.

**TABLE 1-1
AMMONIA SLIP TEST RESULTS SUMMARY
SCPPA – CANYON POWER PLANT
UNIT 3
OCTOBER 25, 2023**

Parameter/Units	Result ⁽¹⁾	Limit
NH₃		
ppm	1.1	--
ppm @ 15% O ₂	1.1	5

(1) Maximum of duplicate runs, as required by SCAQMD Method 207.1.

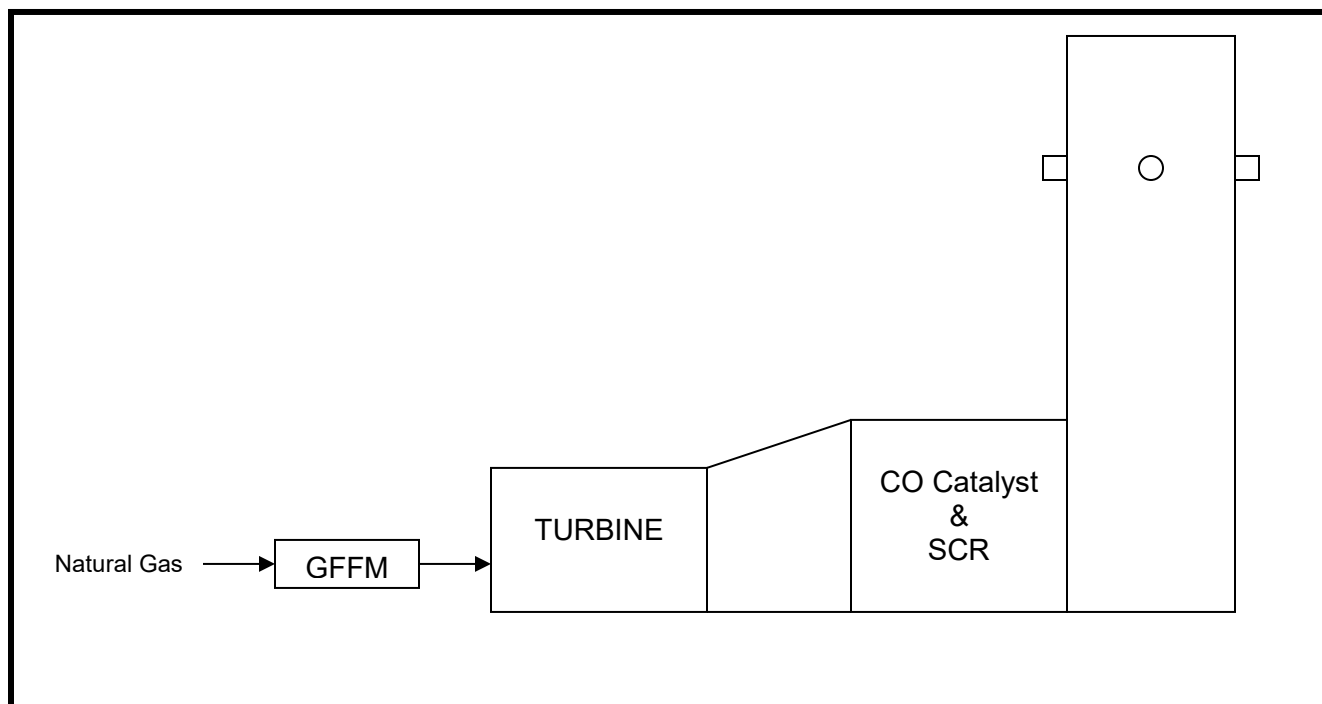
Section 2 of this document provides a brief description of the unit, test conditions, sample location, and CEMS. Details of the test procedures are provided in Section 3. Section 4 provides the results of each individual test. All raw data, calculations, quality assurance data, unit operating conditions, and CEMS data are provided in the appendices.

2.0 UNIT AND CEMS DESCRIPTION

2.1 UNIT DESCRIPTION

The City of Anaheim Canyon Power Plant is located at 3071 E. Mira Loma Avenue, Anaheim, California 92806. The facility consists of four identical generating units. Each unit consists of a natural gas fired, GE Model LM6000PC Sprint simple cycle, gas turbine. The units are natural gas fired with a rated heat input of 479 MMBtu per hour at 46°F, with water injection. The units are equipped with a CO oxidation catalyst and Selective Catalytic Reduction (SCR) system for emissions controls. A simplified process block diagram of the unit is presented as Figure 2-1.

FIGURE 2-1
SIMPLIFIED PROCESS BLOCK DIAGRAM
SCPPA – CANYON POWER PLANT
UNIT 3



Stack Inside Diameter:	11 feet, 8 inches
Distance from Upstream Disturbance:	23 feet, 4 inches (2.0 Diameters)
Distance from Stack Exit:	16 feet, 6 inches (1.4 Diameters)

2.2 CEMS DESCRIPTION

NO_x and CO emissions from the unit are monitored by a dry, extractive Continuous Emission Monitoring System (CEMS). Stack flow rate is determined from fuel flow rate, O₂ concentration, standard

F-Factor, and fuel higher heating value using EPA Method 19.

2.3 TEST CONDITIONS

The tests were performed with the unit operating at an average load of 49.9 MW. Tests were performed while the unit was firing natural gas and operating under normal conditions. Unit operation was established by the Canyon Power Plant operators.

2.4 SAMPLE LOCATION

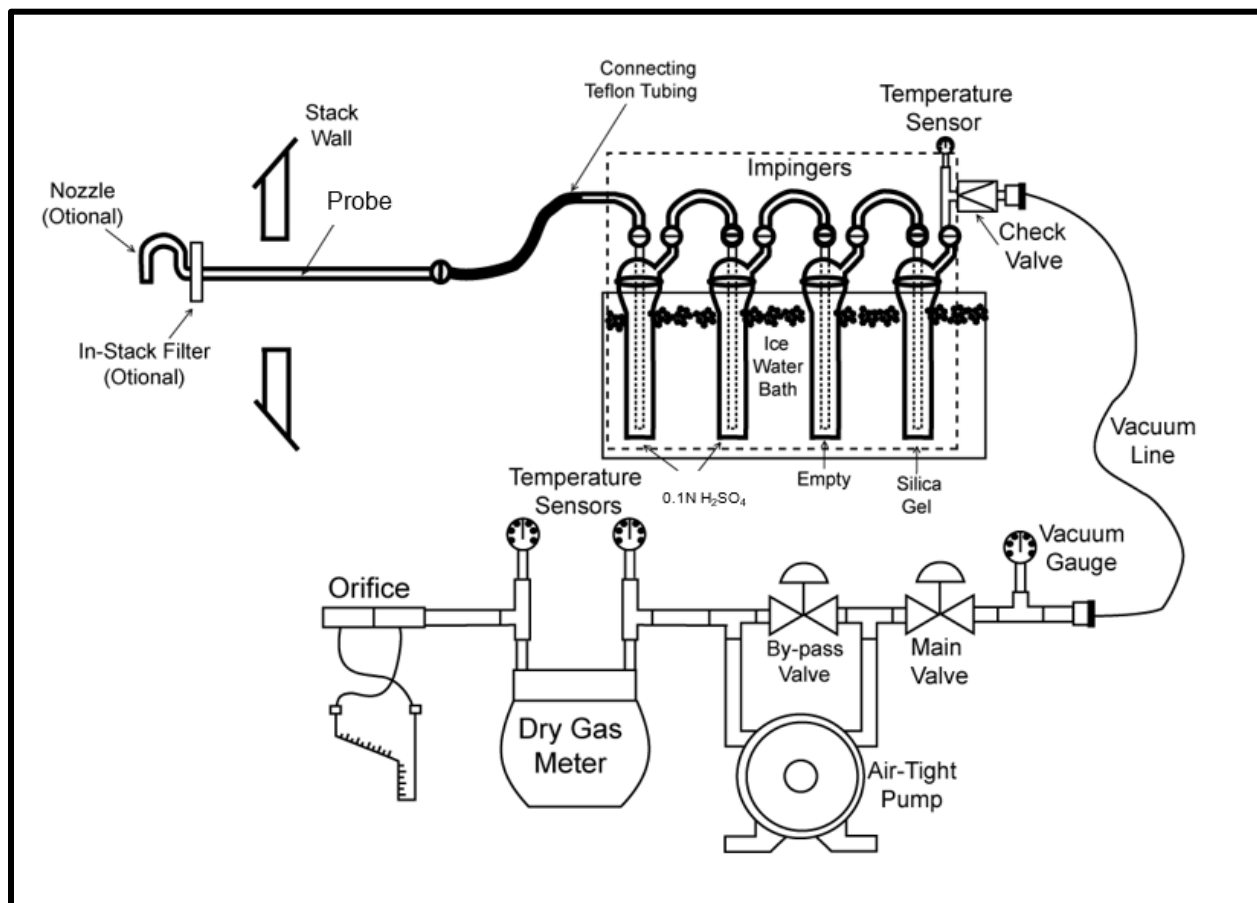
The measurements were made from sample ports located on the exhaust stack. There are four sample ports equally spaced at this location. The stack inside diameter at the sample plane is 11 feet, 8 inches. The sample ports are located 23 feet, 4 inches (2.0 diameters) downstream of the nearest flow disturbance and 16 feet, 6 inches (1.4 diameters) from the stack exit. A diagram of the sample location and individual traverse points is contained in Appendix A.1.

3.0 TEST DESCRIPTION

Flue gas samples were collected non-isokinetically using a SCAQMD Method 207.1 sample train. The samples were collected using a 12-point traverse at the exhaust stack location. Each test was performed over a 60 minute interval. The sample gas was drawn through a titanium probe, Teflon sample line, two impingers each containing 100 ml of 0.1N H₂SO₄, an empty impinger, an impinger containing silica gel, and a dry gas meter. The optional nozzle and filter were not used since the source is natural gas fired. The contents of the sample line and the first three impingers were recovered and analyzed by SCAQMD Method 207.1 for ammonia concentration by Ion Specific Electrode analysis. A diagram of the sampling equipment is presented as Figure 3-1.

Stack NO_x and O₂ concentrations and stack volumetric flow rate data were recorded from the Continuous Emission Monitoring System (CEMS) which is installed on the unit. These data were used to correct the ammonia concentration to 15% O₂.

FIGURE 3-1
SCAQMD METHOD 207.1 SAMPLING EQUIPMENT



4.0 TEST RESULTS AND OVERVIEW

4.1 TEST RESULTS

The results of the test are summarized in Table 4-1. The results show that the maximum ammonia slip was 1.1 ppm @ 15% O₂ which is less than the permitted limit of 5 ppm @ 15% O₂.

**TABLE 4-1
AMMONIA SLIP TEST RESULTS
SCPPA – CANYON POWER PLANT
UNIT 3
OCTOBER 25, 2023**

Parameter/Units	1-NH ₃	2-NH ₃	Average	Maximum ⁽¹⁾	Limit
Start/Stop Time	1954/2100	2122/2228		--	--
Stack Flow , dscfm @ T _{ref} ⁽²⁾	234,098	234,689	234,394	--	--
NO_x , ppm @ 15% O ₂ ⁽²⁾	2.3	2.3	2.3	--	2.5
O₂ , % ⁽²⁾	14.48	14.49	14.49	--	--
NH₃					
ppm	1.1	1.1	1.1	1.1	--
ppm @ 15% O ₂	1.0	1.1	1.0	1.1	5
lb/hr	0.7	0.7	0.7	0.7	--
lb/MMBtu	0.001	0.001	0.001	0.001	--
lb/MMSCF	1.4	1.5	1.5	1.5	--

(1) Maximum of duplicate test runs, as required by SCAQMD Method 207.1.

(2) From facility CEMS.

4.2 TEST OVERVIEW

The test program was successful in meeting the program objectives. The QA/QC requirements of SCAQMD Method 207.1 were met. The results are considered representative of the source at the time of the tests.

APPENDIX A TEST DATA

Appendix A.1

SCAQMD Method 1.1 Data

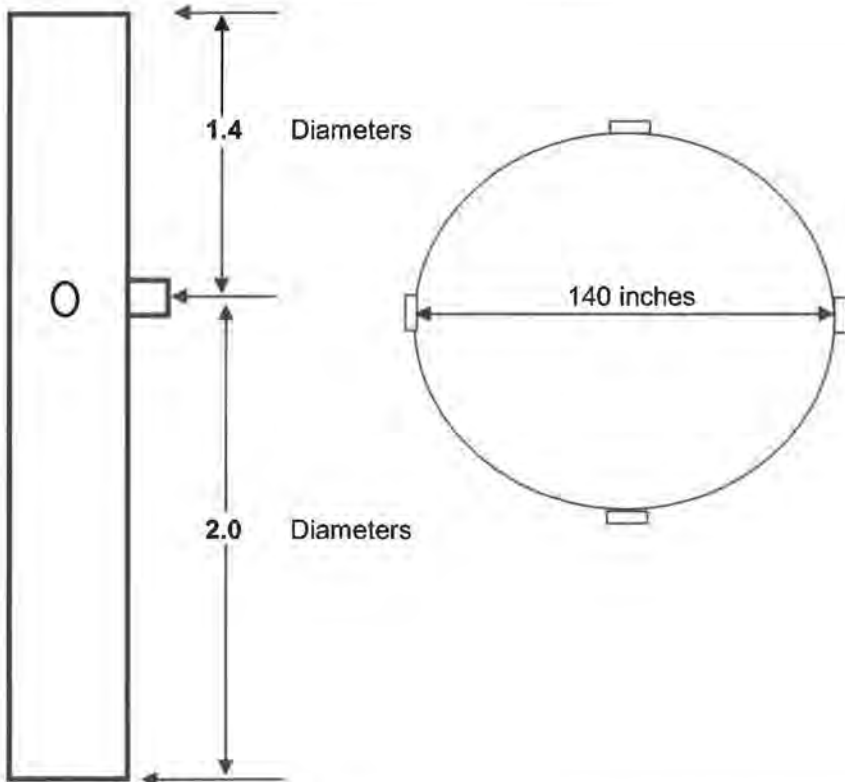
METHOD 1 DATA SHEET SAMPLE LOCATION

Client: SCPPA

Date: 10/25/23

Sample Location: U3

Performed By: RD



Diameter (in.)	140.00			
Upstream (ft.)	23.33	Sample Point	% of Diameter	Dist from Wall (inches)
Downstream (ft.)	16.50	1	4.4	6.1
Coupling (in.)	11.25	2	14.6	20.5
Stack Area (ft ²)	106.90	3	29.6	41.4
		4	70.4	98.6
		5	85.4	119.5
		6	95.6	133.9

Appendix A.2

Sample Data Sheets

WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCPPA CANYON
LOCATION: CANYON
DATE: UNIT 3
RUN NO: 1-NH3-U3
OPERATOR: LG
METER BOX NO: 17-WCS
METER ΔH@: 1-815
METER Yd: 0.993
STACK AREA, FT²: 106.9
TRAVERSE POINTS, MIN/POINT: 12, 5 min
ΔH = 1.0 X ΔP:
Probe Condition, pre/post test: Good / Good
Silica Gel Expended, Y/N: NO
Filter Condition after Test: N/A
Check Weight: 500.0 / 500.0

AMBIENT TEMPERATURE: 64°
 BAROMETRIC PRESSURE: 29.69
 ASSUMED MOISTURE: 11.5%
 PITOT TUBE COEFF, Cp: N/A
 PROBE ID NO/MATERIAL: TI
 PROBE LENGTH: 7'
 NOZZLE ID NO/ MATERIAL: N/A
 NOZZLE DIAMETER: N/A
 FILTER NO/TYPE: N/A
 PRE-TEST LEAK RATE: : 20.00 SCFM @ 14" in. Hg.
 POST-TEST LEAK RATE: : 20.00 SCFM @ 11" in. Hg.
 PITOT LEAK CHECK - PRE: N/A POST: N/A
 CHAIN OF CUSTODY: SAMPLE CUSTODIAN RM
 SAMPLER LO
 SAMPLE CUSTODIAN RM

Imp. # Contents Post-Test - Pre-Test = Difference

1 01. N H2SO4 854.5 664.3

2 01. N H2SO4 754.9 753.8

3 Eng, 84 655.2 654.6

4 So 941.2 933.9

LR 100 mL

Total: _____

[illegible]

Comments:

Appendix A.3 Laboratory Data

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION DATA

District Method: SCAQMD 207.1



Project Number: PROJ-029212
 Client/Location: SCPPA/Canyon Power Plant
 Sample Location: U3 Stack
 Sample Date: 10/25/2023
 Analysis Date: 11/3/2023
 Analyst's Initials: PR

Calibration Curve Slope: -56.4963
 Y-Intercept: 116.1213
 R²: 0.9992
 Thermometer #: 7
 ISE Electrode #: 20

Sample	Total Volume (mL)	Sample Temperature (°C)	Electrode Potential (mV)	Conc. $\mu\text{g NH}_3$ / ml as N	C _{avg} as N	C _{avg} as NH_3	$\mu\text{g NH}_3$ / sample
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	21.8	36.6	25.559	25.876	31.453	NA
		21.8	36.0	26.192			
1-NH ₃ -3	541.0	22.9	113.5	1.113	1.115	1.355	733.260
		23.0	113.4	1.117			
2-NH ₃ -3	588.2	23.0	114.8	1.055	1.068	1.299	763.892
		22.9	114.2	1.081			
Spike 2-NH ₃ -3	NA	22.9	40.6	21.714	21.409	26.024	NA
		22.8	41.3	21.104			
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	22.5	36.4	25.768	25.874	31.451	NA
		22.5	36.2	25.979			
Reagent Blank 0.1N H ₂ SO ₄	NA	23.8	208.5	0.023	0.023	0.028	NA
		23.5	209.0	0.023			
DI H ₂ O Blank	NA	22.5	205.5	0.026	0.026	0.031	NA
		22.5	206.6	0.025			
Field Blank	507.0	23.1	207.6	0.024	0.023	0.029	14.458
		23.1	208.8	0.023			
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.0	32.8	29.841	29.599	35.980	NA
		23.1	33.2	29.358			

Notes:

- Measured Concentration of Ammonia (C) in $\mu\text{g NH}_3$ / ml as N.
- $C = 10^{(P-B)/M}$, P = electrode potential (mV), M=slope and B=intercept.
- Average Measured Ammonia Concentration (C_{avg}) = $(C_1 + C_2)/2$ where C_1 , C_2 are results from duplicate analyses ($\mu\text{g NH}_3$ / ml as N).
- C_{avg} ($\mu\text{g NH}_3$ / ml as NH_3) = C_{avg} ($\mu\text{g NH}_3$ / ml as N) * 17.03/14.01.
- $\mu\text{g NH}_3$ / sample = C_{avg} ($\mu\text{g NH}_3$ / ml as NH_3) * TV.
- Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate, analyzed in duplicate.
- Sample pH and temperatures can be found on the laboratory datasheet.
- Maximum number of samples (including blanks) between 28 $\mu\text{g/ml}$ check standard is 5 samples analyzed in duplicate.
- All samples are collected in 0.1N H₂SO₄ and allowed to equilibrate to room temperature.
- All calibration verification standard (C.V.) are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- Sample solutions, blanks and C.V. Standard temperature must be within $\pm 2^\circ\text{C}$.
- Spike: 100 ml sample + 2 ml 1000ppm NH_3 as N.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

District Method: SCAQMD 207.1

Project Number: PROJ-029212Client/ Location: SCPPA/Canyon Power PlantSample Location: U3 StackSample Date: 10/25/2023Analysis Date: 11/3/2023Analyst's Initials: PR

Sample	Recovery (%)	RPD (%)	RPA (%)
Standard Check: 28 µg NH ₃ / ml as N	NA	-2.45	-7.587
1-NH3-3	NA	-0.41	NA
2-NH3-3	NA	-2.45	NA
Spike 2-NH3-3	105.88	2.85	NA
Standard Check: 28 µg NH ₃ / ml as N	NA	-0.82	-7.593
Reagent Blank 0.1N H ₂ SO ₄	NA	2.04	NA
DI H ₂ O Blank	NA	4.48	NA
Field Blank	NA	4.89	NA
Standard Check: 28 µg NH ₃ / ml as N	NA	1.63	5.712

Notes:

- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.
- Matrix Spike Percent Recovery (%R).
- %R = $(C_{\text{spike}} * 0.104 - C_{\text{sample}} * 0.102) / 2 * 100$.
- C_{spike} = average result of matrix spike (µg NH₃ / ml as N).
- Relative Percent Difference (RPD) = $(C_1 - C_2) / C_{\text{avg}} * 100$ (must be 5% or less).
- Relative Percent Accuracy (RPA) (must be 10% or less).
- RPA = $(C_{\text{avg}} - \text{theoretical value of standard}) / \text{theoretical value of standard} * 100$.

AMMONIA ELECTRODE CALIBRATION CURVE DATA

District Method: SCAQMD 207.1

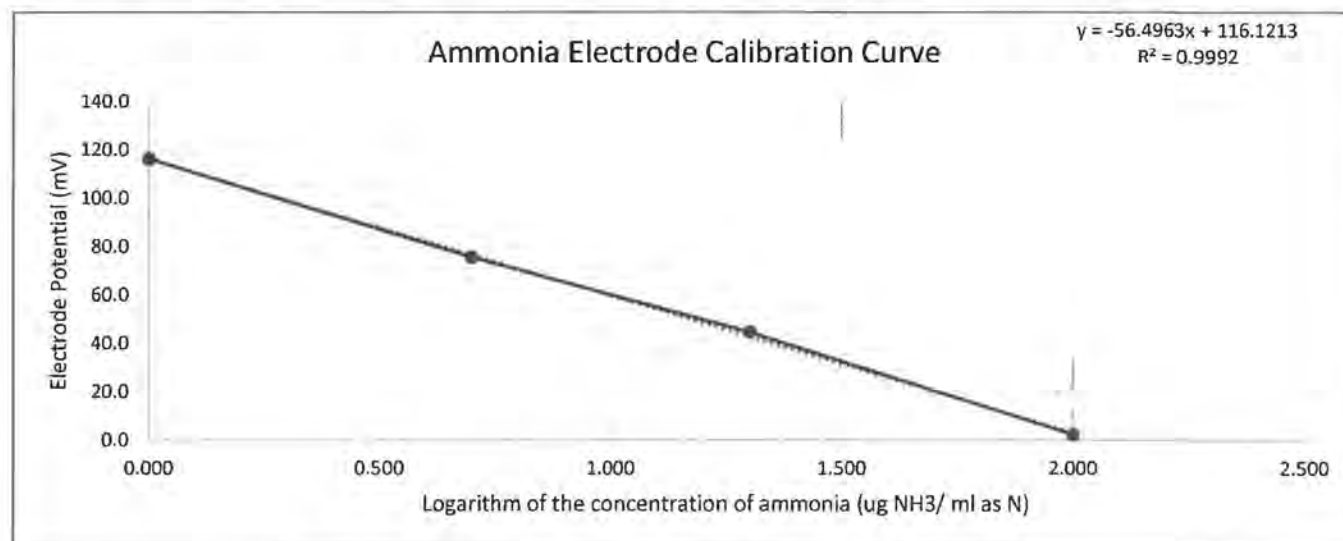
Date: November 3, 2023

Project Number: PROJ-029212

Client/Location: SCPPA/Canyon Power Plant



NH ₃ concentration (µg NH ₃ / ml as N)	Log NH ₃ concentration	Electrode Potential (mV)	Sample Temperature (°C)	Room Temperature (°C)
1	0.000	116.2	23.0	23.0
5	0.699	75.5	22.5	23.0
20	1.301	44.5	22.5	23.0
100	2.000	2.3	22.4	23.0



Slope	Y-Intercept	R ²
-56.4963	116.1213	0.9992

NH ₃ concentration (µg NH ₃ / ml as N)	Value LR line	Difference	% Difference
1	0.9968	-0.0032	-0.3202
5	5.2361	0.2361	4.7221
20	18.5232	-1.4768	-7.3839
100	103.4351	3.4351	3.4351

Notes:

- Regression Line: $P = M \cdot \log(\mu\text{g of NH}_3 / \text{ml as N}) + B$.
- Measured Concentration of Ammonia (C) in $\mu\text{g} / \text{ml NH}_3 \text{ as N}$: $C = 10^{(P-B)/M}$ where P = electrode potential, M= slope and B= intercept.
- All standards are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- Slope of calibration curve must be between -54 and -60.
- R² must be 0.997 or greater.
- Calibration solution temperature must be within $\pm 2^\circ\text{C}$.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS DATA

District Method: SCAQMD 207.1



Project Number: PROJ-029212
 Client/Location: SCPPA/Canyon Power Plant
 Sample Location: U3 Stack
 Sample Date: 10/25/2023
 Analysis Date: 11/3/2023

Calibration Curve: $y = -56.4963x + 116.1213$
 $R^2 = 0.9992$
 Thermometer #: 7
 ISE Electrode #: 20
 Analyst's Initials: PR

NH ₃ concentration ($\mu\text{g NH}_3$ / ml as N)	Electrode Potential (mV)	Sample Temperature (°C)	Room Temperature (°C)
1	116.2	23.0	23.0
5	75.5	PR 11/3/23 22.5	23.0
20	44.5	PR 11/3/23 22.5	23.0
100	2.3	22.4	23.0

Sample	Total Volume (mL)	Sample Temperature (°C)	Electrode Potential (mV)	Blue after ISA (Y/N)	pH
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	21.8	36.6	Y	NA
		21.8	36.0	Y	
1-NH ₃ -3	541.0	22.9	113.5	Y	12
		23.0	113.4	Y	
2-NH ₃ -3	588.2	23.0	114.8	Y	12
		22.9	114.2	Y	
Spike: 2-NH ₃ -3	NA	22.9	40.6	Y	NA
		22.8	41.3	Y	
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	22.5	36.4	Y	NA
		22.5	36.2	Y	
Reagent Blank 0.1N H ₂ SO ₄	NA	23.8	208.5	Y	NA
		23.5	209.0	Y	
DI H ₂ O Blank	NA	22.5	205.5	Y	NA
		22.5	206.6	Y	
Field Blank	507.0	23.1	207.6	Y	12
		23.1	208.8	Y	
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.0	32.8	Y	NA
		23.1	33.2	Y	

Notes:

- Used 100 ml of samples or standards with 2 ml ISA and constant stirring rate.
- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.
- All calibration solution and calibration verification standard (C.V.) are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- All samples are collected in 0.1N H₂SO₄ and allowed to equilibrate to room temperature.
- All solutions turned blue and remained blue with ISA unless otherwise indicated.
- Maximum number of samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.
- All samples must have a pH of less than 2.
- Sample solutions, calibration solution and C.V. standard temperature must be within $\pm 2^\circ\text{C}$ of one another.
- Slope of calibration curve must be between -54 and -60.
- R^2 must be 0.997 or greater.

CHAIN OF CUSTODY

CLIENT: SCPPA - Canyon Power Plant

PROJECT #: PROJ-029212

TEST DATE(S): 10/25/2023

LOCATION: U3

SAMPLER(S): NG, LO

SAMPLE LOCATION: Stack

PROJECT MANAGER: RD

TEST METHOD(S): SCAQMD 207.1

DATE DUE: 11/1/2023

OUTSIDE LAB REQUIRED?: No

COMPLIANCE TEST?: Yes

DATE	TIME	TEST #	SAMPLE DESCRIPTION	CONTAINERS	SAMPLER	COMMENTS
10/25/2023	1954/2100	1-NH3-U3	Probe, Line, Impingers	1	NG, LO	
10/25/2023	2122/2228	2-NH3-U3	Probe, Line, Impingers	1	NG, LO	
10/25/2023		Reagent Blank	0.1 N H ₂ SO ₄	1	RM	
10/25/2023		Reagent Blank	DI H ₂ O	1	RM	
10/25/2023		FB-NH3-U2	Probe, Line, Impingers	1	NG, LO	

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
J. SOLUAGES	10/28/23 @ 2:55 AM (LAB)	8/8/23	11/3/23 2:30 PM

ANALYSIS REQUIRED: NH₃ by SCAQMD 207.1 (ISE)

Appendix A.4

QA/QC Data

Barometric Pressure Determination	
Date: <u>10/25/23</u>	
Data By: <u>Rik Dupont</u>	
Reference:	https://forecast.weather.gov/MapClick.php?lon=-117.85962867946365&lat=33.863355545614255
Reference Barometer ID	FW0063 Fullerton CSU (F0063)
Reference Barometer Location	Lat: 33.8805°N Lon: 117.88417°W Elev: 247ft.
Reference Barometer Other Info.	Last update 25 Oct 04:38 PM PDT
Reference Barometer Indication, corrected to sea level	30.03
Reference Barometer Reference Elevation	247
Reference Barometer Actual Pressure	29.78
Test Barometer Location/Site	Canyon Power Plant
Location/Site Elevation	279
Location/Site Barometric Pressure	29.75
Sampling Location Height (above/below site elevation)	60
Sampling Location Barometric Pressure	29.69

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
 English Meter Box Units, English K' Factor
 Filename: W:\SW\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\17-WCS\2023\17WCS Semi Annual Cal 8-10-2023
 File Modified From: APEX 522 Series Meter box Calibration
 Revised: 4/8/2005

Model #: E.S. C-5000 Source Sampler
 ID #: 17-WCS
 Date: 8/10/2023
 Bar. Pressure: 29.89 (in. Hg)
 Performed By: L. Olivares
 Reviewed By: M. Chowaniphon

DRY GAS METER READINGS									CRITICAL ORIFICE READINGS			Ambient Temperature		
dH (in H ₂ O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temps. Inlet (deg F)	Initial Temps. Outlet (deg F)	Final Temps. Inlet (deg F)	Final Temps. Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial (deg F)	Final (deg F)	Average (deg F)
0.14	26.00	1.900	7.590	5.690	86.0	85.0	85.0	85.0	14742-33	0.1618	18.0	77.0	76.0	76.5
0.14	26.00	7.590	13.280	5.690	85.0	85.0	85.0	85.0	14742-33	0.1618	18.0	76.0	76.0	76.0
0.14	26.00	13.280	18.965	5.685	85.0	85.0	85.0	84.0	14742-33	0.1618	18.0	76.0	77.0	76.5
0.66	12.00	984.900	990.470	5.570	88.0	84.0	87.0	84.0	PK-48	0.3452	17.0	76.0	76.0	76.0
0.66	12.00	990.470	996.040	5.570	87.0	84.0	88.0	84.0	PK-48	0.3452	17.0	76.0	76.0	76.0
0.66	12.00	996.040	1001.605	5.565	88.0	84.0	88.0	85.0	PK-48	0.3452	17.0	76.0	76.0	76.0
1.80	7.00	967.700	973.010	5.310	90.0	82.0	90.0	82.0	PK-63	0.5666	16.0	76.0	76.0	76.0
1.80	7.00	973.010	978.315	5.305	90.0	82.0	90.0	83.0	PK-63	0.5666	16.0	76.0	76.0	76.0
1.80	7.00	978.315	983.615	5.300	90.0	83.0	90.0	83.0	PK-63	0.5666	16.0	76.0	76.0	76.0
3.50	5.00	951.400	956.630	5.230	89.0	79.0	90.0	80.0	PK-73	0.7871	15.0	75.0	76.0	75.5
3.50	5.00	956.630	961.860	5.230	90.0	80.0	91.0	81.0	PK-73	0.7871	15.0	76.0	76.0	76.0
3.50	5.00	961.860	967.100	5.240	91.0	81.0	91.0	81.0	PK-73	0.7871	15.0	76.0	75.0	75.5

DRY GAS METER		ORIFICE		DRY GAS METER		ORIFICE		Individual	Individual	Orifice	Orifice
VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME NOMINAL	Y Value	dH@ Value	Calibration Factor	Run	Orifice	Average	Average
Vm(std) (cu ft)	Vm(std) (liters)	Vcr(std) (cu ft)	Vcr(std) (liters)	Vcr (cu ft)	(number)	(in H ₂ O)		0.95 < Y < 1.05?	Ymax - Ymin < 0.010?	0.98 < Y/Yd < 1.02?	dH@ - dH@ av < 0.155?
5.504	155.9	5.429	153.7	5.524	0.986	1.748		Pass			
5.507	155.9	5.431	153.8	5.521	0.986	1.747		Pass			
5.504	155.9	5.429	153.7	5.524	0.986	1.750		Pass			
Average					0.986	1.748			Pass	Pass	Pass
5.390	152.6	5.348	151.5	5.437	0.992	1.812		Pass			
5.390	152.6	5.348	151.5	5.437	0.992	1.812		Pass			
5.380	152.4	5.348	151.5	5.437	0.994	1.811		Pass			
Average					0.993	1.812			Pass	Pass	Pass
5.150	145.9	5.121	145.0	5.205	0.994	1.841		Pass			
5.143	145.7	5.121	145.0	5.205	0.996	1.840		Pass			
5.136	145.5	5.121	145.0	5.205	0.997	1.838		Pass			
Average					0.996	1.840			Pass	Pass	Pass
5.108	144.7	5.083	144.0	5.163	0.995	1.862		Pass			
5.099	144.4	5.081	143.9	5.165	0.997	1.861		Pass			
5.104	144.5	5.083	144.0	5.163	0.996	1.857		Pass			
Average					0.996	1.860			Pass	Pass	Pass

Average Yd: 0.993 dH@: 1.815

Q @ dH = 1: 0.557

SIGNED: Signature on File

Date: 8/10/2023



DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 17-WCS
 Readout Description: Control Box
 Date: 7/5/2023
 Performed By: L. Olivares

Calibrated Thermocouple ID: TC-Cal
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 805002770
 T3 Reference Thermometer ID: 805002803

T/C I.D. TC-Cal	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (~ 370 F)	17-WCS	372	372	372	372	375	375	375	375	3.0	0.4%	Pass
T2 (~212 F)	17-WCS	214	214	214	214	210	210	210	210	4.0	0.6%	Pass
T1 (~ 32 F)	17-WCS	34	34	34	34	32	32	32	32	2.0	0.4%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

T/C Source S/N		T/C - Readout °F				T/C Source °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129462	647	647	647	647	650	650	650	650	3.0	0.3%	Pass
T3 (~370 F)	129462	365	365	365	365	370	370	370	370	5.0	0.6%	Pass
T2 (~212 F)	129462	214	214	214	214	212	212	212	212	2.0	0.3%	Pass
T1 (~32 F)	129462	33	33	33	33	32	32	32	32	1.0	0.2%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

APPENDIX B FACILITY CEMS DATA

Average Values Report
Generated: 10/25/2023 21:26Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 3Period Start: 10/25/2023 19:55
Period End: 10/25/2023 21:00
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX CORR ppm	Average 3_NOX LBHR #/hr	Average 3_NOX LBMM #/MBTU	Average 3_CO ppm ppm	Average 3_CO CORR ppm	Average 3_CO LBHR #/hr	Average 3_CO LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKFLW kscfm
10/25/2023 19:55	14.47	2.52	2.31	4.52	0.009	3.30	3.03	3.42	0.0068	478.8	50.05	237.2
10/25/2023 19:56	14.50	2.55	2.35	4.53	0.009	3.31	3.05	3.42	0.0068	479.1	49.99	238.5
10/25/2023 19:57	14.44	2.54	2.32	4.52	0.009	3.32	3.03	3.41	0.0068	478.2	49.89	235.8
10/25/2023 19:58	14.52	2.53	2.34	4.53	0.009	3.34	3.09	3.47	0.0069	479.0	49.97	239.2
10/25/2023 19:59	14.50	2.53	2.33	4.53	0.009	3.33	3.07	3.47	0.0069	479.4	50.09	238.6
10/25/2023 20:00	14.45	2.54	2.32	4.52	0.009	3.31	3.03	3.42	0.0068	478.8	50.02	236.5
10/25/2023 20:01	14.47	2.54	2.33	4.52	0.009	3.30	3.03	3.42	0.0068	478.5	49.88	237.1
10/25/2023 20:02	14.47	2.54	2.33	4.53	0.009	3.30	3.03	3.42	0.0068	479.2	49.94	237.4
10/25/2023 20:03	14.49	2.53	2.33	4.52	0.009	3.30	3.04	3.41	0.0068	478.1	49.83	237.6
10/25/2023 20:04	14.47	2.53	2.32	4.53	0.009	3.30	3.03	3.42	0.0068	479.0	49.76	237.3
10/25/2023 20:05	14.49	2.52	2.32	4.53	0.009	3.30	3.04	3.42	0.0068	479.2	50.15	238.2
10/25/2023 20:06	14.48	2.52	2.32	4.53	0.009	3.31	3.04	3.42	0.0068	479.3	49.94	237.9
10/25/2023 20:07	14.47	2.53	2.32	4.53	0.009	3.32	3.05	3.42	0.0068	479.0	49.93	237.3
10/25/2023 20:08	14.47	2.53	2.32	4.52	0.009	3.31	3.04	3.42	0.0068	478.4	49.85	237.0
10/25/2023 20:09	14.49	2.51	2.31	4.52	0.009	3.32	3.06	3.47	0.0069	478.5	49.96	237.8
10/25/2023 20:10	14.51	2.50	2.31	4.52	0.009	3.34	3.08	3.46	0.0069	478.2	49.83	238.4
10/25/2023 20:11	14.46	2.49	2.28	4.02	0.008	3.37	3.09	3.47	0.0069	478.9	50.09	236.9
10/25/2023 20:12	14.48	2.49	2.29	4.02	0.008	3.37	3.10	3.47	0.0069	478.3	49.86	237.3
10/25/2023 20:13	14.49	2.50	2.30	4.03	0.008	3.35	3.08	3.47	0.0069	479.2	50.02	238.2
10/25/2023 20:14	14.49	2.51	2.31	4.53	0.009	3.35	3.08	3.47	0.0069	478.9	49.96	238.0
10/25/2023 20:15	14.49	2.51	2.31	4.52	0.009	3.35	3.08	3.47	0.0069	478.8	49.97	237.9
10/25/2023 20:16	14.46	2.51	2.30	4.02	0.008	3.35	3.07	3.47	0.0069	479.1	49.90	237.0
10/25/2023 20:17	14.49	2.51	2.31	4.53	0.009	3.34	3.07	3.47	0.0069	479.2	49.97	238.2
10/25/2023 20:18	14.50	2.51	2.31	4.53	0.009	3.34	3.08	3.47	0.0069	479.6	50.10	238.7
10/25/2023 20:19	14.48	2.51	2.31	4.03	0.008	3.34	3.07	3.47	0.0069	479.2	50.01	237.8
10/25/2023 20:20	14.47	2.50	2.29	4.02	0.008	3.34	3.06	3.47	0.0069	478.8	49.92	237.2
10/25/2023 20:21	14.47	2.50	2.29	4.02	0.008	3.35	3.07	3.47	0.0069	479.1	49.94	237.4
10/25/2023 20:22	14.47	2.50	2.29	4.02	0.008	3.35	3.07	3.47	0.0069	479.1	49.91	237.4
10/25/2023 20:23	14.48	2.50	2.30	4.02	0.008	3.36	3.09	3.47	0.0069	479.1	50.10	237.8
10/25/2023 20:24	14.48	2.50	2.30	4.03	0.008	3.35	3.08	3.47	0.0069	479.4	50.07	237.9
10/25/2023 20:25	14.48	2.50	2.30	4.03	0.008	3.35	3.08	3.47	0.0069	479.6	49.99	238.0
10/25/2023 20:26	14.44	2.51	2.29	4.02	0.008	3.35	3.06	3.47	0.0069	479.0	50.09	236.2
10/25/2023 20:27	14.48	2.52	2.32	4.52	0.009	3.34	3.07	3.47	0.0069	478.5	49.91	237.4
10/25/2023 20:28	14.48	2.50	2.30	4.03	0.008	3.34	3.07	3.47	0.0069	479.3	49.96	237.9
10/25/2023 20:29	14.46	2.49	2.28	4.03	0.008	3.33	3.05	3.42	0.0068	479.3	49.76	237.1
10/25/2023 20:30	14.47	2.49	2.28	4.02	0.008	3.34	3.06	3.47	0.0069	478.4	49.99	237.0
10/25/2023 20:31	14.47	2.49	2.28	4.03	0.008	3.36	3.08	3.48	0.0069	480.1	49.92	237.9
10/25/2023 20:32	14.48	2.54	2.33	4.52	0.009	3.39	3.12	3.51	0.0070	478.0	49.94	237.2
10/25/2023 20:33	14.46	2.57	2.35	4.52	0.009	3.40	3.11	3.52	0.0070	478.6	50.03	236.7
10/25/2023 20:34	14.50	2.52	2.32	4.53	0.009	3.39	3.13	3.52	0.0070	479.1	49.93	238.5
10/25/2023 20:35	14.47	2.47	2.27	4.03	0.008	3.38	3.10	3.52	0.0070	479.4	49.79	237.5
10/25/2023 20:36	14.47	2.47	2.27	4.03	0.008	3.37	3.09	3.47	0.0069	479.2	49.98	237.4
10/25/2023 20:37	14.47	2.47	2.27	4.02	0.008	3.36	3.08	3.47	0.0069	478.7	50.04	237.2
10/25/2023 20:38	14.48	2.47	2.27	4.02	0.008	3.36	3.09	3.47	0.0069	479.1	50.13	237.8
10/25/2023 20:39	14.50	2.47	2.28	4.02	0.008	3.36	3.10	3.47	0.0069	478.9	49.95	238.4
10/25/2023 20:40	14.49	2.47	2.27	4.03	0.008	3.37	3.10	3.52	0.0070	479.5	49.98	238.3
10/25/2023 20:41	14.49	2.46	2.26	4.02	0.008	3.38	3.11	3.52	0.0070	478.6	49.96	237.8
10/25/2023 20:42	14.49	2.46	2.26	4.03	0.008	3.40	3.13	3.53	0.0070	479.6	49.95	238.4
10/25/2023 20:43	14.50	2.47	2.28	4.02	0.008	3.41	3.14	3.57	0.0071	478.5	49.78	238.2
10/25/2023 20:44	14.45	2.47	2.26	4.02	0.008	3.41	3.12	3.52	0.0070	479.1	50.00	236.7
10/25/2023 20:45	14.49	2.46	2.26	4.02	0.008	3.41	3.14	3.52	0.0070	478.7	49.82	237.9
10/25/2023 20:46	14.48	2.46	2.26	4.02	0.008	3.40	3.12	3.52	0.0070	479.1	49.99	237.8
10/25/2023 20:47	14.50	2.45	2.26	4.03	0.008	3.40	3.13	3.53	0.0070	479.6	49.65	238.7
10/25/2023 20:48	14.48	2.46	2.26	4.03	0.008	3.39	3.12	3.52	0.0070	479.3	50.10	237.9

1-NH3

W002AS-029212-RT-5447

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX_CORR ppm	Average 3_NOX_LBHR #/hr	Average 3_NOX_LBMM #/MBTU	Average 3_COFFPM ppm	Average 3_CO_CORR ppm	Average 3_CO_LBHR #/hr	Average 3_CO_LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKFLW kscfm
10/25/2023 20:49	14.47	2.47	2.27	4.03	0.008	3.37	3.09	3.48	0.0069	479.9	49.87	237.8
10/25/2023 20:50	14.48	2.49	2.29	4.03	0.008	3.37	3.10	3.48	0.0069	479.8	49.86	238.1
10/25/2023 20:51	14.49	2.52	2.32	4.53	0.009	3.36	3.09	3.47	0.0069	479.6	50.03	238.4
10/25/2023 20:52	14.47	2.53	2.32	4.53	0.009	3.36	3.08	3.47	0.0069	479.4	49.98	237.5
10/25/2023 20:53	14.49	2.53	2.33	4.53	0.009	3.38	3.11	3.52	0.0070	479.4	49.97	238.3
10/25/2023 20:54	14.48	2.51	2.31	4.03	0.008	3.39	3.12	3.53	0.0070	480.1	49.96	238.2
10/25/2023 20:55	14.49	2.49	2.29	4.03	0.008	3.39	3.12	3.52	0.0070	479.2	49.89	238.2
10/25/2023 20:56	14.49	2.49	2.29	4.03	0.008	3.39	3.12	3.53	0.0070	479.8	49.95	238.5
10/25/2023 20:57	14.49	2.48	2.28	4.03	0.008	3.40	3.13	3.53	0.0070	480.0	49.95	238.6
10/25/2023 20:58	14.47	2.48	2.28	4.03	0.008	3.39	3.11	3.52	0.0070	479.3	49.89	237.5
10/25/2023 20:59	14.50	2.48	2.29	4.04	0.008	3.38	3.12	3.53	0.0070	480.4	49.85	239.1
10/25/2023 21:00	14.46	2.50	2.29	4.03	0.008	3.39	3.11	3.53	0.0070	480.0	49.87	237.4
Daily Average*	14.48	2.50	2.30	4.23	0.008	3.36	3.08	3.48	0.0069	479.1	49.95	237.7
Maximum*	14.52	2.57	2.35	4.53	0.009	3.41	3.14	3.57	0.0071	480.4	50.15	239.2
	10/25/2023 19:58	10/25/2023 20:33	10/25/2023 20:33	10/25/2023 20:53	10/25/2023 20:53	10/25/2023 20:45	10/25/2023 20:45	10/25/2023 20:43	10/25/2023 20:43	10/25/2023 20:59	10/25/2023 20:05	10/25/2023 19:58
Minimum*	14.44	2.45	2.26	4.02	0.008	3.30	3.03	3.41	0.0068	478.0	49.65	235.8
	10/25/2023 20:26	10/25/2023 20:47	10/25/2023 20:48	10/25/2023 20:46	10/25/2023 21:00	10/25/2023 20:05	10/25/2023 20:04	10/25/2023 20:03	10/25/2023 20:29	10/25/2023 20:32	10/25/2023 20:47	10/25/2023 19:57

* Does not include Invalid Averaging Periods ("N/A")

29 of 61

Average Values Report
Generated: 10/25/2023 22:33

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 3

Period Start: 10/25/2023 21:23
Period End: 10/25/2023 22:28
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX_CORR ppm	Average 3_NOX_LBHR #/hr	Average 3_NOX_LBMM #/MBTU	Average 3_CO_PPM ppm	Average 3_CO_CORR ppm	Average 3_CO_LBHR #/hr	Average 3_CO_LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKFLW kscfm
10/25/2023 21:23	14.49	2.52	2.32	4.53	0.009	3.21	2.95	3.32	0.0066	479.5	50.01	238.3
10/25/2023 21:24	14.52	2.51	2.32	4.52	0.009	3.21	2.97	3.37	0.0067	478.7	49.92	239.0
10/25/2023 21:25	14.51	2.51	2.32	4.53	0.009	3.22	2.97	3.37	0.0067	479.3	49.89	239.0
10/25/2023 21:26	14.49	2.51	2.31	4.53	0.009	3.23	2.97	3.37	0.0067	479.7	49.96	238.4
10/25/2023 21:27	14.49	2.52	2.32	4.53	0.009	3.23	2.97	3.37	0.0067	479.7	49.81	238.4
10/25/2023 21:28	14.49	2.53	2.33	4.52	0.009	3.21	2.95	3.32	0.0066	478.8	49.91	237.9
10/25/2023 21:29	14.49	2.52	2.32	4.53	0.009	3.22	2.96	3.32	0.0066	479.2	49.95	238.2
10/25/2023 21:30	14.49	2.53	2.33	4.53	0.009	3.22	2.96	3.32	0.0066	479.3	49.90	238.2
10/25/2023 21:31	14.50	2.53	2.33	4.53	0.009	3.22	2.97	3.37	0.0067	479.1	49.78	238.5
10/25/2023 21:32	14.47	2.53	2.32	4.53	0.009	3.21	2.95	3.33	0.0066	479.8	49.98	237.7
10/25/2023 21:33	14.49	2.53	2.33	4.53	0.009	3.20	2.95	3.32	0.0066	479.4	49.99	238.3
10/25/2023 21:34	14.48	2.53	2.33	4.54	0.009	3.19	2.93	3.33	0.0066	480.6	49.81	238.5
10/25/2023 21:35	14.48	2.54	2.33	4.53	0.009	3.17	2.91	3.27	0.0065	479.0	49.84	237.7
10/25/2023 21:36	14.52	2.54	2.35	4.54	0.009	3.19	2.95	3.33	0.0066	480.0	49.90	239.7
10/25/2023 21:37	14.49	2.52	2.32	4.53	0.009	3.20	2.95	3.32	0.0066	479.2	49.68	238.2
10/25/2023 21:38	14.50	2.50	2.30	4.03	0.008	3.20	2.95	3.32	0.0066	479.5	49.98	238.7
10/25/2023 21:39	14.50	2.51	2.31	4.53	0.009	3.19	2.94	3.32	0.0066	479.2	49.90	238.5
10/25/2023 21:40	14.48	2.53	2.33	4.53	0.009	3.21	2.95	3.32	0.0066	479.1	49.88	237.8
10/25/2023 21:41	14.49	2.53	2.33	4.53	0.009	3.21	2.95	3.32	0.0066	479.5	49.89	238.3
10/25/2023 21:42	14.47	2.54	2.33	4.53	0.009	3.20	2.94	3.32	0.0066	479.4	49.87	237.5
10/25/2023 21:43	14.47	2.54	2.33	4.53	0.009	3.20	2.94	3.32	0.0066	479.3	50.15	237.5
10/25/2023 21:44	14.47	2.54	2.33	4.53	0.009	3.20	2.94	3.32	0.0066	479.1	49.83	237.4
10/25/2023 21:45	14.50	2.53	2.33	4.53	0.009	3.20	2.95	3.32	0.0066	479.3	49.80	238.6
10/25/2023 21:46	14.50	2.52	2.32	4.54	0.009	3.20	2.95	3.33	0.0066	480.0	49.95	238.9
10/25/2023 21:47	14.49	2.50	2.30	4.02	0.008	3.21	2.95	3.32	0.0066	478.7	49.98	237.9
10/25/2023 21:48	14.49	2.52	2.32	4.53	0.009	3.21	2.95	3.32	0.0066	479.6	50.08	238.4
10/25/2023 21:49	14.49	2.53	2.33	4.52	0.009	3.20	2.95	3.32	0.0066	478.8	49.87	237.9
10/25/2023 21:50	14.53	2.52	2.33	4.53	0.009	3.20	2.96	3.32	0.0066	479.3	49.70	239.7
10/25/2023 21:51	14.49	2.51	2.31	4.53	0.009	3.21	2.95	3.32	0.0066	479.3	49.80	238.2
10/25/2023 21:52	14.49	2.51	2.31	4.53	0.009	3.22	2.96	3.32	0.0066	479.2	49.94	238.2
10/25/2023 21:53	14.49	2.52	2.32	4.53	0.009	3.21	2.95	3.32	0.0066	479.2	49.94	238.2
10/25/2023 21:54	14.48	2.53	2.33	4.53	0.009	3.20	2.94	3.32	0.0066	479.2	49.76	237.8
10/25/2023 21:55	14.50	2.52	2.32	4.53	0.009	3.20	2.95	3.32	0.0066	479.6	49.86	238.7
10/25/2023 21:56	14.47	2.52	2.31	4.52	0.009	3.21	2.95	3.32	0.0066	478.8	49.93	237.2
10/25/2023 21:57	14.51	2.52	2.33	4.53	0.009	3.21	2.96	3.33	0.0066	479.8	50.10	239.2
10/25/2023 21:58	14.48	2.52	2.32	4.54	0.009	3.20	2.94	3.33	0.0066	480.1	50.02	238.2
10/25/2023 21:59	14.49	2.53	2.33	4.53	0.009	3.20	2.95	3.32	0.0066	479.7	49.96	238.4
10/25/2023 22:00	14.51	2.54	2.35	4.53	0.009	3.21	2.96	3.32	0.0066	479.6	49.99	239.1
10/25/2023 22:01	14.50	2.55	2.35	4.53	0.009	3.20	2.95	3.32	0.0066	479.5	49.86	238.7
10/25/2023 22:02	14.48	2.55	2.34	4.53	0.009	3.20	2.94	3.32	0.0066	479.6	49.97	238.0
10/25/2023 22:03	14.48	2.54	2.33	4.53	0.009	3.19	2.93	3.32	0.0066	479.5	49.98	237.9
10/25/2023 22:04	14.48	2.54	2.33	4.53	0.009	3.19	2.93	3.32	0.0066	479.2	49.86	237.8
10/25/2023 22:05	14.50	2.53	2.33	4.53	0.009	3.20	2.95	3.32	0.0066	479.7	50.06	238.8
10/25/2023 22:06	14.48	2.51	2.31	4.02	0.008	3.21	2.95	3.32	0.0066	478.4	49.79	237.4
10/25/2023 22:07	14.50	2.50	2.30	4.03	0.008	3.21	2.96	3.33	0.0066	479.8	50.05	238.8
10/25/2023 22:08	14.50	2.50	2.30	4.03	0.008	3.24	2.99	3.38	0.0067	479.9	49.82	238.9
10/25/2023 22:09	14.48	2.51	2.31	4.03	0.008	3.25	2.99	3.38	0.0067	479.9	49.97	238.1
10/25/2023 22:10	14.52	2.51	2.32	4.53	0.009	3.24	3.00	3.37	0.0067	479.5	49.95	239.4
10/25/2023 22:11	14.46	2.51	2.30	4.02	0.008	3.23	2.96	3.32	0.0066	478.7	49.82	236.8
10/25/2023 22:12	14.47	2.50	2.29	4.03	0.008	3.23	2.96	3.32	0.0066	479.6	49.89	237.6
10/25/2023 22:13	14.49	2.49	2.29	4.03	0.008	3.23	2.97	3.38	0.0067	480.1	49.91	238.6
10/25/2023 22:14	14.47	2.50	2.29	4.03	0.008	3.23	2.96	3.33	0.0066	479.9	49.93	237.8
10/25/2023 22:15	14.46	2.53	2.32	4.53	0.009	3.21	2.94	3.32	0.0066	478.9	49.95	236.9
10/25/2023 22:16	14.49	2.53	2.33	4.54	0.009	3.21	2.95	3.33	0.0066	479.9	49.89	238.5

Period Start:	Average 3_O2 %	Average 3_NOXPPM ppm	Average 3_NOX CORR ppm	Average 3_NOX_LBHR #/hr	Average 3_NOX_LBMM #/MBTU	Average 3_COPPM ppm	Average 3_CO_CORR ppm	Average 3_CO_LBHR #/hr	Average 3_CO_LBMM #/MBTU	Average 3_GasFlow kscfh	Average 3_LOAD MW	Average 3_STACKPLW kscfm
10/25/2023 22:17	14.47	2.51	2.30	4.03	0.008	3.21	2.95	3.33	0.0066	480.1	49.91	237.9
10/25/2023 22:18	14.49	2.53	2.33	4.53	0.009	3.21	2.95	3.32	0.0066	479.3	50.00	238.2
10/25/2023 22:19	14.51	2.55	2.35	4.54	0.009	3.20	2.95	3.33	0.0066	480.2	50.00	239.4
10/25/2023 22:20	14.48	2.54	2.33	4.54	0.009	3.21	2.95	3.33	0.0066	480.0	50.08	238.2
10/25/2023 22:21	14.50	2.52	2.32	4.54	0.009	3.22	2.97	3.38	0.0067	480.1	49.96	239.0
10/25/2023 22:22	14.47	2.52	2.31	4.53	0.009	3.23	2.96	3.32	0.0066	479.5	49.97	237.6
10/25/2023 22:23	14.49	2.51	2.31	4.53	0.009	3.23	2.97	3.37	0.0067	479.5	49.80	238.3
10/25/2023 22:24	14.48	2.50	2.30	4.03	0.008	3.23	2.97	3.37	0.0067	479.4	50.06	237.9
10/25/2023 22:25	14.48	2.50	2.30	4.03	0.008	3.23	2.97	3.38	0.0067	479.9	49.78	238.1
10/25/2023 22:26	14.49	2.50	2.30	4.03	0.008	3.23	2.97	3.37	0.0067	479.3	50.06	238.2
10/25/2023 22:27	14.48	2.50	2.30	4.03	0.008	3.24	2.98	3.37	0.0067	479.6	49.78	238.0
10/25/2023 22:28	14.48	2.50	2.30	4.03	0.008	3.25	2.99	3.37	0.0067	479.2	49.83	237.8
Daily Average*	14.49	2.52	2.32	4.41	0.009	3.21	2.96	3.33	0.0066	479.5	49.92	238.3
Maximum*	14.53	2.55	2.35	4.54	0.009	3.25	3.00	3.38	0.0067	480.6	50.15	239.7
10/25/2023 21:50	10/25/2023 22:19	10/25/2023 22:19	10/25/2023 22:19	10/25/2023 22:21	10/25/2023 22:23	10/25/2023 22:28	10/25/2023 22:10	10/25/2023 22:25	10/25/2023 22:28	10/25/2023 21:34	10/25/2023 21:43	10/25/2023 21:50
Minimum*	14.46	2.49	2.29	4.02	0.008	3.17	2.91	3.27	0.0065	478.4	49.68	236.8
10/25/2023 22:15	10/25/2023 22:13	10/25/2023 22:14	10/25/2023 22:11	10/25/2023 22:28	10/25/2023 21:35	10/25/2023 21:35	10/25/2023 21:35	10/25/2023 21:35	10/25/2023 21:35	10/25/2023 22:06	10/25/2023 21:37	10/25/2023 22:11

* Does not include Invalid Averaging Periods ("N/A")

APPENDIX C CALCULATIONS

Appendix C.1

General Emissions Calculations

GENERAL EMISSIONS CALCULATIONS

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$$MW_{dry} = 0.44 * \% CO_2 + 0.32 * \% O_2 + 0.28 * \% N_2$$

$$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6} \right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528^{\circ}R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric Flow Rate

A. Actual stack gas volumetric flow rate, wacfm

$$Q = V_s * A_s * 60$$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{\text{ppm} * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{\text{lb}}{\text{MMBtu}} = \frac{\text{ppm} * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \% O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo}) * V_s * P_s * Dn^2} * \frac{520^\circ R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
 $C = 0.01543 (M_n/V_{m \text{ std}})$

(b) Grain loading at 12% CO₂, gr/dscf
 $C_{12\% \text{ CO}_2} = C (12\% \text{ CO}_2)$

(c) Mass emissions, lb/hr
 $M = C * Q_{sd} * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$

(d) Particulate emission factor

$$\text{lb}/10^6 \text{ Btu} = Cx \frac{1 \text{ lb}}{7000 \text{ gr}} * F * \frac{20.9}{20.9 - \% O_2}$$

Nomenclature:

A_s	=	stack area, ft ²
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO_2}$	=	particulate grain loading, gr/dscf corrected to 12% CO ₂
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
D_n	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O ₂
H	=	orifice differential pressure, iwg
I	=	% isokinetics
M_n	=	mass of collected particulate, mg
M_i	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M_{wi}	=	molecular weight of specie i:
		SO ₂ : 64
		NO _x : 46
		CO: 28
		HC: 16
t	=	sample time, minutes
ΔP	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	=	barometric pressure, inches Hg
P_s	=	stack absolute pressure, inches Hg
P_{sg}	=	stack static pressure, iwbg
Q	=	wet stack flow rate at actual conditions, wacfm
Q_{sd}	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft ³ /lb-mole
T_m	=	meter temperature, °R
T_{ref}	=	reference temperature, °R
T_s	=	stack temperature, °R
V_s	=	stack gas velocity, ft/sec
V_{lc}	=	volume of liquid collected in impingers, ml
V_m	=	uncorrected dry meter volume, dcf
V_{mstd}	=	dry meter volume at standard conditions, dscf
V_{wstd}	=	volume of water vapor at standard conditions, scf
Y_d	=	meter calibration coefficient

Appendix C.2

Spreadsheet Summaries

SCAQMD METHOD 207.1 DATA WORKSHEET AND SUMMARY

Facility.....	Canyon	Parameter.....	NH ₃	
Unit.....	U3	Fuel.....	Natural gas	
Sample Location.....	Stack	Data By.....	RD	
Test Number.....	1-NH3-U3	2-NH3-U3	Average	Maximum
Reference Temperature (°F).....	60	60		
Test Date.....	10/25/2023	10/25/2023		
Test Method.....	SCAQMD 207.1	SCAQMD 207.1		
Sample Train.....	17-WCS	17-WCS		
Meter Calibration Factor.....	0.993	0.993		
Stack Area (ft ²).....	106.90	106.90		
Sample Time (Minutes).....	60	60		
Barometric Pressure ("Hg).....	29.69	29.69		
Start/Stop Time	1954/2100	2122/2228		
Meter Volume (acf).....	33.930	33.970		
Meter Temperature (°F).....	72.2	73.4		
Meter Pressure (iwg).....	1.0	1.0		
Liquid Volume (ml).....	99.2	90.9		
Stack O ₂ (%).....	14.48	14.49	14.49	(from facility CEMS)
Unit Load (MW).....	50.0	49.9	49.9	
Standard Sample Volume (SCF).....	32.746	32.710		
Moisture Fraction.....	0.123	0.114		
Stack Flow Rate (dscfm, 68 °F).....	237,700	238,300	238,000	(from facility CEMS)
Stack Flow Rate (@ Tref).....	234,098	234,689	234,394	
Gas Constant (ft-lbf/lb-mole-R).....	1545.33	1545.33		
Molecular Weight NH ₃ (lb/lb-mole).....	17.03	17.03		
Specific Molar Volume (ft ³ /lb-mole).....	379.5	379.5		
F-Factor (dscf/MMBtu).....	8,710	8,710		
HHV(Btu/SCF).....	1,050	1,050		
Mass Conversion (lb/ug).....	2.2046E-09	2.2046E-09		
O ₂ Correction Factor (%).....	15	15		
Mass NH ₃ (ug).....	733.260	763.892		
Mass NH ₃ (lb).....	1.62E-06	1.68E-06		
NH ₃ (ppmv, flue gas).....	1.10	1.15	1.12	1.15
NH ₃ (ppmv @ O ₂ Correction Factor).....	1.01	1.06	1.03	1.06
NH ₃ (lb/hr).....	0.69	0.72	0.71	0.72
NH ₃ (lb/MMBtu).....	0.001	0.001	0.001	0.001
NH ₃ (lb/MMSCF).....	1.45	1.51	1.48	1.51

Note: SCAQMD Method 207.1 requires the higher of the duplicate runs be reported as the test result.

1-NH3-U3

Point	Meter Volume	Delta H	Tm In	Tm Out
3	354.900	1.0	71	69
2			71	69
1			73	70
3			72	69
2			74	69
1			76	70
3			74	72
2			76	71
1			76	70
3			74	71
2			76	71
1			77	71
Stop	388.830			
Result	33.930	1.0	72.2	

Impinger Weights			
#	Post-Test	Pre-Test	Difference
1	854.5	664.3	190.2
2	754.9	753.8	1.1
3	655.2	654.6	0.6
4	941.2	933.9	7.3
Line Rinse	0.0	100.0	-100.0
			99.2

2-NH3-U3

Point	Meter Volume	Delta H	Tm In	Tm Out
3	390.800	1.0	72	71
2			72	71
1			74	72
3			75	71
2			75	71
1			76	71
3			75	71
2			77	72
1			78	72
3			75	72
2			77	72
1			77	72
Stop	424.770			
Result	33.970	1.0	73.4	

Impinger Weights			
#	Post-Test	Pre-Test	Difference
1	917.1	735.4	181.7
2	757.4	755.8	1.6
3	654.8	654.0	0.8
4	973.3	966.5	6.8
Line Rinse	0.0	100.0	-100.0
			90.9

SCAQMD 207.1 EXAMPLE CALCULATION TEST NUMBER: 1-NH3-U3

Identifier	Description	Units	Equation	Value
A	Reference Temperature	F	--	60
B	Reference Temperature	R	$A + 460$	520
C	Meter Calibration Factor (Yd)	--	--	0.993
D	Barometric Pressure	" Hg	--	29.69
E	Meter Volume	acf	--	33.930
F	Meter Temperature	F	--	72.2
G	Meter Temperature	R	$F + 460$	532.2
H	Delta H	" H ₂ O	--	1.0
I	Meter Volume (standard)	dscf	$0.03342 * E * (D + H/13.6) * B/G * C$	32.746
J	Liquid Collected	grams	--	99.2
K	Water vapor volume	scf	$0.0472 * J * B/528$	4.611
L	Moisture Content	--	$K/(K + I)$	0.123
M	Gas Constant	ft-lbf/lb-mole-R	--	1545.33
N	Specific Molar Volume	SCF/lb-mole	$385.3 * B / 528$	379.5
O	F-Factor	dscf/MMBtu	--	8,710
P	HHV	Btu/SCF	--	1,050
Q	Mass Conversion Factor	lb/ug	--	2.2046E-09
R	O ₂ Correction Factor	--	--	15
S	Stack Flow Rate @ 68 F	dscfm	--	237,700
T	Stack Flow Rate @ Tref	dscfm	$S * B/528$	234,098
U	Mass NH ₃	ug	--	733
V	Mass NH ₃	lb	$U * Q$	1.62E-06
W	MW of NH ₃	lb/lb-mole	--	17.03
X	NH ₃	ppm	$(V * N * 10^6)/(I * W)$	1.1
Y	Flue Gas O ₂	%	--	14.48
Z	NH ₃	ppmc	$X * (20.9 - R)/(20.9 - Y)$	1.0
AA	NH ₃	lb/hr	$X * T * W * 60/(N * 10^6)$	0.7
AB	NH ₃	lb/MMBtu	$(X * W * Q)/(385.3 * 10^6) * 20.9/(20.9 - Y)$	0.001
AC	NH ₃	lb/MMSCF	$AB * P$	1.4

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

APPENDIX D QUALITY ASSURANCE

Appendix D.1

Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (MAQS) ASTM D7036-04 certification, MAQS is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. MAQS quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Assignment of an Internal QA Officer: MAQS has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: MAQS has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of MAQS QA efforts. The manual is revised upon periodic review and as MAQS adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. MAQS training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the MAQS QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of MAQS emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: MAQS maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: MAQS maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to MAQS source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to MAQS office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)
- Flame Resistant Clothing (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
EQUIPMENT MAINTENANCE SCHEDULE

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Van Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

TABLE 2
MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO _x Analyzer	Daily	NO ₂ → NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	± 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	± 5%
Barometer	Semi-Annually	Adjusted to mercury-in-glass or National Weather Service Station	± 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	± 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	± 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	± 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements are used.

Appendix D.2

SCAQMD and STAC Certifications



South Coast
Air Quality Management District

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

September 14, 2023

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have completed our review of Montrose Air Quality Services' revised renewal application, which was submitted as notification of Montrose's recent acquisition of AirKinetics, Inc. under the South Coast AQMD Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2023, and ending September 30, 2024, for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4
South Coast AQMD Methods 10.1 and 100.1
South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1 (Sampling and Analysis)
South Coast AQMD Methods 25.1 and 25.3 (Sampling)
Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling
USEPA CTM-030 and ASTM D6522-00

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2
Protocols includes satellite facilities located at:

McKenna Boiler
1510 North Spring Street
Los Angeles, CA 90012

Noritz America Corp.
11160 Grace Avenue
Fountain Valley, CA 92708

Ajax Boiler, Inc.
2701 S. Harbor Blvd.
Santa Ana, CA 92704

VA Laundry Bldg., Greater LA Healthcare Sys.
508 Constitution Avenue
Los Angeles, CA 90049

So Cal Gas – Engr Analysis Ctr, Bldg H
8101 Rosemead Blvd
Pico Rivera, CA 90660

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

230914 LapRenewal.doc



American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.



A blue ink signature of the Vice President, Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix D.3

Individual QI Certificate

CERTIFICATE OF COMPLETION	
Rik Dupont	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
SCAQMD Methods 1.1 - 4.1	
Certificate Number: <u>002-2021-41</u>	
 Tate Strickler, VP – Quality Systems	DATE OF ISSUE: <u>12/02/2021</u>
	DATE OF EXPIRATION: <u>12/01/2026</u>
 MONTROSE ENVIRONMENTAL	

CERTIFICATE OF COMPLETION	
Rik Dupont	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
SCAQMD Method 207.1	
Certificate Number: <u>002-2021-26</u>	
	DATE OF ISSUE: <u>8/19/21</u>
Tate Strickler, VP – Quality Systems	DATE OF EXPIRATION: <u>8/19/26</u>
	

Appendix D.4

Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	153992
Date(s) Tested:	October 25, 2023
Facility Name:	Canyon Power Plant
Equipment Address:	3071 E. Mira Loma Avenue
	Anaheim, California 92806
Equipment Tested:	Unit 3
Device ID, A/N, P/N:	D13

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.

Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in **District Rule 304(k)**:

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:

- (1) The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof -*
- (2) The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;*
- (3) Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and*
- (4) The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.*

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature: _____

Date: 12/5/2023

Rik Dupont

Field Project Manager

(714) 279-6777

12/5/2023

(Name)

(Title)

(Phone)

(Date)

APPENDIX E

APPLICABLE PERMIT SECTIONS



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: POWER GENERATION					
GAS TURBINE, NO. 3, NATURAL GAS, GENERAL ELECTRIC, MODEL LM6000PC SPRINT, SIMPLE CYCLE, 479 MMBTU/HR AT 46 DEG F, WITH INLET CHILLING, WITH WATER INJECTION WITH A/N: 555830	D13	C15	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 2005, 12-4-2015]; NOX: 25 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 1.67 LBS/HR NATURAL GAS (5C) [RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SO2: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A99.1, A99.2, A99.3, A195.1, A195.2, A195.3, A327.1, B61.1, D12.1, D29.2, D29.3, D82.1, D82.2, E193.1, H23.1, I298.3, K40.1
GENERATOR, 50.95 MW					

- * (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements

** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: POWER GENERATION					
CO OXIDATION CATALYST, NO. 3, BASF, 110 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 476660	C15	D13 C16			
SELECTIVE CATALYTIC REDUCTION, NO. 3, CORMETECH CMHT-21, 1012 CU.FT.; WIDTH: 2 FT 6 IN; HEIGHT: 25 FT 9 IN; LENGTH: 18 FT WITH A/N: 476660 AMMONIA INJECTION	C16	C15 S18		NH3: 5 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A195.6, D12.2, D12.3, D12.4, E179.1, E179.2, E193.1
STACK, TURBINE NO. 3, HEIGHT: 86 FT ; DIAMETER: 11 FT 8 IN A/N: 555830	S18	C16			

- * (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements
- ** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : C4, C10, C16, C22]

D12.5 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[**RULE 1110.2, 2-1-2008; RULE 1110.2, 11-1-2019; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 9-1-2017; RULE 1470, 5-4-2012; RULE 2012, 5-6-2005; 40CFR 60 Subpart IIII, 7-7-2016]**

[Devices subject to this condition : D25]

D29.2 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NH3 emissions	District method 207.1	1 hour	Outlet of the SCR serving this equipment



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The test(s) shall be conducted quarterly during the first twelve months of operation of the catalytic control device and annually thereafter when four consecutive quarterly source tests demonstrate compliance with the ammonia emission limit. If an annual test is failed, four consecutive quarterly source tests must demonstrate compliance with the ammonia emissions limits prior to resuming annual source tests.

The South Coast AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one calendar year, then no testing is required during that calendar year.

The NO_x concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NO_x emissions using South Coast AQMD Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the South Coast AQMD within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[RULE 1135, 11-2-2018; RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1, D7, D13, D19]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Sampling Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	District-approved averaging time	Fuel sample

THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Rik Dupont
Title: Field Project Manager
Region: West
Email: RDupont@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

TEST REPORT FOR FOURTH QUARTER 2023 AMMONIA SLIP TEST AT CANYON POWER PLANT UNIT 4 FACILITY ID 153992, DEVICE ID D19

Prepared For:

Canyon Power Plant
3071 E. Mira Loma Avenue.
Anaheim, California 92806

For Submittal To:

South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-4178

Prepared By:

Montrose Air Quality Services, LLC
1631 E. St. Andrew Pl.
Santa Ana, California 92705
(714) 279-6777

Rik Dupont

Test Date: **October 27, 2023**
Production Date: **December 5, 2023**
Report Number: **W002AS-029212-RT-5450**



CONFIDENTIALITY STATEMENT

Except as otherwise required by law or regulation, this information contained in this communication is intended exclusively for the individual or entity to which it is addressed. This communication may contain information that is proprietary, privileged or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it.

REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and presented in this document were carried out by me or under my direction and supervision. I hereby certify that, to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Management System and ASTM D7036-04 during this test project.

Signature:  Date: 12/5/2023
Name: Rik Dupont Title: Field Project Manager

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that, to the best of my knowledge, the presented material is authentic, accurate, and conforms to the requirements of the Montrose Quality Management System and ASTM D7036-04.

Signature:  Date: 12/5/2023
Name: Surya Adhikari Title: Senior Reporting QC Specialist

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 INTRODUCTION AND SUMMARY	5
2.0 UNIT AND CEMS DESCRIPTION	6
2.1 UNIT DESCRIPTION	6
2.2 CEMS DESCRIPTION	7
2.3 TEST CONDITIONS	7
2.4 SAMPLE LOCATION	7
3.0 TEST DESCRIPTION	8
4.0 RESULTS AND OVERVIEW	9
4.1 TEST RESULTS	9
4.2 TEST OVERVIEW	9

LIST OF APPENDICES

A RAW DATA	10
A.1 SCAQMD Method 1.1 Data	11
A.2 Sample Data Sheets	13
A.3 Laboratory Data	17
A.4 QA/QC Data	23
B FACILITY CEMS DATA	27
C CALCULATIONS	32
C.1 General Emissions Calculations	33
C.2 Spreadsheet Summaries	37
D QUALITY ASSURANCE	41
D.1 Quality Assurance Program Summary	42
D.2 SCAQMD and STAC Certifications	48
D.3 Individual QI Certificate	51
D.4 Statement of No Conflict of Interest	54
E APPLICABLE PERMIT SECTIONS	56

LIST OF TABLES

1-1 RESULTS SUMMARY	5
4-1 DETAILED TEST RESULTS	9

LIST OF FIGURES

2-1 SIMPLIFIED PROCESS BLOCK DIAGRAM	6
3-1 SCAQMD METHOD 207.1 SAMPLING EQUIPMENT	8

1.0 INTRODUCTION AND SUMMARY

Montrose Air Quality Services, LLC (MAQS) was contracted by the Canyon Power Plant to perform an ammonia slip test at Unit 4 as required by the facility Permit (Facility ID 153992) Condition Number D29.2. This report documents the results of the ammonia slip tests performed on October 27, 2023. The test was performed by Rik Dupont, Ray Madrigal, Nestor Gonzalez, and Luis Olivares. Rik Dupont was the on-site Qualified Individual for MAQS. MAQS qualifies as an independent testing laboratory under SCAQMD Rule 304 (no conflict of interest) and is certified by the SCAQMD to conduct testing for criteria pollutants according to District Methods. Ms. Bertha Hernandez coordinated the test for Canyon Power Plant.

The test consisted of duplicate ammonia tests performed at 50.0 MW. The test program followed the procedures described in the initial compliance test protocol (MAQS document R038842). The results of the test are summarized in Table 1-1. The table shows that the ammonia slip from this unit was less than the permitted limit of 5 ppm corrected to 15% O₂.

**TABLE 1-1
RESULTS SUMMARY
CANYON POWER PLANT
UNIT 4
OCTOBER 27, 2023**

Parameter/Units	Result ⁽¹⁾	Limit
NH₃		
ppm	1.1	--
ppmc	1.0	5

(1) Maximum of duplicate runs, as required by SCAQMD Method 207.1.

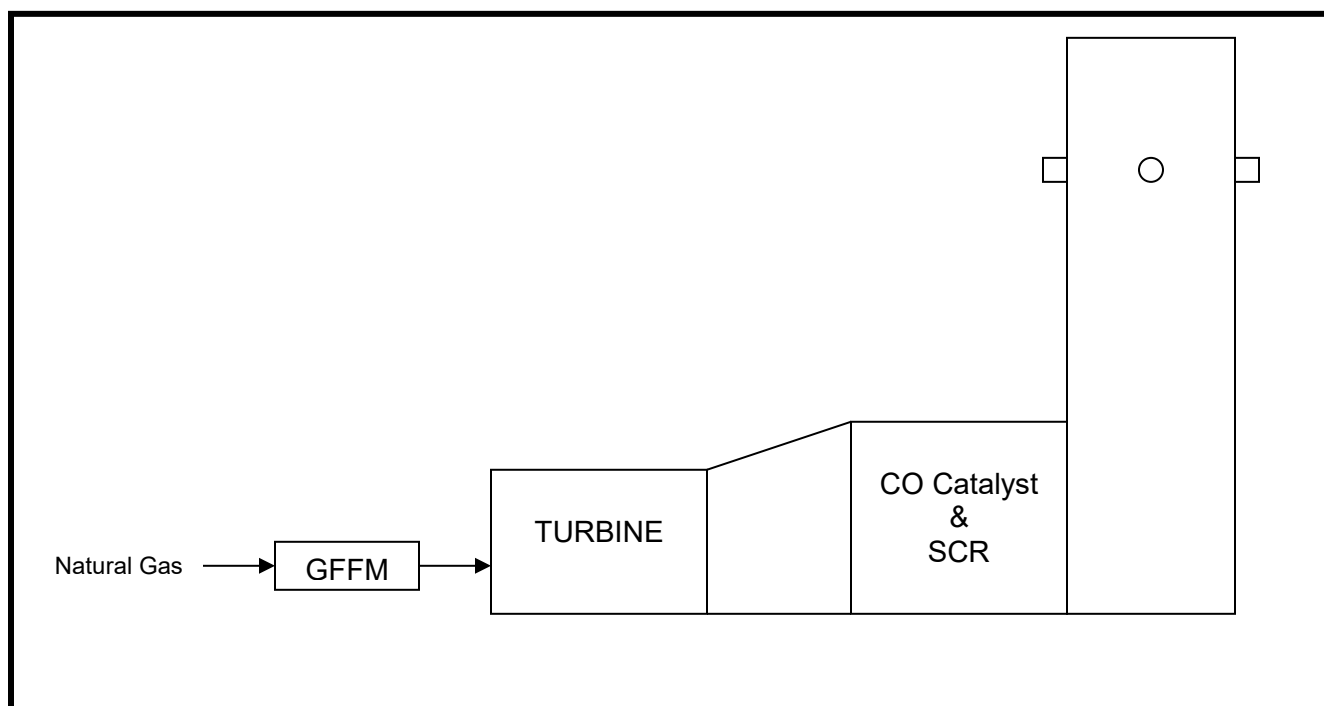
Section 2 of this document provides a brief description of the unit, test conditions, sample location, and CEMS. Details of the test procedures are provided in Section 3. Section 4 provides the results of each individual test. All raw data, calculations, quality assurance data, unit operating conditions, and CEMS data are provided in the appendices.

2.0 UNIT AND CEMS DESCRIPTION

2.1 UNIT DESCRIPTION

The City of Anaheim Canyon Power Plant is located at 3071 E. Mira Loma Avenue, Anaheim, California 92806. The facility consists of four identical generating units. Each unit consists of a natural gas fired, GE Model LM6000PC Sprint simple cycle, gas turbine. The units are natural gas fired with a rated heat input of 479 MMBtu per hour at 46°F, with water injection. The units are equipped with a CO catalyst and Selective Catalytic Reduction (SCR) system for NO_x control. A simplified process block diagram of the unit is presented as Figure 2-1.

**FIGURE 2-1
SIMPLIFIED PROCESS BLOCK DIAGRAM
CANYON POWER PLANT
UNIT 4**



Stack Inside Diameter:	11 feet, 8 inches
Distance from Upstream Disturbance:	23 feet, 4 inches (2.0 Diameters)
Distance from Stack Exit:	16 feet, 6 inches (1.4 Diameters)

2.2 CEMS DESCRIPTION

NO_x and CO emissions from the unit are monitored by a dry, extractive Continuous Emission Monitoring System (CEMS). Stack flow rate is determined from fuel flow rate, O₂ concentration, standard F-Factor, and fuel higher heating value using EPA Method 19.

2.3 TEST CONDITIONS

The tests were performed with the unit operating at an average load of 50.0 MW. Tests were performed while the unit was firing natural gas and operating under normal conditions. Unit operation was established by the Canyon Power Plant operators.

2.4 SAMPLE LOCATION

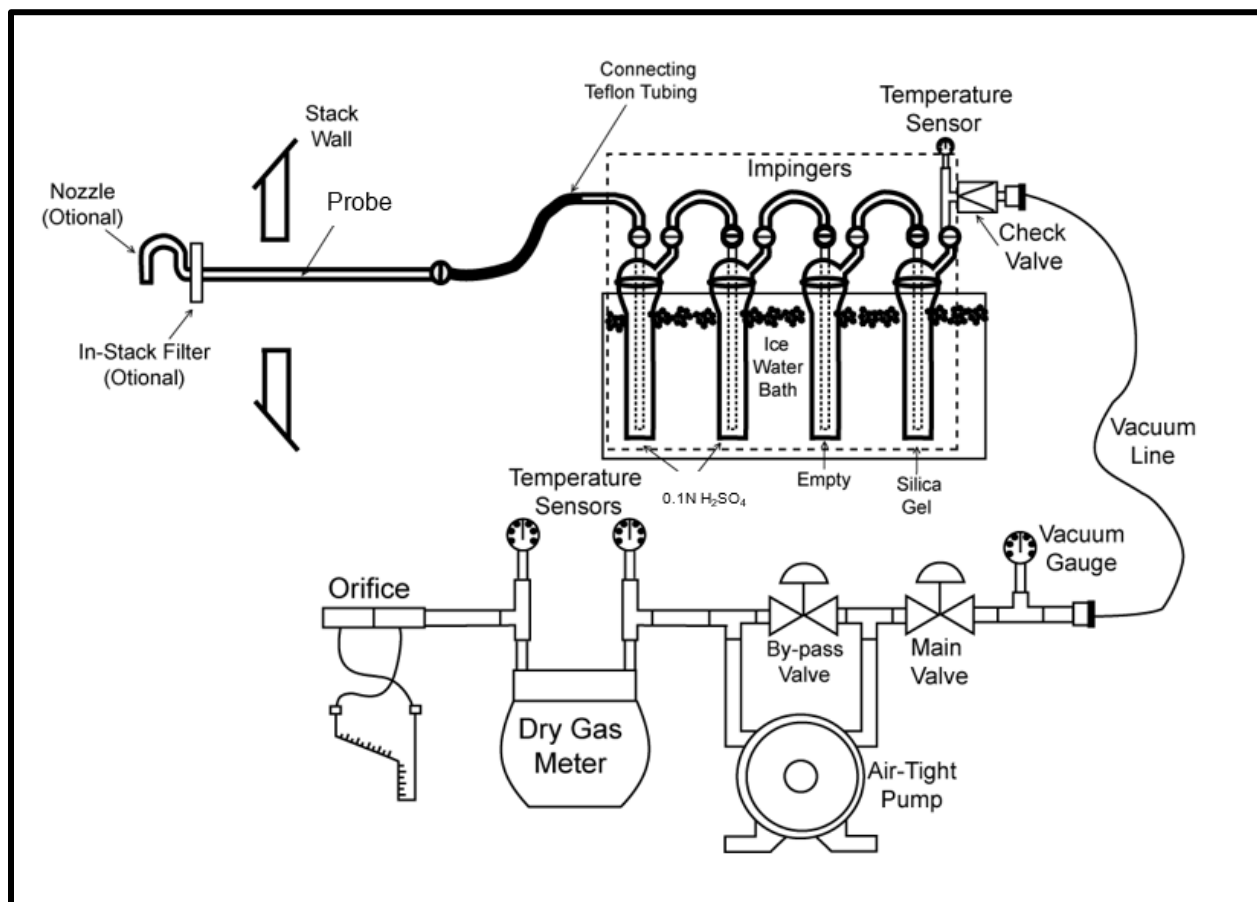
The measurements were made from sample ports located on the exhaust stack. There are four sample ports equally spaced at this location. The stack inside diameter at the sample plane is 11 feet, 8 inches. The sample ports are located 23 feet, 4 inches (2.0 diameters) downstream of the nearest flow disturbance and 16 feet, 6 inches (1.4 diameters) from the stack exit. A diagram of the sample location and individual traverse points is contained in Appendix A.1.

3.0 TEST DESCRIPTION

Flue gas samples were collected non-isokinetically using a SCAQMD Method 207.1 sample train. The samples were collected using a 12-point traverse at the exhaust stack. Each test was performed over a 60-minute interval. The sample gas was drawn through a Titanium probe, Teflon sample line, two impingers each containing 100 ml of 0.1N H₂SO₄, an empty impinger, an impinger containing silica gel, and a dry gas meter. The optional nozzle and filter were not used since the source is natural gas fired. The contents of the sample line and the first three impingers were recovered and analyzed by SCAQMD Method 207.1 for ammonia concentration by Ion Specific Electrode analysis. A diagram of the sampling equipment is presented as Figure 3-1.

Stack O₂ and NO_x concentrations and stack volumetric flow rate data were recorded from the Continuous Emission Monitoring System (CEMS) which is installed on the unit. These data were used to correct the ammonia concentration to 15% O₂.

FIGURE 3-1
SCAQMD METHOD 207.1 SAMPLING EQUIPMENT



4.0 RESULTS AND OVERVIEW

4.1 TEST RESULTS

The results of the test are summarized in Table 4-1. The results show that the maximum ammonia slip was 1.0 ppm @ 15% O₂ which is less than the permitted limit of 5 ppm @ 15% O₂.

**TABLE 4-1
DETAILED TEST RESULTS
CANYON POWER PLANT
UNIT 4
OCTOBER 27, 2023**

Parameter/Units	1-NH ₃	2-NH ₃	Average	Maximum ⁽¹⁾	Limit
Start/Stop Time	1956/2102	2124/2230	--	--	--
Stack Flow , dscfm @ T _{ref} ⁽²⁾	237,152	237,250	237,201	--	--
O₂ , % ⁽²⁾	14.42	14.42	14.42	--	--
NO_x , ppm @ 15% O ₂ ⁽²⁾	2.3	2.2	2.2	--	2.5
NH₃					
ppm	1.1	1.0	1.0	1.1	--
ppm 15% O ₂	1.0	0.9	0.9	1.0	5
lb/hr	0.7	0.6	0.6	0.7	--
lb/MMBtu	0.001	0.001	0.001	0.001	--
lb/MMSCF	1.4	1.2	1.3	1.4	--

(1) Maximum of duplicate test runs, as required by SCAQMD Method 207.1.

(2) From facility CEMS.

4.2 TEST OVERVIEW

The test program was successful in meeting the program objectives. The QA/QC requirements of SCAQMD Method 207.1 were met. The results are considered representative of the source at the time of the tests.

APPENDIX A RAW DATA

Appendix A.1

SCAQMD Method 1.1 Data

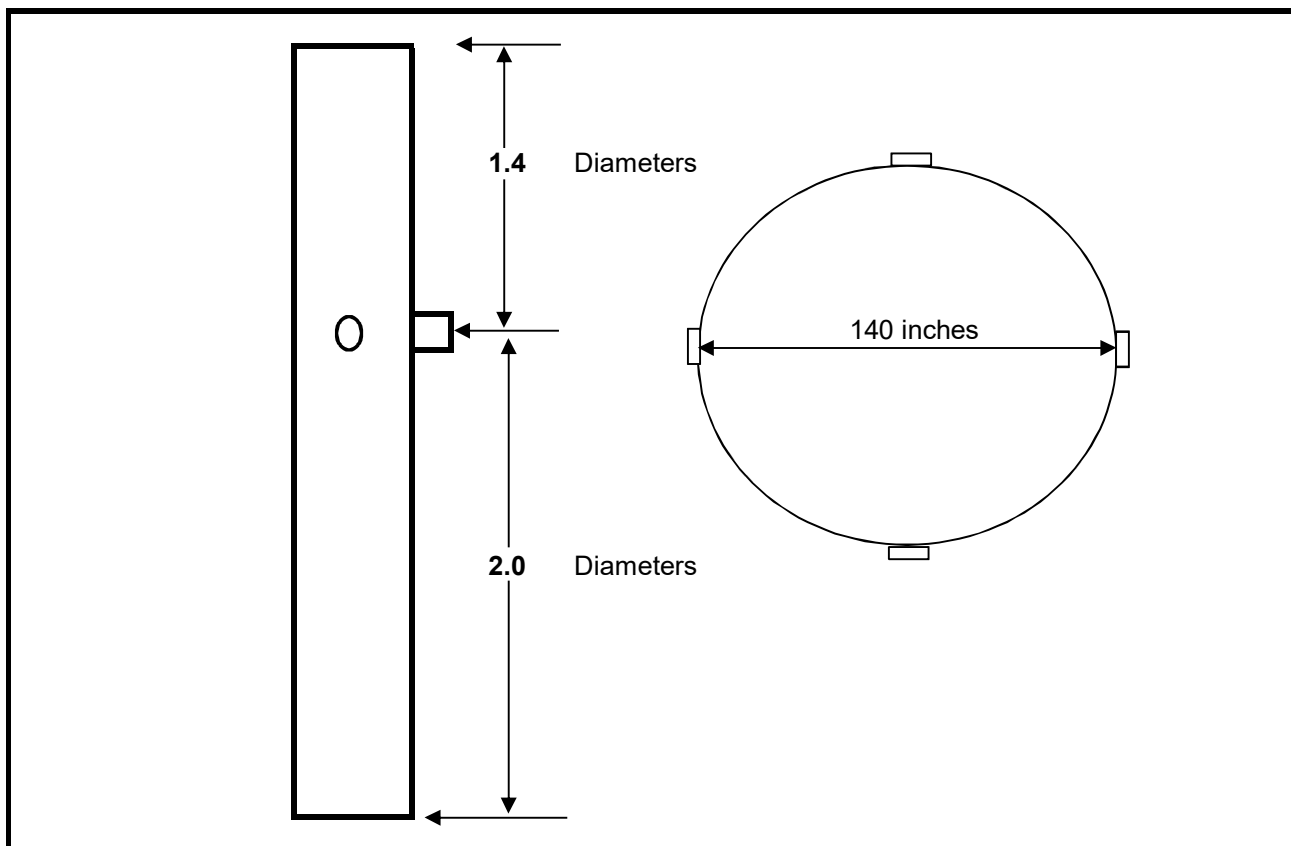
METHOD 1 DATA SHEET SAMPLE LOCATION

Client: SCPPA

Date: 10/27/23

Sample Location: U4

Performed By: RD



Diameter (in.)	<u>140.00</u>
Upstream (ft.)	<u>23.33</u>
Downstream (ft.)	<u>16.50</u>
Coupling (in.)	<u>11.25</u>
Stack Area (ft ²)	<u>106.90</u>

Sample Point	% of Diameter	Dist from Wall (inches)	Dist from Port (inches)
1	4.4	6.1	17.3
2	14.6	20.5	31.8
3	29.6	41.4	52.7
4	70.4	98.6	109.8
5	85.4	119.5	130.7
6	95.6	133.9	145.2

Appendix A.2

Sample Data Sheets



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

CLIENT: SCAPA CAN YON
LOCATION: UNIT 4
DATE: 10/23/2023
RUN NO: 1-NH3-U4
OPERATOR: LO
METER BOX NO: 17-WCS
METER ΔH@: 1-815
METER Yd: 0.993
STACK AREA, FT²: 106.91
TRAVERSE POINTS, MIN/POINT: 12, 5 min
ΔH= 1.0 X ΔP:
Probe Condition, pre/post test: GOOD / GOOD
Silica Gel Expended, Y/N: NO
Filter Condition after Test: N/A
Check Weight: 500.0 / 500.0

AMBIENT TEMPERATURE: 65°
BAROMETRIC PRESSURE: 29.66
ASSUMED MOISTURE: 11.5%
PITOT TUBE COEFF, Cp: N/A
PROBE ID NO/MATERIAL: T1
PROBE LENGTH: 7'
NOZZLE ID NO/ MATERIAL: N/A
NOZZLE DIAMETER: N/A
FILTER NO/TYPE: N/A
PRE-TEST LEAK RATE: 20.005 CFM@ 13" in. Hg.
POST-TEST LEAK RATE: 20.005 CFM@ 10" in. Hg.
PITOT LEAK CHECK - PRE: N/A POST: N/A
CHAIN OF CUSTODY: SAMPLE CUSTODIAN CM
SAMPLER LO

Imp. # Contents Post-Test - Pre-Test = Difference
1 1N H2SO4 929.7 737.8
2 1N H2SO4 754.8 753.8
3 Empty 685.0 684.9
4 SG 991.6 973.3
612 DI H2O 108.4 C
Total: _____

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
3	1956	536.800	N/A	1.0	N/A	N/A	N/A	52	65 65	3"		
2	2001	539.640		1.0				48	65 65	3"		
1	2006	542.480		1.0				47	65 65	3"		
PC	2011	545.230		-				-	-	-		
3	2013	545.230		1.0				55	66 65	3"		
2	2018	548.090		1.0				47	67 65	3"		
1	2023	550.890		1.0				48	67 65	3"		
PC	2028	553.730		-				-	-	-		
3	2030	553.730		1.0				55	66 65	3"		
2	2035	556.570		1.0				47	67 65	3"		
1	2040	559.410		1.0				47	67 65	3"		
PC	2045	562.155		-				-	-	-		
3	2047	562.155		1.0				51	67 65	3"		
2	2052	565.065		1.0				49	68 65	3"		
1	2057	567.870		1.0				48	68 65	3"		
PC	2102	570.705		-				-	-	3"		
Average:												
Comments:												



WET CHEMICAL SAMPLING SYSTEM DATA AND WORKSHEET

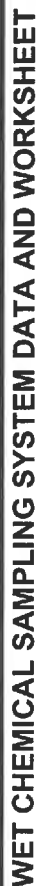
CLIENT: SCPPA CANYON
LOCATION: UNIT 4
DATE: 10/27/2023
RUN NO: 2-NH3-U4
OPERATOR: LB
METER BOX NO: 17-WCS
METER ΔH@: 1815
METER Yd: 0.993
STACK AREA, FT²: 106.91
TRAVERSE POINTS, MIN/POINT: 12, 15 min
ΔH= 1 X ΔP:
Probe Condition, pre/post test: GOOD/GOOD
Silica Gel Expended, Y/N: NO
Filter Condition after Test: N/A
Check Weight: 500.0 / 500.0

AMBIENT TEMPERATURE: 64
BAROMETRIC PRESSURE: 29.66
ASSUMED MOISTURE: 11.5%
PITOT TUBE COEFF, Cp: N/A
PROBE ID NO/MATERIAL: 71
PROBE LENGTH: 71
NOZZLE ID NO/MATERIAL: N/A
NOZZLE DIAMETER: N/A
FILTER NO/TYPE: N/A
PRE-TEST LEAK RATE: 20.00 SCFM @ 14" in. Hg.
POST-TEST LEAK RATE: 20.00 SCFM @ 12" in. Hg.
PITOT LEAK CHECK - PRE: N/A POST: N/A
CHAIN OF CUSTODY: SAMPLE CUSTODIAN Run
SAMPLER LD

Imp. # Contents Post-Test - Pre-Test = Difference
1 1N H2SO4 930.4 48.8
2 1N H2SO4 753.4 753.2
3 600 670.2 669.0
4 SG 944.7 939.0
L2 DI H2O 100 ML
Total:

Point	Time	Meter Volume, ft ³	ΔP in. H ₂ O	ΔH in. H ₂ O	Stack Temp, °F	Probe Temp, °F	Filter Temp, °F	Imp. Out Temp, °F	Meter Temp, °F In Out	Vacuum in. Hg.	O ₂ %	Pstatic in. H ₂ O
3	2124	573.100	N/A	1.0	N/A	N/A	N/A	58	66 66	3"		
2	2129	575.920		1.0				46	67 66	3"		
1	2134	578.720		1.0				45	69	3"		
PC	2139	581.525										
3	2141	581.525		1.0				50	70 67	3"		
2	2146	584.310		1.0				47	71 67	3"		
1	2151	587.140		1.0				47	72 67	3"		
PC	2156	589.975										
3	2158	589.975		1.0				52	70 67	3"		
2	2203	592.805		1.0				48	72 68	3"		
1	2208	595.610		1.0				48	73 68	3"		
PC	2213	598.430										
3	2215	598.430		1.0				52	72 68	3"		
2	2220	601.270		1.0				48	73 68	3"		
1	2225	604.110		1.0				48	74 69	3"		
E	2236	606.990										
Average:												

Comments:



CLIENT: SCPPA
LOCATION: UNIT
DATE: 10-21-23
RUN NO: FB-NH3-04
OPERATOR: LD
METER BOX NO: 17-WCS
METER ΔH@: 1.215
METER Yd: 0.953
STACK AREA, FT²: 106.91
TRAVERSE POINTS, MIN/POINT: 100
ΔH= 2.18 X ΔP:
Probe Condition, pre/post test: Cool/Good
Silica Gel Expended, (Y/N) N

Filter Condition after Test: Good
Check Weight: 500 500 500 500 500

[illegible]

Comments:	
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Date of last revision 2/14/2017

Appendix A.3 Laboratory Data

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS CALCULATION DATA

District Method: SCAQMD 207.1



Project Number: PROJ-029212
 Client/Location: SCPPA/Canyon Power Plant
 Sample Location: U4 Stack
 Sample Date: 10/25/2023
 Analysis Date: 11/6/2023
 Analyst's Initials: PR

Calibration Curve Slope: -55.6129
 Y-intercept: 109.4129
 R^2 : 0.9993
 Thermometer #: 7
 ISE Electrode #: 20

10/27/2023
 SA 11/29

Sample	Total Volume (mL)	Sample Temperature (°C)	Electrode Potential (mV)	Conc. $\mu\text{g NH}_3$ / ml as N	C_{avg} as N	C_{avg} as NH_3	$\mu\text{g NH}_3$ / sample
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.2	30.7	26.024	26.296	31.964	NA
		23.2	30.2	26.568			
1-NH ₃ -4	626.0	22.9	110.5	0.956	0.937	1.138	712.697
		22.8	111.5	0.917			
2-NH ₃ -4	599.5	23.0	112.4	0.884	0.875	1.063	637.354
		23.0	112.9	0.866			
Spike 1-NH ₃ -4	NA	23.2	39.1	18.379	18.533	22.528	NA
		23.3	38.7	18.686			
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.2	31.0	25.703	25.492	30.986	NA
		23.2	31.4	25.280			
Reagent Blank 0.1N H ₂ SO ₄	NA	24.1	209.4	0.016	0.016	0.020	NA
		23.9	208.9	0.016			
DI H ₂ O Blank	NA	22.8	206.5	0.018	0.018	0.021	NA
		22.8	207.6	0.017			
Field Blank	593.0	23.4	204.9	0.019	0.019	0.023	13.773
		23.3	205.1	0.019			
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.0	30.3	26.458	26.513	32.229	NA
		23.0	30.2	26.568			

Notes:

- Measured Concentration of Ammonia (C) in $\mu\text{g NH}_3$ / ml as N.
- $C = 10^{(P-B)/M}$, P = electrode potential (mV), M=slope and B=intercept.
- Average Measured Ammonia Concentration (C_{avg}) = $(C_1 + C_2)/2$ where C_1 , C_2 are results from duplicate analyses ($\mu\text{g NH}_3$ / ml as N).
- $C_{\text{avg}} (\mu\text{g NH}_3/\text{ml as NH}_3) = C_{\text{avg}} (\mu\text{g NH}_3/\text{ml as N}) * 17.03/14.01$.
- $\mu\text{g NH}_3$ / sample = $C_{\text{avg}} (\mu\text{g NH}_3/\text{ml as NH}_3) * \text{TV}$.
- Used 100 ml of samples and standards with 2 ml ISA and constant stirring rate, analyzed in duplicate.
- Sample pH and temperatures can be found on the laboratory datasheet.
- Maximum number of samples (including blanks) between 28 $\mu\text{g/ml}$ check standard is 5 samples analyzed in duplicate.
- All samples are collected in 0.1N H₂SO₄ and allowed to equilibrate to room temperature.
- All calibration verification standard (C.V.) are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- Sample solutions, blanks and C.V. Standard temperature must be within $\pm 2^\circ\text{C}$.
- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS QUALITY CONTROL

District Method: SCAQMD 207.1

Project Number: PROJ-029212Client/ Location: SCPPA/Canyon Power PlantSample Location: U4 StackSample Date: 10/25/2023Analysis Date: 11/6/2023Analyst's Initials: PR10/27/2023
SA 1/24

Sample	Recovery (%)	RPD (%)	RPA (%)
Standard Check: 28 µg NH ₃ / ml as N	NA	-2.07	-6.086
1-NH3-4	NA	4.14	NA
2-NH3-4	NA	2.07	NA
Spike 1-NH3-4	91.59	-1.66	NA
Standard Check: 28 µg NH ₃ / ml as N	NA	1.66	-8.959
Reagent Blank 0.1N H ₂ SO ₄	NA	-2.07	NA
DI H ₂ O Blank	NA	4.55	NA
Field Blank	NA	0.83	NA
Standard Check: 28 µg NH ₃ / ml as N	NA	-0.41	-5.310

Notes:

- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.
- Matrix Spike Percent Recovery (%R).
- %R = $(C_{\text{spike}} \cdot 0.104 - C_{\text{sample}} \cdot 0.102) / 2 \cdot 100$.
- Cspike = average result of matrix spike (ug NH₃ / ml as N).
- Relative Percent Difference (RPD) = $(C_1 - C_2) / C_{\text{avg}} \cdot 100$ **(must be 5% or less)**.
- Relative Percent Accuracy (RPA) **(must be 10% or less)**.
- RPA = $(C_{\text{avg}} - \text{theoretical value of standard}) / \text{theoretical value of standard} \cdot 100$.

AMMONIA ELECTRODE CALIBRATION CURVE DATA

District Method: SCAQMD 207.1

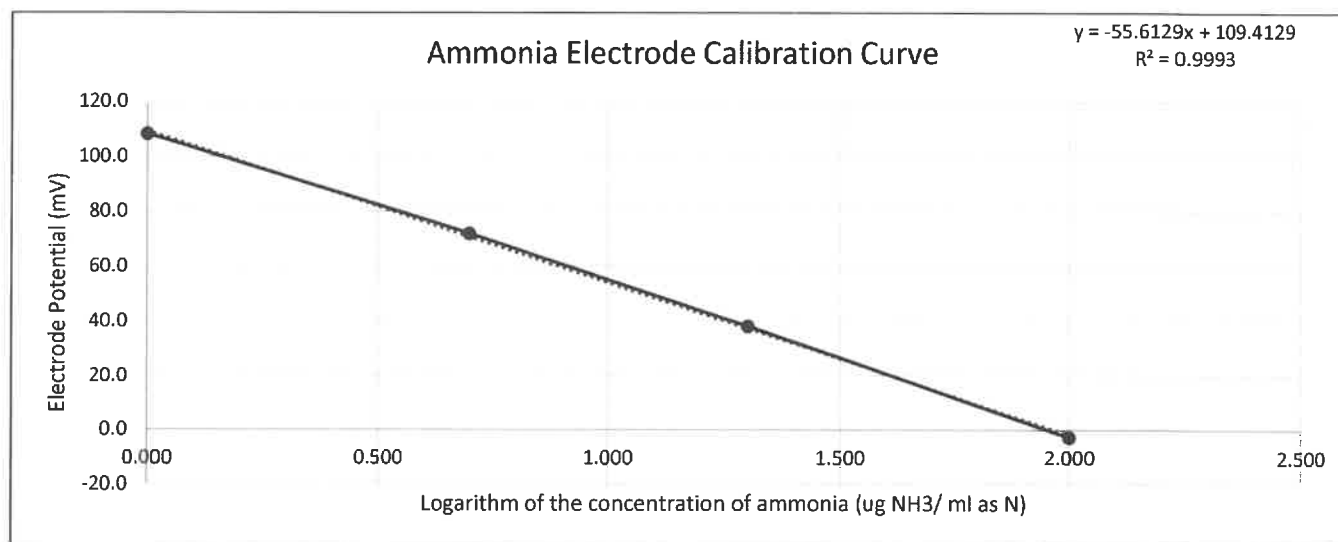
Date: November 6, 2023

Project Number: PROJ-029212

Client/Location: SCPPA/Canyon Power Plant



NH ₃ concentration (µg NH ₃ / ml as N)	Log NH ₃ concentration	Electrode Potential (mV)	Sample Temperature (°C)	Room Temperature (°C)
1	0.000	108.3	23.0	23.0
5	0.699	71.8	23.0	23.0
20	1.301	37.9	22.8	23.0
100	2.000	-2.8	22.8	23.0



Slope	Y-Intercept	R ²
-55.6129	109.4129	0.9993

NH ₃ concentration (µg NH ₃ / ml as N)	Value LR line	Difference	% Difference
1	1.0472	0.0472	4.7155
5	4.7461	-0.2539	-5.0786
20	19.3155	-0.6845	-3.4227
100	104.1718	4.1718	4.1718

Notes:

- Regression Line: $P = M \cdot \log(\mu\text{g of NH}_3 / \text{ml as N}) + B$.
- Measured Concentration of Ammonia (C) in $\mu\text{g} / \text{ml NH}_3 \text{ as N}$: $C = 10^{(P-B)/M}$ where P = electrode potential, M = slope and B = intercept.
- All standards are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- Slope of calibration curve must be between -54 and -60.
- R² must be 0.997 or greater.
- Calibration solution temperature must be within $\pm 2^\circ\text{C}$.

AMMONIA BY ION SELECTIVE ELECTRODE ANALYSIS DATA

District Method: SCAQMD 207.1



Project Number: PROJ-029212
 Client/Location: SCPPA/Canyon Power Plant
 Sample Location: U4 Stack
 Sample Date: ~~10/25/2023~~ 10/27/2023
 Analysis Date: 11/6/2023 SA 11/29

Calibration Curve: $y = -55.6129x + 109.4129$
 $R^2: 0.9993$
 Thermometer #: 7
 ISE Electrode #: 20
 Analyst's Initials: PR

NH3 concentration ($\mu\text{g NH}_3$ / ml as N)	Electrode Potential (mV)	Sample Temperature ($^{\circ}\text{C}$)	Room Temperature ($^{\circ}\text{C}$)
1	108.3	23.0	23.0
5	71.8	23.0	23.0
20	37.9	22.8	23.0
100	-2.8	22.8	23.0

Sample	Total Volume (mL)	Sample Temperature ($^{\circ}\text{C}$)	Electrode Potential (mV)	Blue after ISA (Y/N)	pH
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.2	30.7	Y	NA
		23.2	30.2	Y	
1-NH ₃ -4	626.0	22.9	110.5	Y	<2
		22.8	111.5	Y	
2-NH ₃ -4	599.5	23.0	112.4	Y	<2
		23.0	112.9	Y	
Spike: 1-NH ₃ -4	NA	23.2	39.1	Y	NA
		23.3	38.7	Y	
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.2	31.0	Y	NA
		23.2	31.4	Y	
Reagent Blank 0.1N H ₂ SO ₄	NA	24.1	209.4	Y	NA
		23.9	208.9	Y	
DI H ₂ O Blank	NA	22.8	206.5	Y	NA
		22.8	207.6	Y	
Field Blank	593.0	23.4	204.9	Y	<2
		23.3	205.1	Y	
Standard Check: 28 $\mu\text{g NH}_3$ / ml as N	NA	23.0	30.3	Y	NA
		23.0	30.2	Y	

Notes:

- Used 100 ml of samples or standards with 2 ml ISA and constant stirring rate.
- Spike: 100 ml sample + 2 ml 1000ppm NH₃ as N.
- All calibration solution and calibration verification standard (C.V.) are prepared in 0.04N H₂SO₄ and allowed to equilibrate to room temperature.
- All samples are collected in 0.1N H₂SO₄ and allowed to equilibrate to room temperature.
- All solutions turned blue and remained blue with ISA unless otherwise indicated.
- Maximum number of samples (including blanks) between 28 ug/ml check standard is 5 samples analyzed in duplicate.
- All samples must have a pH of less than 2.
- Sample solutions, calibration solution and C.V. standard temperature must be within $\pm 2^{\circ}\text{C}$ of one another.
- Slope of calibration curve must be between -54 and -60.
- R² must be 0.997 or greater.

W002AS-029212-RT-5450

TEST DATE(S): 10/27/2023

SAMPLER(S): NG. LO

PROJECT MANAGER: RD

DATE DUE: 11/3/2023

COMPLIANCE TEST?: Yes

22 of 61

RELEASED BY	DATE/TIME	RECEIVED BY	DATE/TIME
JUS OUNAVES	10/28/23 @ 2:55 AM (LAB)		11/3/23 2:30 PM

ANALYSIS REQUIRED:	NH ₃ by SCAQMD 207.1 (ISE)
--------------------	---------------------------------------

Appendix A.4

QA/QC Data

Barometric Pressure Determination	
Date:	10/27/23
Data By:	Rik Dupont
Reference:	https://forecast.weather.gov/MapClick.php?lon=-117.85962867946365&lat=33.863355545614255
Reference Barometer ID	FW0063 Fullerton CSU (F0063)
Reference Barometer Location	Lat: 33.8805°N Lon: 117.88417°W Elev: 247ft.
Reference Barometer Other Info.	Last update 27 Oct 04:23 PM PDT
Reference Barometer Indication, corrected to sea level	30.00
Reference Barometer Reference Elevation	247
Reference Barometer Actual Pressure	29.75
Test Barometer Location/Site	Canyon Power Plant
Location/Site Elevation	279
Location/Site Barometric Pressure	29.72
Sampling Location Height (above/below site elevation)	60
Sampling Location Barometric Pressure	29.66

SEMI-ANNUAL DRY GAS METER/ORIFICE CALIBRATION

Orifice Method - Triplicate Runs/Four Calibration Points
English Meter Box Units, English K Factor
Filename: W:\SW\Santa Ana\Equipment\Test Equipment\Calibrations\Dry Gas Meters\17-WCS Semi Annual Cal 8-10-2023 Date: 8/10/2023
File Modified From: APEX 522 Series Meter box Calibration
Revised: 4/8/2005

Model #: E.S. C-5000 Source Sampler
ID #: 17-WCS
Bar. Pressure: 29.89 (in. Hg)
Performed By: L. Olivares
Reviewed By: M. Chowsantiphon

DRY GAS METER READINGS										CRITICAL ORIFICE READINGS				
dH (in H ₂ O)	Time (min)	Volume Initial (cu ft)	Volume Final (cu ft)	Volume Total (cu ft)	Initial Temp. Inlet (deg F)	Initial Temp. Outlet (deg F)	Final Temp. Inlet (deg F)	Final Temp. Outlet (deg F)	Orifice Serial# (number)	K' Orifice Coefficient (see above)	Actual Vacuum (in Hg)	Initial Final (deg F)	Ambient Temperature Final (deg F)	Average (deg F)
0.14	26.00	1.900	7.590	5.690	86.0	85.0	85.0	85.0	14742-33	0.1618	18.0	77.0	76.0	76.5
0.14	26.00	7.590	13.280	5.690	85.0	85.0	85.0	85.0	14742-33	0.1618	18.0	76.0	76.0	76.0
0.14	26.00	13.280	18.965	5.685	85.0	85.0	85.0	84.0	14742-33	0.1618	18.0	76.0	77.0	76.5
0.66	12.00	984.900	990.470	5.570	88.0	84.0	87.0	84.0	PK-48	0.3452	17.0	76.0	76.0	76.0
0.66	12.00	990.470	996.040	5.570	88.0	84.0	88.0	84.0	PK-48	0.3452	17.0	76.0	76.0	76.0
0.66	12.00	996.040	1001.605	5.565	88.0	84.0	88.0	85.0	PK-49	0.3452	17.0	76.0	76.0	76.0
1.80	7.00	967.700	973.010	5.310	90.0	82.0	90.0	82.0	PK-63	0.5666	16.0	76.0	76.0	76.0
1.80	7.00	973.010	978.315	5.305	90.0	82.0	90.0	83.0	PK-63	0.5666	16.0	76.0	76.0	76.0
1.80	7.00	978.315	983.615	5.300	90.0	83.0	90.0	83.0	PK-63	0.5666	16.0	76.0	76.0	76.0
3.50	5.00	951.400	956.630	5.230	89.0	79.0	90.0	80.0	PK-73	0.7871	15.0	75.0	76.0	75.5
3.50	5.00	956.630	961.860	5.230	90.0	80.0	91.0	81.0	PK-73	0.7871	15.0	76.0	76.0	76.0
3.50	5.00	961.860	967.100	5.240	91.0	81.0	91.0	81.0	PK-73	0.7871	15.0	76.0	75.0	75.5

DRY GAS METER										ORIFICE				
DRY GAS METER										ORIFICE				
VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	VOLUME CORRECTED	CALIBRATION FACTOR				
Vm(std) (cu ft)	Vm(std) (liters)	Vm(std) (cu ft)	Vm(std) (liters)	Vm(std) (cu ft)	Vm(std) (liters)	Vm(std) (cu ft)	Vm(std) (liters)	Vm(std) (cu ft)	Vm(std) (liters)	CALIBRATION FACTOR				
Y	Value	Y	Value	Y	Value	Y	Value	Y	Value	CALIBRATION FACTOR				
5.504	155.9	5.429	153.7	5.524	153.7	5.524	153.7	5.524	153.7	CALIBRATION FACTOR				
5.507	155.9	5.431	153.8	5.521	153.8	5.521	153.8	5.521	153.8	CALIBRATION FACTOR				
5.504	155.9	5.429	153.7	5.524	153.7	5.524	153.7	5.524	153.7	CALIBRATION FACTOR				
Average										Average				
5.390	152.6	5.348	151.5	5.437	151.5	5.437	151.5	5.437	151.5	Average				
5.390	152.6	5.348	151.5	5.437	151.5	5.437	151.5	5.437	151.5	Average				
5.380	152.4	5.348	151.5	5.437	151.5	5.437	151.5	5.437	151.5	Average				
Average										Average				
5.150	145.9	5.121	145.0	5.205	145.0	5.205	145.0	5.205	145.0	Average				
5.143	145.7	5.121	145.0	5.205	145.0	5.205	145.0	5.205	145.0	Average				
5.136	145.5	5.121	145.0	5.205	145.0	5.205	145.0	5.205	145.0	Average				
Average										Average				
5.108	144.7	5.083	144.0	5.163	144.0	5.163	144.0	5.163	144.0	Average				
5.099	144.4	5.081	143.9	5.165	143.9	5.165	143.9	5.165	143.9	Average				
5.104	144.5	5.083	144.0	5.163	144.0	5.163	144.0	5.163	144.0	Average				
Average										Average				
Average Yd: 0.993										dh@: 1.815				
										Q @ dh = 1: 0.557				

SIGNED: Signature on File

Date:

8/10/2023



DIGITAL TEMPERATURE READOUT CALIBRATION

Digital Temperature Readout ID: 17-WCS
 Readout Description: Control Box
 Date: 7/5/2023
 Performed By: L. Olivares

Calibrated Thermocouple ID: TC-Cal
 T1 Reference Thermometer ID: 313010
 T2 Reference Thermometer ID: 805002770
 T3 Reference Thermometer ID: 805002803

T/C I.D. TC-Cal	Readout I.D.	T/C - Readout °F				Reference Thermometer °F				Difference		
		Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T3 (~ 370 F)	17-WCS	372	372	372	372	375	375	375	375	3.0	0.4%	Pass
T2 (~212 F)	17-WCS	214	214	214	214	210	210	210	210	4.0	0.6%	Pass
T1 (~ 32 F)	17-WCS	34	34	34	34	32	32	32	32	2.0	0.4%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

Thermocouple Source Readings

T/C Source S/N	T/C - Readout °F				T/C Source °F				Difference		
	Reading 1	Reading 2	Reading 3	Average	Reading 1	Reading 2	Reading 3	Average	°F	%, (°R)	
T4 (~650 F)	129462	647	647	647	650	650	650	650	3.0	0.3%	Pass
T3 (~370 F)	129462	365	365	365	370	370	370	370	5.0	0.6%	Pass
T2 (~212 F)	129462	214	214	214	212	212	212	212	2.0	0.3%	Pass
T1 (~32 F)	129462	33	33	33	32	32	32	32	1.0	0.2%	Pass

- 1) Difference % (°R) = Difference (°F) / (Average Tref + 460)
 2) Pass if all Differences are less than 1.5% (°R)

APPENDIX B FACILITY CEMS DATA

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 4

Period Start: 10/27/2023 19:57
Period End: 10/27/2023 21:02
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 4_O2 %	Average 4_NOXPPM ppm	Average 4_NOX_CORR ppm	Average 4_NOX_LBHM #/MBTU	Average 4_NOX_LBHR #/hr	Average 4_COPPM ppm	Average 4_CO_CORR ppm	Average 4_CO_LBHR #/hr	Average 4_CO_LBHM #/MBTU	Average 4_GasFlow kscfh	Average 4_LOAD MW	Average 4_STACKFLOW kscfm
10/27/2023 19:57	14.42	2.48	2.26	0.008	4.12	3.41	3.10	3.60	0.0070	490.2	49.99	241.0
10/27/2023 19:58	14.42	2.49	2.27	0.008	4.12	3.42	3.11	3.61	0.0070	490.6	49.98	241.2
10/27/2023 19:59	14.42	2.47	2.25	0.008	4.11	3.48	3.17	3.65	0.0071	489.8	50.04	240.8
10/27/2023 20:00	14.42	2.45	2.23	0.008	4.12	3.55	3.23	3.76	0.0073	490.3	50.16	241.0
10/27/2023 20:01	14.42	2.42	2.20	0.008	4.12	3.59	3.27	3.76	0.0073	490.3	50.10	241.0
10/27/2023 20:02	14.42	2.40	2.19	0.008	4.12	3.60	3.28	3.81	0.0074	490.0	50.08	240.9
10/27/2023 20:03	14.42	2.41	2.19	0.008	4.12	3.60	3.28	3.81	0.0074	490.0	49.97	240.9
10/27/2023 20:04	14.42	2.42	2.20	0.008	4.11	3.59	3.27	3.75	0.0073	489.6	49.94	240.7
10/27/2023 20:05	14.42	2.42	2.20	0.008	4.11	3.59	3.27	3.75	0.0073	489.5	49.96	240.7
10/27/2023 20:06	14.42	2.42	2.20	0.008	4.11	3.59	3.27	3.75	0.0073	489.5	49.96	240.7
10/27/2023 20:07	14.42	2.42	2.20	0.008	4.11	3.58	3.26	3.75	0.0073	489.2	49.99	240.5
10/27/2023 20:08	14.42	2.43	2.21	0.008	4.09	3.57	3.25	3.74	0.0073	488.3	49.92	240.0
10/27/2023 20:09	14.42	2.46	2.24	0.008	4.11	3.52	3.20	3.68	0.0072	487.2	49.88	239.5
10/27/2023 20:10	14.42	2.47	2.25	0.008	4.12	3.44	3.13	3.59	0.0070	488.8	50.02	240.3
10/27/2023 20:11	14.42	2.45	2.23	0.008	4.12	3.47	3.16	3.65	0.0071	489.9	50.04	241.1
10/27/2023 20:12	14.42	2.45	2.23	0.008	4.11	3.55	3.23	3.75	0.0073	489.7	50.18	240.8
10/27/2023 20:13	14.43	2.44	2.23	0.008	4.11	3.61	3.29	3.81	0.0074	489.8	50.05	241.2
10/27/2023 20:14	14.42	2.41	2.19	0.008	4.12	3.66	3.33	3.86	0.0075	490.3	50.01	241.0
10/27/2023 20:15	14.42	2.39	2.18	0.008	4.12	3.68	3.35	3.86	0.0075	490.1	49.99	240.9
10/27/2023 20:16	14.42	2.39	2.18	0.008	4.12	3.65	3.32	3.86	0.0075	490.2	50.07	241.0
10/27/2023 20:17	14.42	2.41	2.19	0.008	4.11	3.62	3.30	3.81	0.0074	489.7	50.11	240.8
10/27/2023 20:18	14.42	2.43	2.21	0.008	4.11	3.60	3.28	3.80	0.0074	489.5	49.81	240.7
10/27/2023 20:19	14.42	2.42	2.20	0.008	4.11	3.58	3.26	3.75	0.0073	489.2	49.96	240.5
10/27/2023 20:20	14.42	2.44	2.22	0.008	4.12	3.55	3.23	3.76	0.0073	490.6	50.06	241.2
10/27/2023 20:21	14.42	2.45	2.23	0.008	4.11	3.55	3.23	3.75	0.0073	489.5	50.06	241.2
10/27/2023 20:22	14.42	2.45	2.23	0.008	4.12	3.57	3.25	3.76	0.0073	490.5	50.01	241.1
10/27/2023 20:23	14.43	2.45	2.23	0.008	4.12	3.60	3.28	3.81	0.0074	490.2	50.12	241.4
10/27/2023 20:24	14.42	2.44	2.22	0.008	4.12	3.63	3.31	3.81	0.0074	490.1	49.99	240.9
10/27/2023 20:25	14.42	2.43	2.21	0.008	4.11	3.62	3.30	3.80	0.0074	489.6	49.88	240.7
10/27/2023 20:26	14.43	2.52	2.30	0.008	4.11	3.50	3.19	3.70	0.0072	489.5	50.00	241.0
10/27/2023 20:27	14.42	2.59	2.36	0.009	4.63	3.35	3.05	3.50	0.0068	489.9	50.14	240.8
10/27/2023 20:28	14.42	2.60	2.37	0.009	4.62	3.29	3.00	3.44	0.0067	489.0	49.85	240.4
10/27/2023 20:29	14.42	2.58	2.35	0.009	4.62	3.28	2.99	3.44	0.0067	488.8	49.87	240.3
10/27/2023 20:30	14.42	2.55	2.32	0.009	4.63	3.27	2.98	3.45	0.0067	489.9	50.06	240.8
10/27/2023 20:31	14.42	2.60	2.37	0.009	4.63	3.27	2.98	3.45	0.0067	489.9	50.01	240.8
10/27/2023 20:32	14.42	2.64	2.40	0.009	4.63	3.30	3.00	3.45	0.0067	490.0	50.04	240.9
10/27/2023 20:33	14.42	2.58	2.35	0.009	4.63	3.31	3.01	3.50	0.0068	489.6	50.03	240.7
10/27/2023 20:34	14.42	2.53	2.30	0.008	4.11	3.31	3.01	3.50	0.0068	489.5	50.02	240.7
10/27/2023 20:35	14.42	2.50	2.28	0.008	4.12	3.29	3.00	3.45	0.0067	490.5	50.18	241.1
10/27/2023 20:36	14.42	2.50	2.28	0.008	4.11	3.30	3.00	3.44	0.0067	489.4	49.94	240.6
10/27/2023 20:37	14.42	2.49	2.27	0.008	4.11	3.30	3.00	3.44	0.0067	488.9	49.89	240.3
10/27/2023 20:38	14.42	2.48	2.26	0.008	4.12	3.28	2.99	3.45	0.0067	490.0	50.02	240.9
10/27/2023 20:39	14.42	2.48	2.26	0.008	4.12	3.28	2.99	3.45	0.0067	489.9	49.96	240.8
10/27/2023 20:40	14.42	2.46	2.24	0.008	4.11	3.30	3.00	3.44	0.0067	489.0	49.91	240.4
10/27/2023 20:41	14.42	2.46	2.24	0.008	4.11	3.29	3.00	3.45	0.0067	489.8	50.02	240.8
10/27/2023 20:42	14.42	2.46	2.24	0.008	4.12	3.28	2.99	3.45	0.0067	489.9	49.90	240.8
10/27/2023 20:43	14.42	2.46	2.24	0.008	4.12	3.28	2.99	3.45	0.0067	489.6	49.95	240.7
10/27/2023 20:44	14.42	2.46	2.24	0.008	4.12	3.29	3.00	3.45	0.0067	490.2	50.17	241.0
10/27/2023 20:45	14.42	2.47	2.25	0.008	4.12	3.30	3.00	3.45	0.0067	490.3	49.94	241.0
10/27/2023 20:46	14.42	2.49	2.27	0.008	4.11	3.30	3.00	3.45	0.0067	489.8	50.13	240.8
10/27/2023 20:47	14.42	2.48	2.26	0.008	4.11	3.30	3.00	3.44	0.0067	489.4	49.91	240.6
10/27/2023 20:48	14.42	2.46	2.24	0.008	4.11	3.30	3.00	3.44	0.0067	489.4	49.89	240.6
10/27/2023 20:49	14.42	2.46	2.24	0.008	4.11	3.28	2.99	3.44	0.0067	489.6	50.05	240.7
10/27/2023 20:50	14.42	2.45	2.23	0.008	4.12	3.28	2.99	3.45	0.0067	490.0	50.08	240.9

NH3 (1)

CEMTEK KVB-Enertec NetDAHS[®]

Version 48.0

Period Start:	Average 4_O2 %	Average 4_NOXPPM ppm	Average 4_NOX_CORR ppm	Average 4_NOX_LEMM #/MBTU	Average 4_NOX_LBHR #/hr	Average 4_COPEM ppm	Average 4_CO_CORR ppm	Average 4_CO_LBHR #/hr	Average 4_CO_LBMM #/MBTU	Average 4_GasFlow kscfh	Average 4_LOAD MW	Average 4_STACKPLW kscfm
10/27/2023 20:51	14.42	2.45	2.23	0.008	4.12	3.28	2.99	3.45	0.0067	490.1	49.96	240.9
10/27/2023 20:52	14.42	2.45	2.23	0.008	4.11	3.28	2.99	3.45	0.0067	489.7	50.04	240.8
10/27/2023 20:53	14.42	2.46	2.24	0.008	4.11	3.29	3.00	3.45	0.0067	489.8	49.99	240.8
10/27/2023 20:54	14.42	2.46	2.24	0.008	4.11	3.28	2.99	3.45	0.0067	489.8	50.07	240.8
10/27/2023 20:55	14.42	2.45	2.23	0.008	4.11	3.30	3.00	3.44	0.0067	488.9	49.91	240.3
10/27/2023 20:56	14.42	2.44	2.22	0.008	4.11	3.31	3.01	3.49	0.0068	489.1	50.12	240.5
10/27/2023 20:57	14.42	2.44	2.22	0.008	4.11	3.33	3.03	3.50	0.0068	489.6	49.89	240.7
10/27/2023 20:58	14.42	2.45	2.23	0.008	4.11	3.34	3.04	3.49	0.0068	489.3	49.89	240.6
10/27/2023 20:59	14.42	2.45	2.23	0.008	4.11	3.35	3.05	3.49	0.0068	488.9	50.00	240.3
10/27/2023 21:00	14.42	2.45	2.23	0.008	4.11	3.35	3.05	3.50	0.0068	489.6	50.03	240.7
10/27/2023 21:01	14.42	2.45	2.23	0.008	4.12	3.35	3.05	3.50	0.0068	490.7	50.11	241.2
10/27/2023 21:02	14.42	2.45	2.23	0.008	4.12	3.40	3.10	3.55	0.0069	490.4	50.22	241.1
Daily Average*	14.42	2.47	2.25	0.008	4.17	3.42	3.11	3.59	0.0070	489.7	50.01	240.8
Maximum*	14.43	2.64	2.40	0.009	4.63	3.68	3.35	3.86	0.0075	490.7	50.22	241.4
10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023
20:26	20:32	20:32	20:32	20:33	20:33	20:15	20:15	20:16	20:16	21:01	21:02	20:23
Minimum*	14.42	2.39	2.18	0.008	4.09	3.27	2.98	3.44	0.0067	487.2	49.81	239.5
10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023
21:02	20:16	20:16	20:16	21:02	20:08	20:31	20:31	20:55	20:55	20:08	20:18	20:08

* Does not include Invalid Averaging Periods ("N/A")

NH3 (2)

Average Values Report
Generated: 10/27/2023 23:11

Company: City Of Anaheim
Plant: 3071 Miraloma Ave.,
City/St: Anaheim, CA, 92806
Source: 4

Period Start: 10/27/2023 21:24
Period End: 10/27/2023 22:30
Validation Type: 1/1 min
Averaging Period: 1 min
Type: Block Avg

Period Start:	Average 4_O2 %	Average 4_NOXppm ppm	Average 4_NOX_CORR ppm	Average 4_NOX_LBMM #/MBTU	Average 4_NOX_LBHR #/hr	Average 4_CORPM ppm	Average 4_CO_CORR ppm	Average 4_CO_LBHR #/hr	Average 4_CO_LBMM #/MBTU	Average 4_GasFlow kscfh	Average 4_LOAD MW	Average 4_STACKFLOW kscfm
10/27/2023 21:24	14.42	2.40	2.19	0.008	4.12	3.43	3.12	3.60	0.0070	489.9	50.15	240.8
10/27/2023 21:25	14.42	2.40	2.19	0.008	4.12	3.41	3.10	3.60	0.0070	489.9	50.01	240.8
10/27/2023 21:26	14.42	2.40	2.19	0.008	4.12	3.39	3.09	3.55	0.0069	490.0	50.06	240.9
10/27/2023 21:27	14.42	2.42	2.20	0.008	4.11	3.38	3.08	3.55	0.0069	489.7	50.04	240.8
10/27/2023 21:28	14.42	2.42	2.20	0.008	4.11	3.38	3.08	3.55	0.0069	489.5	49.91	240.7
10/27/2023 21:29	14.42	2.42	2.20	0.008	4.12	3.41	3.10	3.60	0.0070	489.9	50.01	240.8
10/27/2023 21:30	14.42	2.43	2.21	0.008	4.12	3.44	3.13	3.60	0.0070	490.3	50.02	241.0
10/27/2023 21:31	14.42	2.44	2.22	0.008	4.12	3.45	3.14	3.60	0.0070	490.0	50.10	240.9
10/27/2023 21:32	14.42	2.42	2.20	0.008	4.11	3.43	3.12	3.60	0.0070	489.8	49.89	240.8
10/27/2023 21:33	14.42	2.41	2.19	0.008	4.12	3.38	3.08	3.55	0.0069	490.6	50.05	241.2
10/27/2023 21:34	14.42	2.41	2.19	0.008	4.12	3.38	3.08	3.55	0.0069	490.3	49.95	241.0
10/27/2023 21:35	14.42	2.42	2.20	0.008	4.11	3.40	3.10	3.55	0.0069	489.4	50.05	240.6
10/27/2023 21:36	14.42	2.43	2.21	0.008	4.12	3.41	3.10	3.60	0.0070	489.3	50.01	240.8
10/27/2023 21:37	14.42	2.42	2.20	0.008	4.12	3.38	3.08	3.55	0.0069	490.3	50.10	241.0
10/27/2023 21:38	14.42	2.44	2.22	0.008	4.11	3.41	3.10	3.59	0.0070	488.8	49.97	240.3
10/27/2023 21:39	14.42	2.43	2.21	0.008	4.11	3.44	3.13	3.60	0.0070	489.2	50.04	240.5
10/27/2023 21:40	14.42	2.42	2.20	0.008	4.12	3.42	3.11	3.60	0.0070	490.3	50.05	241.0
10/27/2023 21:41	14.42	2.43	2.21	0.008	4.11	3.37	3.07	3.55	0.0069	489.8	50.01	240.8
10/27/2023 21:42	14.42	2.43	2.21	0.008	4.12	3.35	3.05	3.50	0.0068	490.1	50.38	241.0
10/27/2023 21:43	14.42	2.41	2.19	0.008	4.12	3.38	3.08	3.55	0.0069	490.3	50.09	240.9
10/27/2023 21:44	14.42	2.40	2.19	0.008	4.12	3.40	3.10	3.55	0.0069	490.2	49.97	241.0
10/27/2023 21:45	14.42	2.39	2.18	0.008	4.12	3.41	3.10	3.60	0.0070	490.0	50.17	240.9
10/27/2023 21:46	14.42	2.40	2.19	0.008	4.12	3.39	3.09	3.55	0.0069	490.6	50.07	241.2
10/27/2023 21:47	14.42	2.43	2.21	0.008	4.12	3.38	3.08	3.55	0.0069	490.0	49.91	240.9
10/27/2023 21:48	14.42	2.43	2.21	0.008	4.11	3.39	3.09	3.55	0.0069	489.3	49.89	240.6
10/27/2023 21:49	14.42	2.42	2.20	0.008	4.11	3.39	3.09	3.55	0.0069	489.6	50.00	240.7
10/27/2023 21:50	14.42	2.43	2.21	0.008	4.12	3.38	3.08	3.55	0.0069	489.9	50.01	240.8
10/27/2023 21:51	14.42	2.43	2.21	0.008	4.12	3.38	3.08	3.55	0.0069	490.4	50.10	241.1
10/27/2023 21:52	14.42	2.42	2.20	0.008	4.12	3.39	3.09	3.55	0.0069	490.3	50.10	241.0
10/27/2023 21:53	14.42	2.43	2.21	0.008	4.11	3.41	3.10	3.60	0.0070	489.6	49.96	240.7
10/27/2023 21:54	14.42	2.42	2.20	0.008	4.11	3.41	3.10	3.60	0.0070	489.8	50.09	240.8
10/27/2023 21:55	14.42	2.41	2.19	0.008	4.12	3.43	3.12	3.61	0.0070	490.7	50.01	241.2
10/27/2023 21:56	14.42	2.41	2.19	0.008	4.12	3.45	3.14	3.60	0.0070	490.2	50.00	241.0
10/27/2023 21:57	14.42	2.42	2.20	0.008	4.12	3.44	3.13	3.60	0.0070	490.1	50.06	240.9
10/27/2023 21:58	14.42	2.42	2.20	0.008	4.11	3.40	3.10	3.54	0.0069	489.1	49.90	240.5
10/27/2023 21:59	14.42	2.42	2.20	0.008	4.11	3.38	3.08	3.55	0.0069	489.7	50.18	240.8
10/27/2023 22:00	14.42	2.43	2.21	0.008	4.12	3.40	3.10	3.55	0.0069	490.0	49.98	240.9
10/27/2023 22:01	14.42	2.43	2.21	0.008	4.12	3.42	3.11	3.60	0.0070	489.2	49.87	240.5
10/27/2023 22:02	14.42	2.44	2.22	0.008	4.11	3.43	3.12	3.60	0.0070	489.1	49.93	240.5
10/27/2023 22:03	14.42	2.44	2.22	0.008	4.11	3.42	3.11	3.60	0.0070	489.6	49.98	240.7
10/27/2023 22:04	14.42	2.44	2.22	0.008	4.11	3.42	3.11	3.60	0.0070	489.2	49.86	240.5
10/27/2023 22:05	14.42	2.43	2.21	0.008	4.11	3.41	3.10	3.60	0.0070	489.5	49.91	240.7
10/27/2023 22:06	14.42	2.42	2.20	0.008	4.12	3.40	3.10	3.55	0.0069	490.5	50.23	241.1
10/27/2023 22:07	14.42	2.44	2.22	0.008	4.12	3.44	3.13	3.61	0.0070	490.9	50.02	241.3
10/27/2023 22:08	14.42	2.45	2.23	0.008	4.12	3.51	3.20	3.71	0.0072	490.3	50.07	241.0
10/27/2023 22:09	14.42	2.44	2.22	0.008	4.12	3.56	3.24	3.76	0.0073	489.9	49.92	240.8
10/27/2023 22:10	14.42	2.43	2.21	0.008	4.12	3.55	3.23	3.76	0.0073	490.0	50.03	240.9
10/27/2023 22:11	14.42	2.43	2.21	0.008	4.12	3.52	3.20	3.71	0.0072	490.5	50.03	241.1
10/27/2023 22:12	14.42	2.44	2.22	0.008	4.12	3.49	3.18	3.65	0.0071	490.0	50.05	240.9
10/27/2023 22:13	14.42	2.44	2.22	0.008	4.12	3.47	3.16	3.65	0.0071	490.0	50.03	240.9
10/27/2023 22:14	14.42	2.43	2.21	0.008	4.12	3.48	3.17	3.65	0.0071	489.9	50.04	240.8
10/27/2023 22:15	14.42	2.43	2.21	0.008	4.12	3.48	3.17	3.66	0.0071	490.6	50.08	241.2
10/27/2023 22:16	14.42	2.43	2.21	0.008	4.12	3.47	3.16	3.66	0.0071	490.8	50.07	241.3
10/27/2023 22:17	14.42	2.43	2.21	0.008	4.12	3.49	3.18	3.65	0.0071	490.0	49.98	240.9

CEMTEK KVB-Enertec NetDAHS^o

Period Start:	Average 4_O2 %	Average 4_NOXPPM ppm	Average 4_NOX CORR ppm	Average 4_NOX LBMM #/MBTU	Average 4_NOX LBHR #/hr	Average 4_COPPM ppm	Average 4_CO CORR ppm	Average 4_CO LBHR #/hr	Average 4_CO LBMM #/MBTU	Average 4_GasFlow _kecfh	Average 4_LOAD MW	Average 4_STACKFLOW _kecfm
10/27/2023 22:18	14.42	2.44	2.22	0.008	4.11	3.48	3.17	3.65	0.0071	489.6	49.90	240.7
10/27/2023 22:19	14.42	2.45	2.23	0.008	4.12	3.47	3.16	3.66	0.0071	490.7	50.02	241.2
10/27/2023 22:20	14.42	2.45	2.23	0.008	4.12	3.45	3.14	3.61	0.0070	491.0	50.06	241.4
10/27/2023 22:21	14.42	2.44	2.22	0.008	4.11	3.46	3.15	3.64	0.0071	488.8	49.90	240.3
10/27/2023 22:22	14.42	2.43	2.21	0.008	4.11	3.44	3.13	3.60	0.0070	489.6	49.90	240.8
10/27/2023 22:23	14.42	2.44	2.22	0.008	4.12	3.43	3.12	3.61	0.0070	490.6	49.99	241.2
10/27/2023 22:24	14.42	2.44	2.22	0.008	4.12	3.44	3.13	3.61	0.0070	490.5	50.10	241.1
10/27/2023 22:25	14.42	2.45	2.21	0.008	4.12	3.49	3.18	3.66	0.0071	490.4	50.00	241.1
10/27/2023 22:26	14.42	2.42	2.20	0.008	4.12	3.52	3.20	3.71	0.0072	491.0	50.10	241.4
10/27/2023 22:27	14.42	2.43	2.21	0.008	4.12	3.54	3.22	3.71	0.0072	490.3	49.97	241.0
10/27/2023 22:28	14.42	2.43	2.21	0.008	4.12	3.52	3.20	3.70	0.0072	489.9	49.92	240.8
10/27/2023 22:29	14.42	2.41	2.19	0.008	4.12	3.47	3.16	3.66	0.0071	490.5	50.02	241.1
10/27/2023 22:30	14.42	2.41	2.19	0.008	4.12	3.44	3.13	3.60	0.0070	490.1	50.03	240.9
Daily Average*	14.42	2.43	2.21	0.008	4.12	3.43	3.12	3.60	0.0070	490.0	50.02	240.9
Maximum*	14.42	2.45	2.23	0.008	4.12	3.56	3.24	3.76	0.0073	491.0	50.38	241.4
10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023
22:30	22:30	22:24	22:24	22:30	22:30	22:09	22:09	22:10	22:10	22:26	21:42	22:26
Minimum*	14.42	2.39	2.18	0.008	4.11	3.35	3.05	3.50	0.0068	488.8	49.86	240.3
10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023	10/27/2023
22:30	22:30	21:45	21:45	22:30	22:22	21:42	21:42	21:42	21:42	22:21	22:04	22:21

* Does not include Invalid Averaging Periods ("N/A")

APPENDIX C CALCULATIONS

Appendix C.1

General Emissions Calculations

GENERAL EMISSIONS CALCULATIONS

I. Stack Gas Velocity

A. Stack gas molecular weight, lb/lb-mole

$$MW_{dry} = 0.44 * \% CO_2 + 0.32 * \% O_2 + 0.28 * \% N_2$$

$$MW_{wet} = MW_{dry} * (1 - B_{wo}) + 18 * B_{wo}$$

B. Absolute stack pressure, iwg

$$P_s = P_{bar} + \frac{P_{sg}}{13.6}$$

C. Stack gas velocity, ft/sec

$$V_s = 2.9 * C_p * \sqrt{\Delta P} * \sqrt{T_s} * \sqrt{\frac{29.92 * 28.95}{P_s * MW_{wet}}}$$

II. Moisture

A. Sample gas volume, dscf

$$V_{mstd} = 0.03342 * V_m * \left(P_{bar} + \frac{\Delta H}{13.6} \right) * \frac{T_{ref}}{T_m} * Y_d$$

B. Water vapor volume, scf

$$V_{wstd} = 0.0472 * V_{ic} * \frac{T_{ref}}{528^{\circ}R}$$

C. Moisture content, dimensionless

$$B_{wo} = \frac{V_{wstd}}{(V_{mstd} + V_{wstd})}$$

III. Stack Gas Volumetric Flow Rate

A. Actual stack gas volumetric flow rate, wacfm

$$Q = V_s * A_s * 60$$

B. Standard stack gas flow rate, dscfm

$$Q_{sd} = Q * (1 - B_{wo}) * \frac{T_{ref}}{T_s} * \frac{P_s}{29.92}$$

IV. Gaseous Mass Emission Rates, lb/hr

$$M = \frac{\text{ppm} * MW_i * Q_{sd} * 60}{SV * 10^6}$$

V. Emission Rates, lb/MMBtu

$$\frac{\text{lb}}{\text{MMBtu}} = \frac{\text{ppm} * MW_i * F}{SV * 10^6} * \frac{20.9}{20.9 - \% O_2}$$

VI. Percent Isokinetic

$$I = \frac{17.32 * T_s (V_{mstd})}{(1 - B_{wo}) * V_s * P_s * Dn^2} * \frac{520^\circ R}{T_{ref}}$$

VII. Particulate Emissions

(a) Grain loading, gr/dscf
 $C = 0.01543 (M_n/V_{m \text{ std}})$

(b) Grain loading at 12% CO₂, gr/dscf
 $C_{12\% \text{ CO}_2} = C (12\% \text{ CO}_2)$

(c) Mass emissions, lb/hr
 $M = C * Q_{sd} * (60 \text{ min/hr}) / (7000 \text{ gr/lb})$

(d) Particulate emission factor

$$\text{lb}/10^6 \text{ Btu} = Cx \frac{1 \text{ lb}}{7000 \text{ gr}} * F * \frac{20.9}{20.9 - \% O_2}$$

Nomenclature:

A_s	=	stack area, ft ²
B_{wo}	=	flue gas moisture content, dimensionless
$C_{12\%CO_2}$	=	particulate grain loading, gr/dscf corrected to 12% CO ₂
C	=	particulate grain loading, gr/dscf
C_p	=	pitot calibration factor, dimensionless
D_n	=	nozzle diameter, inches
F	=	fuel F-Factor, dscf/MMBtu @ 0% O ₂
H	=	orifice differential pressure, iwg
I	=	% isokinetics
M_n	=	mass of collected particulate, mg
M_i	=	mass emission rate of specie i, lb/hr
MW	=	molecular weight of flue gas, lb/lb-mole
M_{wi}	=	molecular weight of specie i:
		SO ₂ : 64
		NO _x : 46
		CO: 28
		HC: 16
t	=	sample time, minutes
ΔP	=	average velocity head, iwg = $(\sqrt{\Delta P})^2$
P_{bar}	=	barometric pressure, inches Hg
P_s	=	stack absolute pressure, inches Hg
P_{sg}	=	stack static pressure, iwbg
Q	=	wet stack flow rate at actual conditions, wacfm
Q_{sd}	=	dry standard stack flow rate, dscfm
SV	=	specific molar volume of an ideal gas at standard conditions, ft ³ /lb-mole
T_m	=	meter temperature, °R
T_{ref}	=	reference temperature, °R
T_s	=	stack temperature, °R
V_s	=	stack gas velocity, ft/sec
V_{lc}	=	volume of liquid collected in impingers, ml
V_m	=	uncorrected dry meter volume, dcf
V_{mstd}	=	dry meter volume at standard conditions, dscf
V_{wstd}	=	volume of water vapor at standard conditions, scf
Y_d	=	meter calibration coefficient

Appendix C.2

Spreadsheet Summaries

SCAQMD METHOD 207.1 DATA WORKSHEET AND SUMMARY

Facility.....	Canyon		Parameter.....	NH₃	
Unit.....	U4		Fuel.....	Natural gas	
Sample Location.....	Stack		Data By.....	RD	
Test Number.....	1-NH3-U4	2-NH3-U4	Average	Maximum	Limit
Reference Temperature (°F).....	60	60			
Test Date.....	10/27/2023	10/27/2023			
Test Method.....	SCAQMD 207.1	SCAQMD 207.1			
Sample Train.....	17-WCS	17-WCS			
Meter Calibration Factor.....	0.993	0.993			
Stack Area (ft ²).....	106.90	106.90			
Sample Time (Minutes).....	60	60			
Barometric Pressure ("Hg).....	29.66	29.66			
Start/Stop Time	1956/2102	2124/2230			
Meter Volume (acf).....	33.905	33.890			
Meter Temperature (°F).....	65.8	69.0			
Meter Pressure (iwg).....	1.0	1.0			
Liquid Volume (ml).....	99.3	96.7			
Stack O ₂ (%).....	14.42	14.42	14.42	(from facility CEMS)	
Unit Load (MW).....	50	50	50.0		
Standard Sample Volume (SCF).....	33.086	32.872			
Moisture Fraction.....	0.122	0.120			
Stack Flow Rate (dscfm, 68 °F).....	240,800	240,900	240,850	(from facility CEMS)	
Stack Flow Rate (@ Tref).....	237,152	237,250	237,201		
Gas Constant (ft-lbf/lb-mole-R).....	1545.33	1545.33			
Molecular Weight NH ₃ (lb/lb-mole)....	17.03	17.03			
Specific Molar Volume (ft ³ /lb-mole)....	379.5	379.5			
F-Factor (dscf/MMBtu).....	8,710	8,710			
HHV(Btu/SCF).....	1,050	1,050			
Mass Conversion (lb/ug).....	2.2046E-09	2.2046E-09			
O ₂ Correction Factor (%).....	15	15			
Mass NH ₃ (ug).....	712.697	637.354			
Mass NH ₃ (lb).....	1.57E-06	1.41E-06			
NH ₃ (ppmv, flue gas).....	1.06	0.95	1.01	1.06	
NH ₃ (ppmv @ O ₂ Correction Factor)...	0.96	0.87	0.92	0.96	5
NH ₃ (lb/hr).....	0.67	0.61	0.64	0.67	
NH ₃ (lb/MMBtu).....	0.001	0.001	0.001	0.001	
NH ₃ (lb/MMSCF).....	1.38	1.24	1.31	1.38	

Note: SCAQMD Method 207.1 requires the higher of the duplicate runs be reported as the test result.

1-NH3-U4

Point	Meter Volume	Delta H	Tm In	Tm Out
3	536.800	1.0	65	65
2			65	65
1			66	65
3			66	65
2			67	65
1			67	65
3			66	65
2			67	65
1			67	65
3			67	65
2			68	65
1			68	65
Stop				
Result	33.905	1.0	65.8	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	929.7	737.8	191.9
2	754.8	753.8	1.0
3	655.0	654.9	0.1
4	979.6	973.3	6.3
Line Rinse	0.0	100.0	-100.0
			99.3

2-NH3-U4

Point	Meter Volume	Delta H	Tm In	Tm Out
3	573.100	1.0	66	66
2			67	66
1			69	66
3			70	67
2			71	67
1			72	67
3			70	67
2			72	68
1			73	68
3			72	68
2			73	68
1			74	69
Stop				
Result	33.890	1.0	69.0	

Impinger Weights

#	Post-Test	Pre-Test	Difference
1	930.4	745.8	184.6
2	753.4	753.2	0.2
3	670.2	669.0	1.2
4	949.7	939.0	10.7
Line Rinse	0.0	100.0	-100.0
			96.7

SCAQMD 207.1 EXAMPLE CALCULATION

TEST NUMBER: 1-NH3-U4

Identifier	Description	Units	Equation	Value
A	Reference Temperature	F	--	60
B	Reference Temperature	R	$A + 460$	520
C	Meter Calibration Factor (Yd)	--	--	0.993
D	Barometric Pressure	" Hg	--	29.66
E	Meter Volume	acf	--	33.905
F	Meter Temperature	F	--	65.8
G	Meter Temperature	R	$F + 460$	525.8
H	Delta H	" H ₂ O	--	1.0
I	Meter Volume (standard)	dscf	$0.03342 * E * (D + H/13.6) * B/G * C$	33.086
J	Liquid Collected	grams	--	99.3
K	Water vapor volume	scf	$0.0472 * J * B/528$	4.616
L	Moisture Content	--	$K/(K + I)$	0.122
M	Gas Constant	ft-lbf/lb-mole-R	--	1545.33
N	Specific Molar Volume	SCF/lb-mole	$385.3 * B / 528$	379.5
O	F-Factor	dscf/MMBtu	--	8,710
P	HHV	Btu/SCF	--	1,050
Q	Mass Conversion Factor	lb/ug	--	2.2046E-09
R	O ₂ Correction Factor	--	--	15
S	Stack Flow Rate @ 68 F	dscfm	--	240,800
T	Stack Flow Rate @ Tref	dscfm	$S * B/528$	237,152
U	Mass NH ₃	ug	--	713
V	Mass NH ₃	lb	$U * Q$	1.57E-06
W	MW of NH ₃	lb/lb-mole	--	17.03
X	NH ₃	ppm	$(V * N * 10^6)/(I * W)$	1.1
Y	Flue Gas O ₂	%	--	14.42
Z	NH ₃	ppmc	$X * (20.9 - R)/(20.9 - Y)$	1.0
AA	NH ₃	lb/hr	$X * T * W * 60/(N * 10^6)$	0.7
AB	NH ₃	lb/MMBtu	$(X * W * O)/(385.3 * 10^6 * 20.9/(20.9 - Y))$	0.001
AC	NH ₃	lb/MMSCF	$AB * P$	1.4

Note:

(1) Some values may be slightly different from those shown on the run sheets due to round off errors. This page is intended to show the calculation methodology only.

APPENDIX D QUALITY ASSURANCE

Appendix D.1

Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY

As part of Montrose Air Quality Services, LLC (MAQS) ASTM D7036-04 certification, MAQS is committed to providing emission related data which is complete, precise, accurate, representative, and comparable. MAQS quality assurance program and procedures are designed to ensure that the data meet or exceed the requirements of each test method for each of these items. The quality assurance program consists of the following items:

- Assignment of an Internal QA Officer
- Development and use of an internal QA Manual
- Personnel training
- Equipment maintenance and calibration
- Knowledge of current test methods
- Chain-of-custody
- QA reviews of test programs

Assignment of an Internal QA Officer: MAQS has assigned an internal QA Officer who is responsible for administering all aspects of the QA program.

Internal Quality Assurance Manual: MAQS has prepared a QA Manual according to the requirements of ASTM D7036-04 and guidelines issued by EPA. The manual documents and formalizes all of MAQS QA efforts. The manual is revised upon periodic review and as MAQS adds capabilities. The QA manual provides details on the items provided in this summary.

Personnel Testing and Training: Personnel testing and training is essential to the production of high quality test results. MAQS training programs include:

- A requirement for all technical personnel to read and understand the test methods performed
- A requirement for all technical personnel to read and understand the MAQS QA manual
- In-house testing and training
- Quality Assurance meetings
- Third party testing where available
- Maintenance of training records.

Equipment Maintenance and Calibration: All laboratory and field equipment used as a part of MAQS emission measurement programs is maintained according to manufacturer's recommendations. A summary of the major equipment maintenance schedules is summarized in Table 1. In addition to routine maintenance, calibrations are performed on all sampling equipment according to the procedures outlined in the applicable test method. The calibration intervals and techniques for major equipment components is summarized in Table 2. The calibration technique may vary to meet regulatory agency requirements.

Knowledge of Current Test Methods: MAQS maintains current copies of EPA, ARB, and SCAQMD Source Test Manuals and Rules and Regulations.

Chain-of-Custody: MAQS maintains chain-of-custody documentation on all data sheets and samples. Samples are stored in a locked area accessible only to MAQS source test personnel. Data sheets are kept in the custody of the originator, program manager, or in locked storage until return to MAQS office. Electronic field data is duplicated for backup on secure storage media. The original data sheets are used for report preparation and any additions are initialed and dated.

QA Reviews: Periodic field, laboratory, and report reviews are performed by the in-house QA coordinator. Periodically, test plans are reviewed to ensure proper test methods are selected and reports are reviewed to ensure that the methods were followed and any deviations from the methods are justified and documented.

ASTM D7036-04 Required Information

Uncertainty Statement

Montrose is qualified to conduct this test program and has established a quality management system that led to accreditation with ASTM Standard D7036-04 (Standard Practice for Competence of Air Emission Testing Bodies). Montrose participates in annual functional assessments for conformance with D7036-04 which are conducted by the American Association for Laboratory Accreditation (A2LA). All testing performed by Montrose is supervised on site by at least one Qualified Individual (QI) as defined in D7036-04 Section 8.3.2. Data quality objectives for estimating measurement uncertainty within the documented limits in the test methods are met by using approved test protocols for each project as defined in D7036-04 Sections 7.2.1 and 12.10. Additional quality assurance information is presented in the report appendices.

Performance Data

Performance data are available for review.

Qualified Personnel

A qualified individual (QI), defined by performance on a third party or internal test on the test methods, is present on each test event.

Plant Entry and Safety Requirements

Plant Entry

All test personnel are required to check in with the guard at the entrance gate or other designated area. Specific details are provided by the facility and project manager.

Safety Requirements

All personnel shall have the following personal protective equipment (PPE) and wear them where designated:

- Hard Hat
- Safety Glasses
- Steel Toe Boots
- Hearing Protection
- Gloves
- High Temperature Gloves (if required)
- Flame Resistant Clothing (if required)

The following safety measures are followed:

- Good housekeeping
- SDS for all on-site hazardous materials
- Confine selves to necessary areas (stack platform, mobile laboratory, CEMS data acquisition system, control room, administrative areas)
- Knowledge of evacuation procedures

Each facility will provide plant specific safety training.

TABLE 1
EQUIPMENT MAINTENANCE SCHEDULE

Equipment	Acceptance Limits	Frequency of Service	Methods of Service
Pumps	1. Absence of leaks 2. Ability to draw manufacturers required vacuum and flow	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Replace parts 4. Leak check
Flow Meters	1. Free mechanical movement	As recommended by manufacturer	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero span gas	As recommended by manufacturer	As recommended by manufacturer
Integrated Sampling Tanks	1. Absence of leaks	Depends on nature of use	1. Steam clean 2. Leak check
Mobile Van Sampling System	1. Absence of leaks	Depends on nature of use	1. Change filters 2. Change gas dryer 3. Leak check 4. Check for system contamination
Sampling lines	1. Sample degradation less than 2%	After each test series	1. Blow dry, inert gas through line until dry

TABLE 2
MAJOR SAMPLING EQUIPMENT CALIBRATION REQUIREMENTS

Sampling Equipment	Calibration Frequency	Calibration Procedure	Acceptable Calibration Criteria
Continuous Analyzers	Before and After Each Test Day	3-point calibration error test	< 2% of analyzer range
Continuous Analyzers	Before and After Each Test Run	2-point sample system bias check	< 5% of analyzer range
Continuous Analyzers	After Each Test Run	2-point analyzer drift determination	< 3% of analyzer range
CEMS System	Beginning of Each Day	leak check	< 1 in. Hg decrease in 5 min. at > 20 in. Hg
Continuous Analyzers	Semi-Annually	3-point linearity	< 1% of analyzer range
NO _x Analyzer	Daily	NO ₂ -> NO converter efficiency	> 90%
Differential Pressure Gauges (except for manometers)	Semi-Annually	Correction factor based on 5-point comparison to standard	± 5%
Differential Pressure Gauges (except for manometers)	Bi-Monthly	3-point comparison to standard, no correction factor	± 5%
Barometer	Semi-Annually	Adjusted to mercury-in-glass or National Weather Service Station	± 0.1 inches Hg
Dry Gas Meter	Semi-Annually	Calibration check at 4 flow rates using a NIST traceable standard	± 2%
Dry Gas Meter	Bi-Monthly	Calibration check at 2 flow rates using a NIST traceable standard	± 2% of semi-annual factor
Dry Gas Meter Orifice	Annually	4-point calibration for ΔH@	--
Temperature Sensors	Semi-Annually	3-point calibration vs. NIST traceable standard	± 1.5%

Note: Calibration requirements that meet applicable regulatory agency requirements are used.

Appendix D.2

SCAQMD and STAC Certifications



**South Coast
Air Quality Management District**

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

September 14, 2023

Mr. John Peterson
Montrose Air Quality Services, LLC
1631 E. Saint Andrew Place
Santa Ana, CA 92705

Subject: LAP Approval Notice
Reference # 96LA1220

Dear Mr. Peterson:

We have completed our review of Montrose Air Quality Services' revised renewal application, which was submitted as notification of Montrose's recent acquisition of AirKinetics, Inc. under the South Coast AQMD Laboratory Approval Program (LAP). We are pleased to inform you that your firm is approved for the period beginning September 30, 2023, and ending September 30, 2024, for the following methods, subject to the requirements in the LAP Conditions For Approval Agreement and conditions listed in the attachment to this letter:

South Coast AQMD Methods 1-4
South Coast AQMD Methods 10.1 and 100.1
South Coast AQMD Methods 5.1, 5.2, 5.3, 6.1 (Sampling and Analysis)
South Coast AQMD Methods 25.1 and 25.3 (Sampling)
Rule 1121/ 1146.2 Protocol
Rule 1420/1420.1/1420.2 – (Lead) Source and Ambient Sampling
USEPA CTM-030 and ASTM D6522-00

Your LAP approval to perform nitrogen oxide emissions compliance testing for Rule 1121/ 1146.2
Protocols includes satellite facilities located at:

McKenna Boiler
1510 North Spring Street
Los Angeles, CA 90012

Noritz America Corp.
11160 Grace Avenue
Fountain Valley, CA 92708

Ajax Boiler, Inc.
2701 S. Harbor Blvd.
Santa Ana, CA 92704

VA Laundry Bldg., Greater LA Healthcare Sys.
508 Constitution Avenue
Los Angeles, CA 90049

So Cal Gas – Engr Analysis Ctr, Bldg H
8101 Rosemead Blvd
Pico Rivera, CA 90660

Thank you for participating in the LAP. Your cooperation helps us to achieve the goal of the LAP: to maintain high standards of quality in the sampling and analysis of source emissions. You may direct any questions or information to LAP Coordinator, Colin Eckerle. He may be reached by telephone at (909) 396-2476, or via e-mail at ceckerle@aqmd.gov.

Sincerely,

D. Sarkar

Dipankar Sarkar
Program Supervisor
Source Test Engineering

DS:CE
Attachment

230914 LapRenewal.doc



American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTROSE AIR QUALITY SERVICES

In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 4th day of February 2022.



Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2024

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.

Appendix D.3

Individual QI Certificate

CERTIFICATE OF COMPLETION	
Rik Dupont	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
SCAQMD Methods 1.1 - 4.1	
Certificate Number: <u>002-2021-41</u>	
 Tate Strickler, VP – Quality Systems	DATE OF ISSUE: <u>12/02/2021</u>
	DATE OF EXPIRATION: <u>12/01/2026</u>
 MONTROSE ENVIRONMENTAL	

CERTIFICATE OF COMPLETION	
Rik Dupont	
This document certifies that this individual has passed a comprehensive examination and is now a Qualified Individual (QI) as defined in Section 8.3 of ASTM D7036-04 for the following method(s):	
SCAQMD Method 207.1	
Certificate Number: <u>002-2021-26</u>	
	DATE OF ISSUE: <u>8/19/21</u>
Tate Strickler, VP – Quality Systems	DATE OF EXPIRATION: <u>8/19/26</u>
	

Appendix D.4

Statement of No Conflict of Interest

STATEMENT OF NO CONFLICT OF INTEREST AS AN INDEPENDENT TESTING LABORATORY

(To be completed by authorized source testing firm representative and included in source test report)

The following facility and equipment were tested by my source testing firm and are the subjects of this statement:

Facility ID:	153992
Date(s) Tested:	October 27, 2023
Facility Name:	Canyon Power Plant
Equipment Address:	3071 E. Mira Loma Avenue Anaheim, California 92806
Equipment Tested:	Unit 4
Device ID, A/N, P/N:	D19

I state, as its legally authorized representative, that the source testing firm of:

Source Test Firm: Montrose Air Quality Services, LLC

Business Address: 1631 E. St. Andrew Pl.
Santa Ana, California 92705

is an "Independent Testing Laboratory" as defined in **District Rule 304(k)**:

For the purposes of this Rule, when an independent testing laboratory is used for the purposes of establishing compliance with District rules or to obtain a District permit to operate, it must meet all of the following criteria:

- (1) *The testing laboratory shall have no financial interest in the company or facility being tested, or in the parent company, or any subsidiary thereof -*
- (2) *The company or facility being tested, or parent company or any subsidiary thereof, shall have no financial interest in the testing laboratory;*
- (3) *Any company or facility responsible for the emission of significant quantities of pollutants to the atmosphere, or parent company or any subsidiary thereof shall have no financial interest in the testing laboratory; and*
- (4) *The testing laboratory shall not be in partnership with, own or be owned by, in part or in full, the contractor who has provided or installed equipment (basic or control), or monitoring systems, or is providing maintenance for installed equipment or monitoring systems, for the company being tested.*

Furthermore, I state that any contracts or agreements entered into by my source testing firm and the facility referenced above, or its designated contractor(s), either verbal or written, are not contingent upon the outcome of the source testing, or the source testing information provided to the SCAQMD.

Signature: _____

Date: 12/5/2023

Rik Dupont

Field Project Manager

(714) 279-6777

12/5/2023

(Name)

(Title)

(Phone)

(Date)

APPENDIX E

APPLICABLE PERMIT SECTIONS



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: POWER GENERATION					
GAS TURBINE, NO. 4, NATURAL GAS, GENERAL ELECTRIC, MODEL LM6000PC SPRINT, SIMPLE CYCLE, 479 MMBTU/HR AT 46 DEG F, WITH INLET CHILLING, WITH WATER INJECTION WITH A/N: 555831	D19	C21	NOX: MAJOR SOURCE**	CO: 4 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]; CO: 2000 PPMV NATURAL GAS (5) [RULE 407, 4-2-1982]; NOX: 2.5 PPMV NATURAL GAS (4) [RULE 2005, 12-4-2015]; NOX: 25 PPMV NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; PM10: 0.01 GRAINS/SCF NATURAL GAS (5A) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; PM10: 0.1 GRAINS/SCF NATURAL GAS (5) [RULE 409, 8-7-1981]; PM10: 1.67 LBS/HR NATURAL GAS (5C) [RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002]; PM10: 11 LBS/HR NATURAL GAS (5B) [RULE 475, 10-8-1976; RULE 475, 8-7-1978]; SO2: (9) [40CFR 72 - Acid Rain Provisions, 11-24-1997]; SO2: 0.06 LBS/MMBTU NATURAL GAS (8) [40CFR 60 Subpart KKKK, 3-20-2009]; VOC: 2 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A63.1, A99.1, A99.2, A99.3, A195.1, A195.2, A195.3, A327.1, B61.1, D12.1, D29.2, D29.3, D82.1, D82.2, E193.1, H23.1, I298.4, K40.1
GENERATOR, 50.95 MW					

- * (1) (1A) (1B) Denotes RECLAIM emission factor
(3) Denotes RECLAIM concentration limit
(5) (5A) (5B) Denotes command and control emission limit
(7) Denotes NSR applicability limit
(9) See App B for Emission Limits
- (2) (2A) (2B) Denotes RECLAIM emission rate
(4) Denotes BACT emission limit
(6) Denotes air toxic control rule limit
(8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(10) See section J for NESHAP/MACT requirements
- ** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions* And Requirements	Conditions
Process 1: POWER GENERATION					
CO OXIDATION CATALYST, NO. 4, BASF, 110 CUBIC FEET OF TOTAL CATALYST VOLUME A/N: 476663	C21	D19 C22			
SELECTIVE CATALYTIC REDUCTION, NO. 4, CORMETECH CMHT-21, 1012 CU.FT.; WIDTH: 2 FT 6 IN; HEIGHT: 25 FT 9 IN; LENGTH: 18 FT WITH A/N: 476663 AMMONIA INJECTION	C22	C21 S24		NH3: 5 PPMV NATURAL GAS (4) [RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]	A195.7, D12.2, D12.3, D12.4, E179.1, E179.2, E193.1
STACK, TURBINE NO. 4, HEIGHT: 86 FT ; DIAMETER: 11 FT 8 IN A/N: 555831	S24	C22			
System 2: INTERNAL COMBUSTION ENGINE					

- * (1) (1A) (1B) Denotes RECLAIM emission factor (2) (2A) (2B) Denotes RECLAIM emission rate
(3) Denotes RECLAIM concentration limit (4) Denotes BACT emission limit
(5) (5A) (5B) Denotes command and control emission limit (6) Denotes air toxic control rule limit
(7) Denotes NSR applicability limit (8) (8A) (8B) Denotes 40 CFR limit (e.g. NSPS, NESHAPS, etc.)
(9) See App B for Emission Limits (10) See section J for NESHAP/MACT requirements
- ** Refer to section F and G of this permit to determine the monitoring, recordkeeping and reporting requirements for this device.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

[Devices subject to this condition : C4, C10, C16, C22]

D12.5 The operator shall install and maintain a(n) non-resettable elapsed time meter to accurately indicate the elapsed operating time of the engine.

[RULE 1110.2, 2-1-2008; RULE 1110.2, 11-1-2019; RULE 1303(b)(2)-Offset, 5-10-1996; RULE 1303(b)(2)-Offset, 12-6-2002; RULE 1401, 9-1-2017; RULE 1470, 5-4-2012; RULE 2012, 5-6-2005; 40CFR 60 Subpart III, 7-7-2016]

[Devices subject to this condition : D25]

D29.2 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NH3 emissions	District method 207.1	1 hour	Outlet of the SCR serving this equipment



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION D: FACILITY DESCRIPTION AND EQUIPMENT SPECIFIC CONDITIONS

The operator shall comply with the terms and conditions set forth below:

The test(s) shall be conducted quarterly during the first twelve months of operation of the catalytic control device and annually thereafter when four consecutive quarterly source tests demonstrate compliance with the ammonia emission limit. If an annual test is failed, four consecutive quarterly source tests must demonstrate compliance with the ammonia emissions limits prior to resuming annual source tests.

The South Coast AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

If the turbine is not in operation during one calendar year, then no testing is required during that calendar year.

The NO_x concentration, as determined by the CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable, a test shall be conducted to determine the NO_x emissions using South Coast AQMD Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted and the results submitted to the South Coast AQMD within 60 days after the test date.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit.

[RULE 1135, 11-2-2018; RULE 1303(a)(1)-BACT, 5-10-1996; RULE 1303(a)(1)-BACT, 12-6-2002]

[Devices subject to this condition : D1, D7, D13, D19]

D29.3 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Sampling Time	Test Location
SOX emissions	AQMD Laboratory Method 307-91	District-approved averaging time	Fuel sample

THIS IS THE LAST PAGE OF THIS DOCUMENT

If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Rik Dupont
Title: Field Project Manager
Region: West
Email: RDupont@montrose-env.com
Phone: (714) 279-6777

Name: Mr. Matt McCune
Title: Regional Vice President
Region: West
Email: MMccune@montrose-env.com
Phone: (714) 279-6777

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 17

AQ-14 & AQ-24
RTC INVENTORY



South Coast Air Quality Management District

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

December 29, 2022

BERTHA A. HERNANDEZ
ENVIRONMENTAL SERVICES SPECIALIST
CANYON POWER PLANT (ID: 153992)
3071 E MIRALOMA AVE
ANAHEIM, CA 92806

Dear BERTHA A. HERNANDEZ:

Enclosed is your re-issued Facility Permit for Compliance Year 2023 (January 1, 2023 – December 31, 2023). This reissuance is an Administrative Permit Revision to your RECLAIM/Title V Facility Permit and includes the Title Page, Table of Contents, and Section B (RECLAIM Annual Emission Allocations) in accordance with Rule 2002(b)(4).

Please review the enclosed Section B carefully, as it will be part of your official Facility Permit. The changes are stated below. Please note that the South Coast Air Quality Management District (South Coast AQMD) rules allow you to appeal the terms and conditions of any section(s) of the enclosed Facility Permit by petitioning the Hearing Board within thirty days of receipt of the permit.

We recently sent you an invoice for the annual operating renewal fee for your facility permit. This must be paid on or before the due date indicated on the invoice or your facility permit will expire due to non-payment of fees.

A. Facility Permit

The enclosed Facility Permit contains changes described as follows:

1. The revision numbers and dates of the Title Page and the Table of Contents have been updated to reflect the reissuance of the relevant permit sections.
2. Section B – RECLAIM Annual Emission Allocation

Section B has been updated to reflect all approved RECLAIM Trading Credit (RTC) transactions approved as of December 16, 2022. Therefore, if you have submitted any RTC transactions in December, please review your records carefully to ensure that you take into account any RTC transactions that have not been approved as of that date and make necessary changes to your facility's RTC balances when reconciling your facility's emissions.

In addition, the South Coast AQMD has updated Section B of the Facility Permit to list your facility's allocation balances for the next fifteen years pursuant to Rule

2002(b)(4). Also, your facility's Starting Allocation and Non-Tradable RTCs in Compliance Year 1994 are listed within this section. This establishes the level used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) – Trading Zone Restrictions.

B. Appeals

As previously mentioned, if you determine that certain changes or clarifications need to be made to the enclosed permit, you may appeal the terms and conditions by petitioning the Hearing Board within thirty days of receipt. If you determine there are administrative errors in these permit sections, please notify South Coast AQMD staff within thirty days of receipt of your permit sections. Your facility is still bound by the requirements of your entire Facility Permit while your appeal is under consideration by South Coast AQMD staff and/or Hearing Board.

Any comments or questions regarding your RECLAIM/Title V Facility Permit may be directed to Li Chen, Supervising Air Quality Engineer at (909) 396-2426 or lchen@aqmd.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Shannon Lee', is positioned above the printed name.

Shannon Lee, P.E.
Senior Air Quality Engineering Manager
Mechanical/Chemical/Energy/Ports/Terminals

Enclosure

cc: Gerardo Rios, U.S. EPA (via cdx.epa.gov)
Rafael Reynosa, Sr. Enforcement Manager – Compliance



South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Title Page
Facility ID: 153992
Revision #: 19
Date: January 01, 2023

FACILITY PERMIT TO OPERATE

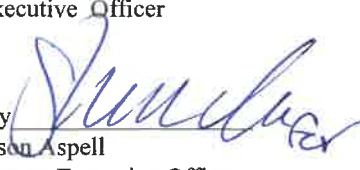
**CANYON POWER PLANT
3071 E MIRALOMA AVE
ANAHEIM, CA 92806**

NOTICE

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

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

Wayne Natri
Executive Officer

By 
Jason Aspell
Deputy Executive Officer
Engineering and Permitting



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

TABLE OF CONTENTS

Section	Description	Revision #	Date Issued
A	Facility Information	3	08/19/2021
B	RECLAIM Annual Emission Allocation	16	01/01/2023
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	4	08/19/2021
E	Administrative Conditions	2	08/19/2021
F	RECLAIM Monitoring and Source Testing Requirements	2	08/19/2021
G	Recordkeeping and Reporting Requirements for RECLAIM Sources	2	08/19/2021
H	Permit To Construct and Temporary Permit to Operate	4	08/19/2021
I	Compliance Plans & Schedules	2	08/19/2021
J	Air Toxics	2	08/19/2021
K	Title V Administration	2	08/19/2021
Appendix			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	2	08/19/2021
B	Rule Emission Limits	2	08/19/2021



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NO_x RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NO_x emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin End (month/year)	Zone	NO _x RTC Initially Allocated	NO _x RTC ¹ Holding as of 01/01/2023 (pounds)	Non-Tradable ² Non-Usable RTCs (pounds)
7/2020 6/2021	Coastal	0	6589	2548
1/2021 12/2021	Coastal	0	13521	3295
7/2021 6/2022	Coastal	0	11260	2585
1/2022 12/2022	Coastal	0	37141	6543
7/2022 6/2023	Coastal	0	21527	5133
1/2023 12/2023	Coastal	0	37141	0
7/2023 6/2024	Coastal	0	21527	0
1/2024 12/2024	Coastal	0	37141	0
7/2024 6/2025	Coastal	0	21527	0
1/2025 12/2025	Coastal	0	37141	0
7/2025 6/2026	Coastal	0	21527	0
1/2026 12/2026	Coastal	0	37141	0
7/2026 6/2027	Coastal	0	21527	0
1/2027 12/2027	Coastal	0	37141	0
7/2027 6/2028	Coastal	0	21527	0
1/2028 12/2028	Coastal	0	37141	0
7/2028 6/2029	Coastal	0	21527	0

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.
2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin End (month/year)	Zone	NOx RTC Initially Allocated	NOx RTC ¹ Holding as of 01/01/2023 (pounds)	Non-Tradable ² Non-Usable RTCs (pounds)
1/2029 12/2029	Coastal	0	37141	0
7/2029 6/2030	Coastal	0	21527	0
1/2030 12/2030	Coastal	0	37141	0
7/2030 6/2031	Coastal	0	21527	0
1/2031 12/2031	Coastal	0	37141	0
7/2031 6/2032	Coastal	0	21527	0
1/2032 12/2032	Coastal	0	37141	0
7/2032 6/2033	Coastal	0	21527	0
1/2033 12/2033	Coastal	0	37141	0
7/2033 6/2034	Coastal	0	21527	0
1/2034 12/2034	Coastal	0	37141	0
7/2034 6/2035	Coastal	0	21527	0
1/2035 12/2035	Coastal	0	37141	0
7/2035 6/2036	Coastal	0	21527	0
1/2036 12/2036	Coastal	0	37141	0
7/2036 6/2037	Coastal	0	21527	0
1/2037 12/2037	Coastal	0	37141	0

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.
2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of NOx RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. Total NOx emission shall not exceed such annual allocations unless the operator obtains RTCs corresponding to the facility's increased emissions in compliance with Rules 2005 and 2007.

The level of Starting Allocation plus Non-Tradable Credits used to determine compliance with Rule 2005(c)(4) and applicability of Rule 2005(e) - Trading Zone Restrictions is listed on the last page of this Section.

The following table lists the annual allocations that were issued to this facility and the amounts of RTCs held by this facility on the day of printing this Section.

RECLAIM POLLUTANT ANNUAL ALLOCATION (POUNDS)

Year Begin End (month/year)	Zone	NOx RTC Initially Allocated	NOx RTC ¹ Holding as of 01/01/2023 (pounds)	Non-Tradable ² Non-Usable RTCs (pounds)
7/2037 6/2038	Coastal	0	21527	0
1/2038 12/2038	Coastal	0	37141	0

Footnotes:

1. This number may change due to pending trades, emissions reported under Quarterly Certification of Emissions Report (QCER) and Annual Permit Emission Program (APEP) Report required pursuant to Rule 2004, or deductions made pursuant to Rule 2010(b). The most recent total RTC information can be obtained from the District's RTC Listing.
2. The use of such credits is subject to restrictions set forth in paragraph (f)(1) of Rule 2002.



FACILITY PERMIT TO OPERATE CANYON POWER PLANT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

The annual allocation of RECLAIM Trading Credits (RTCs) for this facility is calculated pursuant to Rule 2002. If the facility submits a permit application to increase in an annual allocation to a level greater than the facility's starting Allocation plus Non-Tradable credits as listed below, the application will be evaluated for compliance with Rule 2005 (c)(4). Rule 2005 (e) - Trading Zone Restrictions applies if an annual allocation is increased to a level greater than the facility's Starting Allocation plus Non-Tradable Credits:

Year			RTC	Non-Tradable
Begin	End	Zone	Starting Allocation	Credits(NTC)
(month/year)			(pounds)	(pounds)

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 18

AQ-17
NH3 FLOW METER ACCURACY REPORTS

HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 HRDULIN@AOL.COM

CERT. NO. 4-127-23 CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO: _____ MFG. SERIAL NO: 14139410
MANUFACTURER: MICRO MOTION MODEL: CMF025M313NQBUEZZZ
TUBE NO: N/A FLOAT NO: N/A
DATA IS: As Found/As Left ; In Tolerance See Remarks ☒
Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14139410, CALIBRATED IN LBS/HR H2O
@ 75°F. SP.GR. 1.0 METER IS UNSTABLE

ACCURACY $\pm$ 1% RATE

INDICATED		ACTUAL	
LB/HR		LBS/HR	
150.10		149.76	
135.00		134.21	
121.50		121.51	
106.50		105.96	
92.20		91.61	
78.70		78.01	
64.20		64.00	
49.60		49.45	
34.80		34.65	
19.80		19.75	
0.00		0.00	

Flowmeter Certified with HOMER R. DULIN CO.

Equip. No.: 11605 Accuracy: 0.005% Equip. Cal. Date: 9/13/21 Cal. Due: 9/13/24

NIST Cert. No.: MSML CC #21188 A Procedure No.: ISA:RP 16.6

Our standards are certified by or are traceable to the National Institute of Standards and Technology and systems comply with MIL-STD 45662A, ANSI/NCSL Z540.3, ISO/IEC 17025, and ISO 10012. The collective uncertainty of the standards used in this calibration does not exceed 25% of the certified accuracy of the instrument under test. This document may not be reproduced, except in full, without prior written approval of the Homer R. Dulin Co. Rev.2 Dated 4/16/22

P.O. No.: SCPPA-2300174

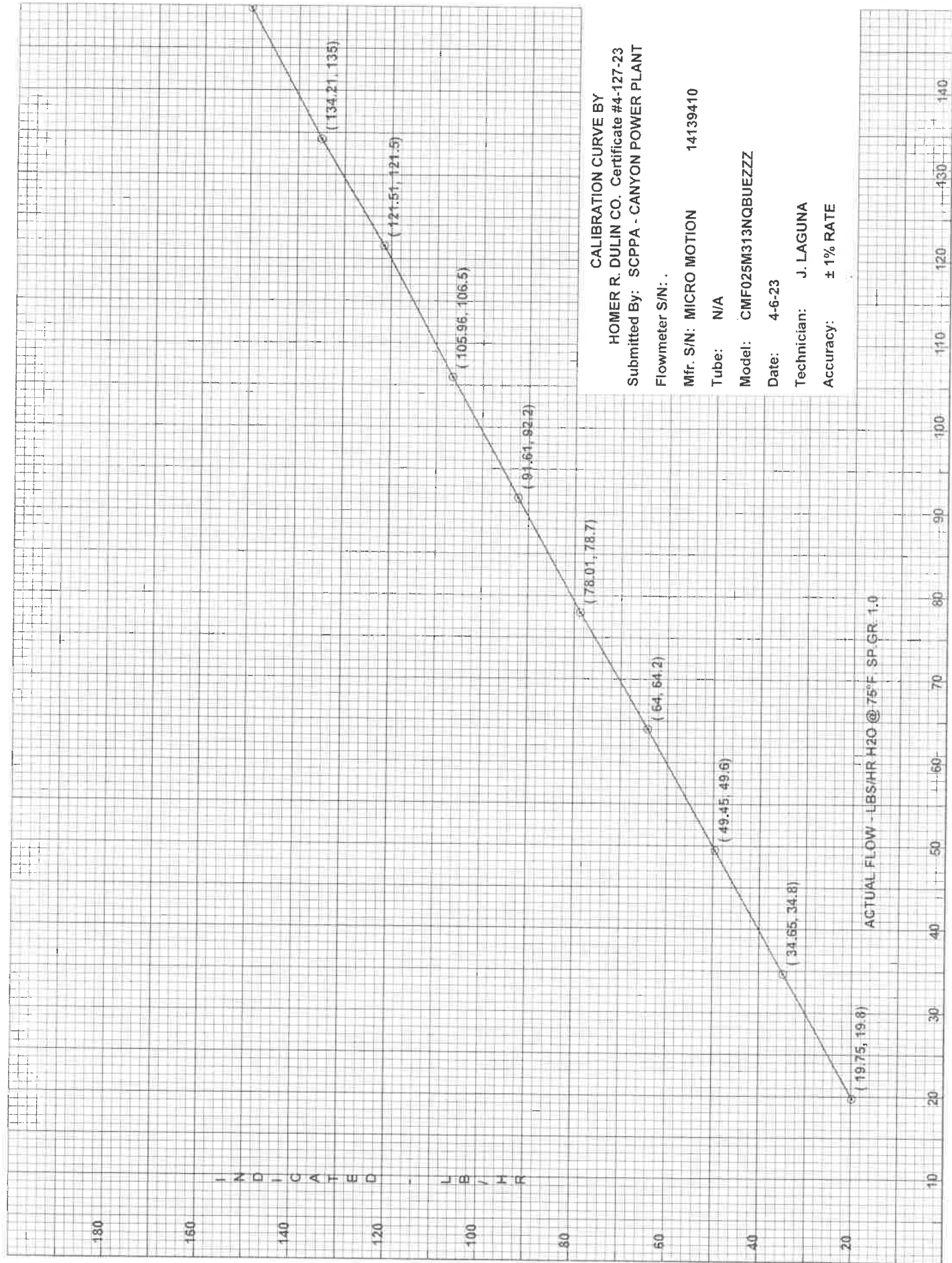
Shipper No.: _____

4-6-23
CALIBRATION DATE

4-6-24
RECALIBRATION DUE

J. LAGUNA
CALIBRATION TECHNICIAN

John Laguna



CALIBRATION CURVE BY
HOMER R. DULIN CO. Certificate #4-127-23
Submitted By: SCPPA - CANYON POWER PLANT
Flowmeter S/N: .
Mfr. S/N: MICRO MOTION 14139410
Tube: N/A
Model: CMF025M313NQBUEZZZ
Date: 4-6-23
Technician: J. LAGUNA
Accuracy: ± 1% RATE

HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 HRDULIN@AOL.COM

CERT. NO. 4-214-23
CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO: _____

MFG. SERIAL NO: 14134531MANUFACTURER: MICRO MOTIONMODEL: CMF025M313NQBUEZZZTUBE NO: N/AFLOAT NO: N/A

DATA IS: As Found/As Left ; In Tolerance

See Remarks ☒Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14134531, CALIBRATED IN LBS/HR H2O
@ 75°F. SP.GR. 1.0 METER UNSTABLE BELOW 20.09 LB/HR INDICATED.

ACCURACY $\pm$ 1% RATE

INDICATED		ACTUAL	
LB/H		LBS/HR	
150.52		149.46	
131.86		131.26	
124.17		123.56	
114.12		113.71	
94.99		94.76	
76.20		76.01	
57.31		57.15	
47.37		47.25	
38.07		37.90	
20.79		20.65	
0.00		0.00	

Flowmeter Certified with HOMER R. DULIN CO.

Equip. No.: 11605 Accuracy: 0.005% Equip. Cal. Date: 9/13/21 Cal. Due: 9/13/24NIST Cert. No.: MSML CC #21188 A Procedure No.: ISA:RP 16.6

Our standards are certified by or are traceable to the National Institute of Standards and Technology and systems comply with MIL-STD 45662A, ANSI/NCSS Z540.3, ISO/IEC 17025, and ISO 10012. The collective uncertainty of the standards used in this calibration does not exceed 25% of the certified accuracy of the instrument under test. This document may not be reproduced, except in full, without prior written approval of the Homer R. Dulin Co. Rev.2 Dated 4/16/22

P.O. No.: SCPPA-2300174

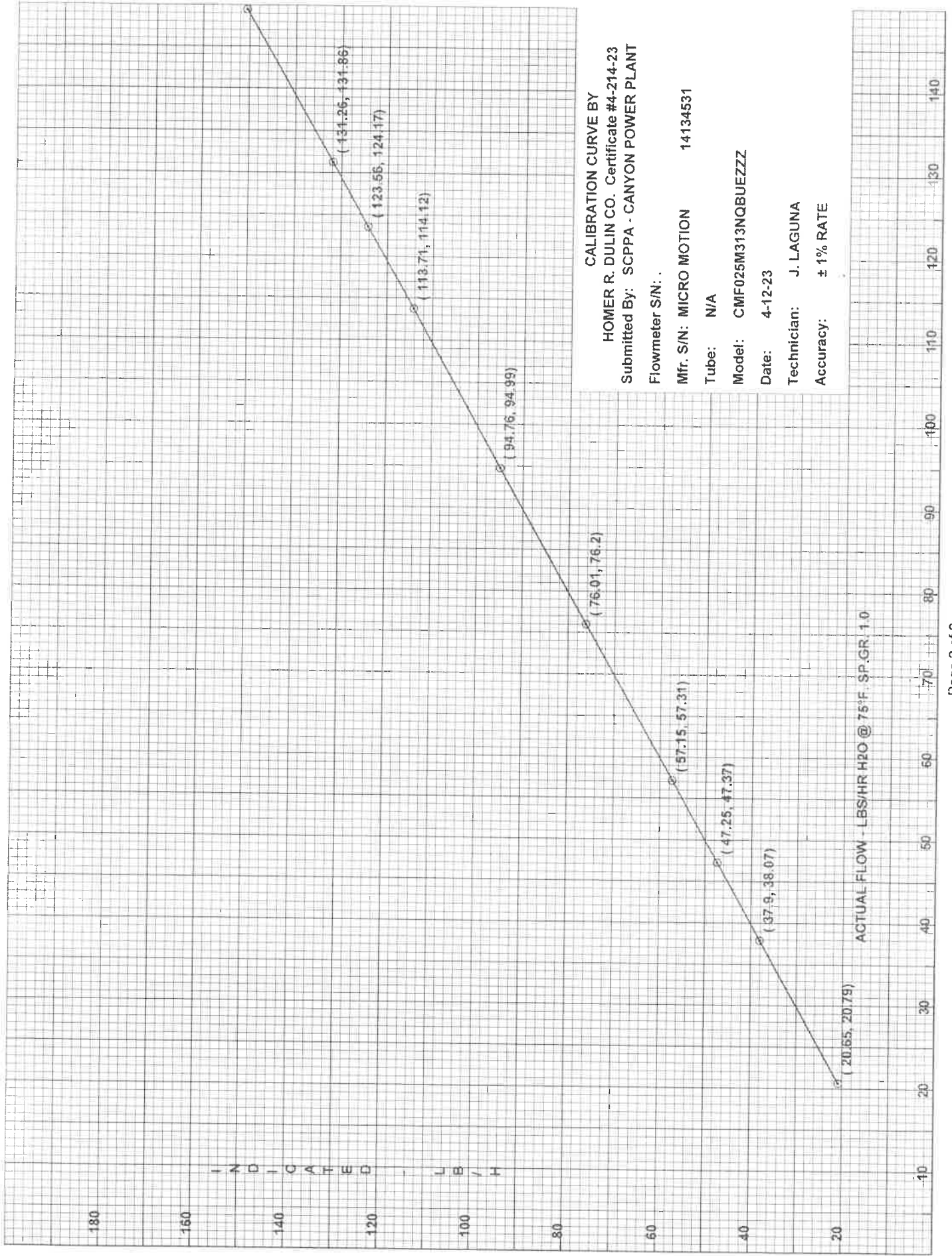
Shipper No.: _____

4-12-23
CALIBRATION DATE

4-12-24
RECALIBRATION DUE

J. LAGUNA
CALIBRATION TECHNICIAN





HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 HRDULIN@AOL.COM

CERT. NO. 4-265-23 CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO: _____ MFG. SERIAL NO: 14136005
MANUFACTURER: MICRO MOTION MODEL: CMF025M313NQBUEZZZ
TUBE NO: N/A FLOAT NO: N/A

DATA IS: As Found/As Left ; In Tolerance

See Remarks ☒
Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14136005, CALIBRATED IN LBS/HR H2O @ 75°F. SP.GR. 1.0 METER READINGS ARE AVERAGED. METER IS VERY UNSTABLE.

ACCURACY $\pm$ 1% RATE

INDICATED		ACTUAL	
LB/H		LBS/HR	
150.03		150.76	
135.40		136.56	
121.30		122.01	
106.60		107.16	
92.64		93.31	
77.80		78.36	
63.65		64.06	
49.64		49.90	
34.52		34.75	
20.99		21.00	

Flowmeter Certified with HOMER R. DULIN CO.

Equip. No.: 11605 Accuracy: 0.005% Equip. Cal. Date: 9/13/21 Cal. Due: 9/13/24

NIST Cert. No.: MSML CC #21188 A Procedure No.: ISA:RP 16.6

Our standards are certified by or are traceable to the National Institute of Standards and Technology and systems comply with MIL-STD 45662A, ANSI/NCSL Z540.3, ISO/IEC 17025, and ISO 10012. The collective uncertainty of the standards used in this calibration does not exceed 25% of the certified accuracy of the instrument under test. This document may not be reproduced, except in full, without prior written approval of the Homer R. Dulin Co. Rev.2 Dated 4/16/22

P.O. No.: SCPPA-2300174

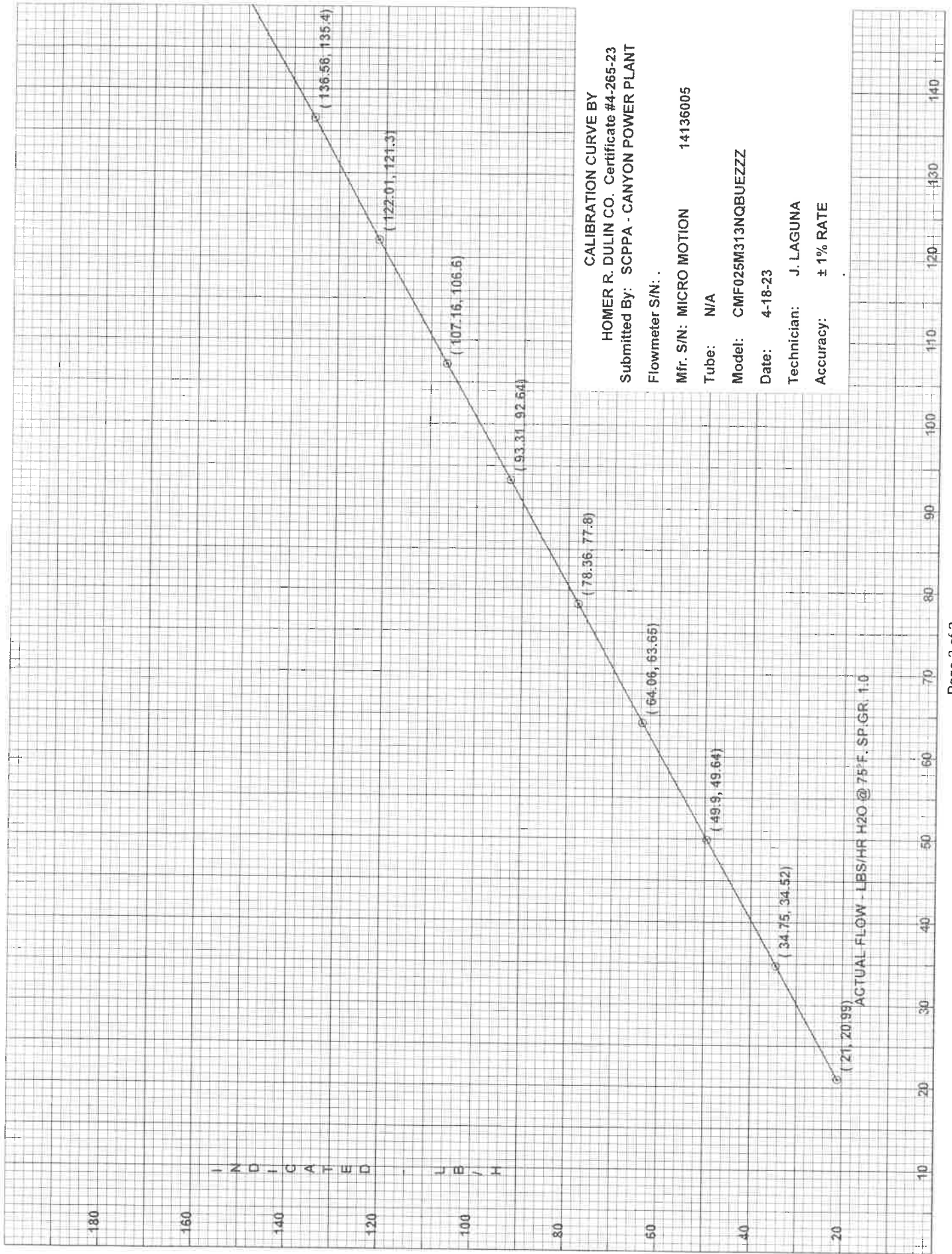
Shipper No.: _____

4-18-23
CALIBRATION DATE

4-18-24
RECALIBRATION DUE

J. LAGUNA
CALIBRATION TECHNICIAN

John Laguna



CALIBRATION CURVE BY

HOMER R. DULIN CO. Certificate #4-265-23

Submitted By: SCPPA - CANYON POWER PLANT

Flowmeter S/N: .

Mfr. S/N: MICRO MOTION 14136005

Tube: N/A

Model: CMF025M313NQBUEZZZ

Date: 4-18-23

Technician: J. LAGUNA

Accuracy: ± 1% RATE

HOMER R. DULIN CO.

729 EAST WILLOW STREET
SIGNAL HILL, CALIFORNIA 90755
(562) 424-8533 HRDULIN@AOL.COM

CERT. NO. 4-316-23
CALIBRATION CERTIFICATION

SUBMITTED BY: SCPPA - CANYON POWER PLANT

FLOWMETER SERIAL NO: _____

MFG. SERIAL NO: 14236418MANUFACTURER: MICRO MOTIONMODEL: CMF025M313NQBUEZZZTUBE NO: N/AFLOAT NO: N/A

DATA IS: As Found/As Left ; In Tolerance

See Remarks ☒Calibrated @ customer's facility ☐

REMARKS: DIRECT READING ELECTRONIC INDICATOR TRANSMITTER S/N: 14138117, CALIBRATED IN LBS/HR H2O
@ 75°F. SP.GR. 1.0 - METER IS UNSTABLE

ACCURACY $\pm$ 1% RATE

INDICATED		ACTUAL	
LB/HR		LBS/HR	
150.70		150.91	
130.10		129.76	
109.20		109.41	
95.22		95.16	
80.41		80.06	
70.10		69.91	
54.20		54.05	
36.91		36.90	
26.95		27.00	
16.68		16.70	

Flowmeter Certified with HOMER R. DULIN CO.

Equip. No.: 11605 Accuracy: 0.005% Equip. Cal. Date: 9/13/21 Cal. Due: 9/13/24NIST Cert. No.: MSML CC #21188 AProcedure No.: ISA:RP 16.6

Our standards are certified by or are traceable to the National Institute of Standards and Technology and systems comply with MIL-STD 45662A, ANSI/NCSL Z540.3, ISO/IEC 17025, and ISO 10012. The collective uncertainty of the standards used in this calibration does not exceed 25% of the certified accuracy of the instrument under test. This document may not be reproduced, except in full, without prior written approval of the Homer R. Dulin Co. Rev.2 Dated 4/16/22

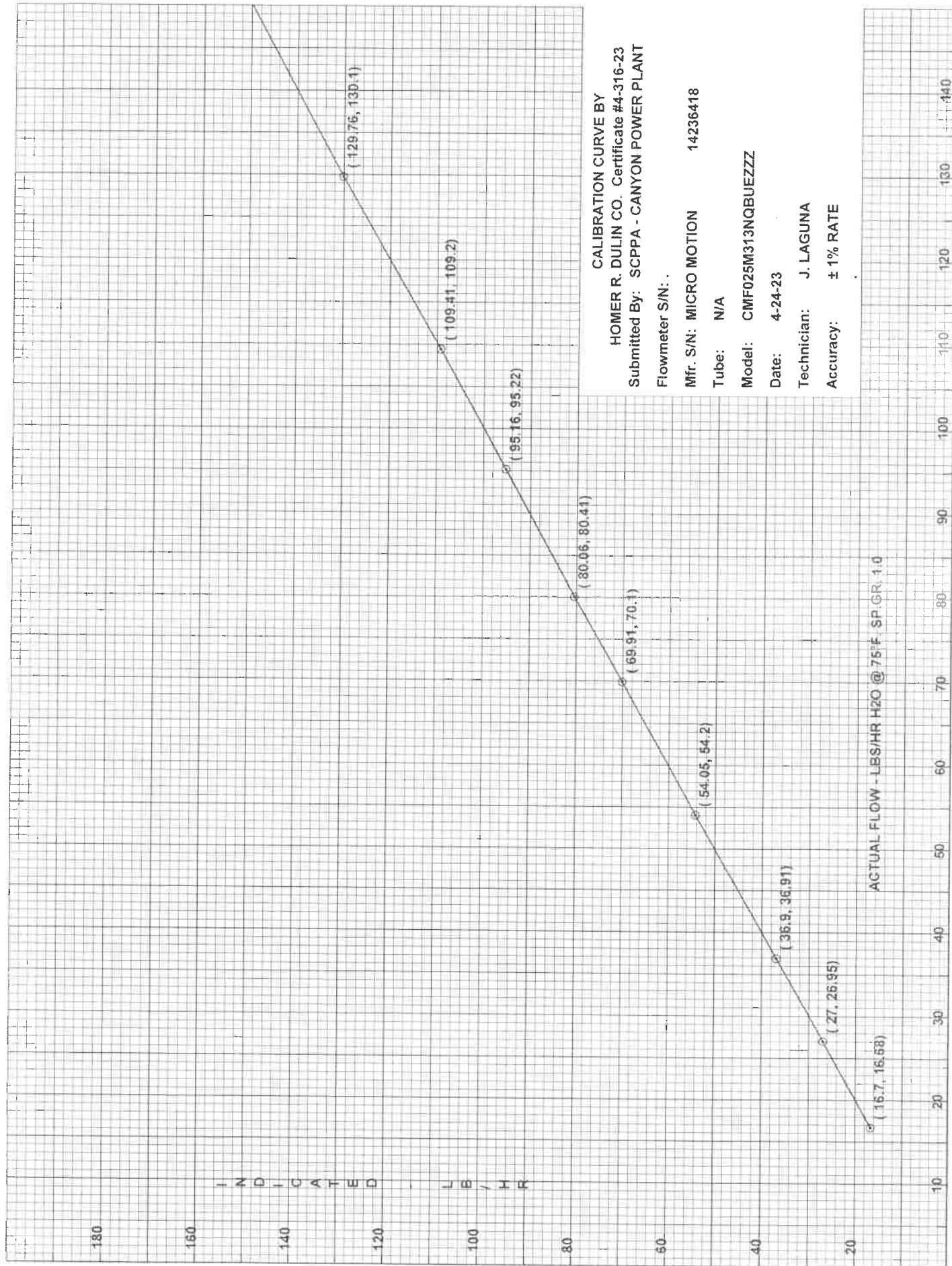
P.O. No.: SCPPA-2300174

Shipper No.: _____

4-24-23
CALIBRATION DATE

4-24-24
RECALIBRATION DUE

J. LAGUNA
CALIBRATION TECHNICIAN



CALIBRATION CURVE BY
HOMER R. DULIN CO. Certificate #4-316-23
Submitted By: SCPPA - CANYON POWER PLANT

Flowmeter S/N: .

Mfr. S/N: MICRO MOTION 14236418

Tube: N/A

Model: CMF025M313NCBUEZZZ

Date: 4-24-23

Technician: J. LAGUNA

Accuracy: ± 1% RATE

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 19

AQ-18
SCR INLET TEMPERATURE SENSOR
CALIBRATION REPORTS

Calibration: SCR Inlet Temperature
Unit 1 TE-403A-403D

Calibration Certificate

Certificate Number:
Position ID: 1-TE-403A

Printed: 1/25/2023 9:23:13 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U1/

Device

Device ID 1-TE-403A
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U1 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

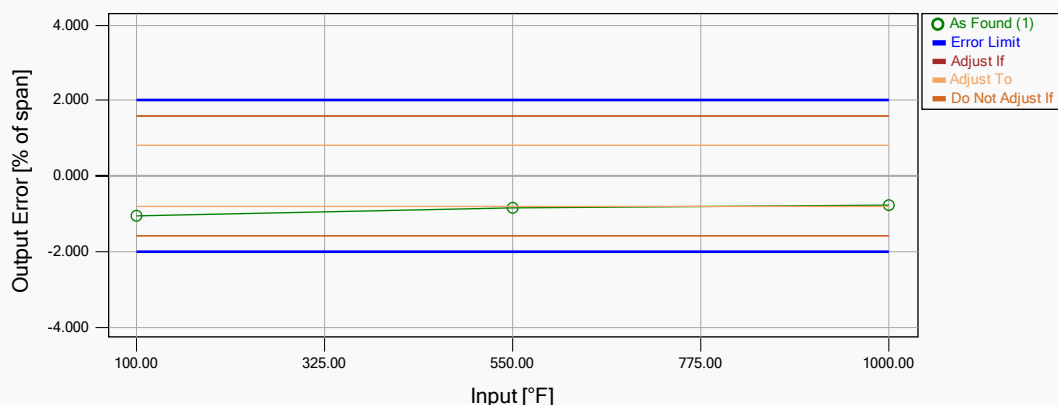
Calibration time 1/23/2023 10:00:25 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -1.056 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	90.500	-1.056
550.0	550.01	550.0	542.500	-0.834
1000.0	1000.01	1000.0	993.000	-0.779

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:00:25 AM

Calibration Certificate

Certificate Number:
Position ID: 1-TE-403B

Printed: 1/25/2023 9:23:13 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U1/

Device

Device ID 1-TE-403B
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U1 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

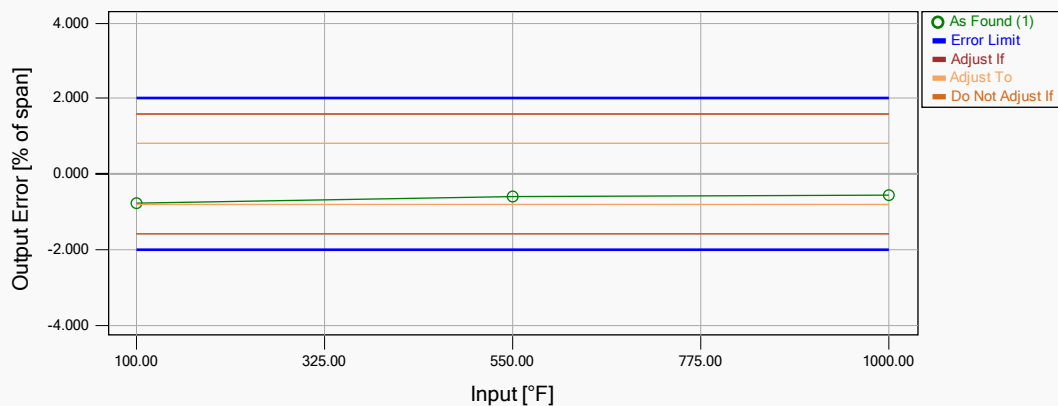
Calibration time 1/23/2023 10:03:26 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.778 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	93.000	-0.778
550.0	550.00	550.0	544.500	-0.611
1000.0	1000.00	1000.0	995.000	-0.556

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:03:26 AM

Calibration Certificate

Certificate Number:
Position ID: 1-TE-403C

Printed: 1/25/2023 9:23:13 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U1/

Device

Device ID 1-TE-403C
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U1 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

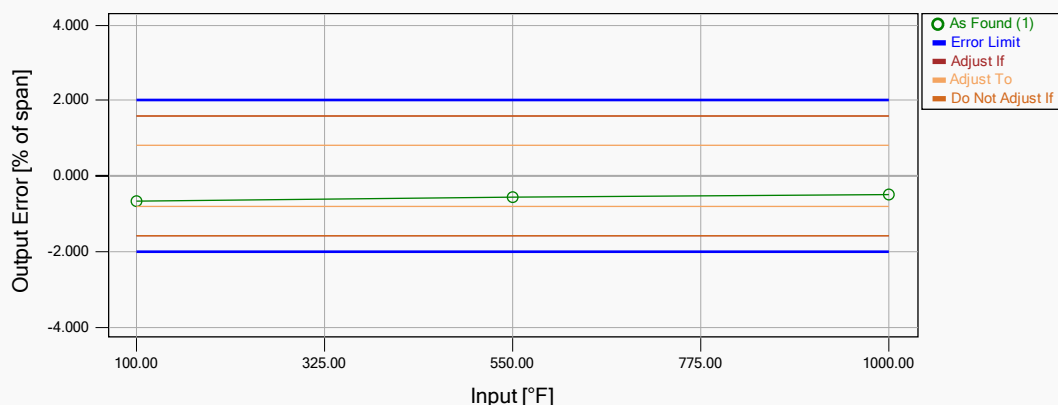
Calibration time 1/23/2023 10:05:50 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/24/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.667 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	94.000	-0.667
550.0	550.00	550.0	545.000	-0.556
1000.0	1000.00	1000.0	995.500	-0.500

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:05:50 AM

Calibration Certificate

Certificate Number:
Position ID: 1-TE-403D

Printed: 1/25/2023 9:23:13 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U1/

Device

Device ID 1-TE-403D
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U1 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

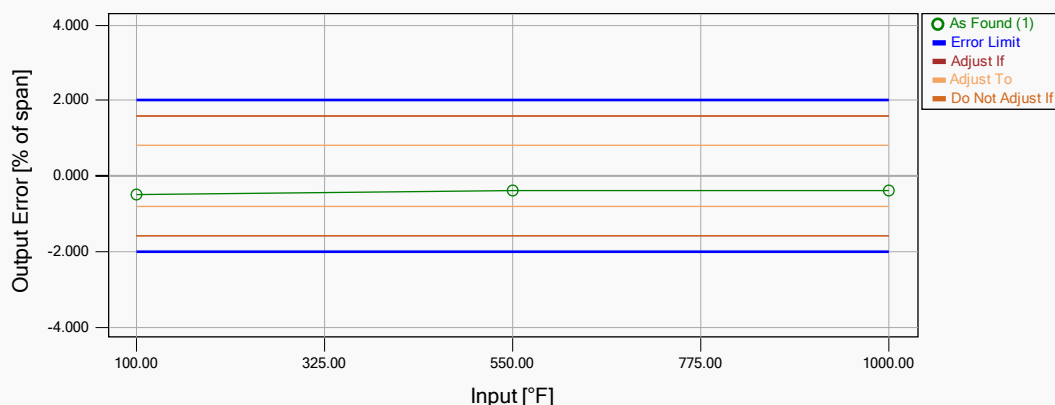
Calibration time 1/23/2023 10:08:32 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.500 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	95.500	-0.500
550.0	550.00	550.0	546.500	-0.389
1000.0	1000.00	1000.0	996.500	-0.389

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:08:32 AM

Calibration: SCR Inlet Temperature
Unit 2 TE-403A-403D

Calibration Certificate

Certificate Number:
Position ID: 2-TE-403A

Printed: 1/25/2023 9:27:46 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U2/

Device

Device ID 2-TE-403A
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U2 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

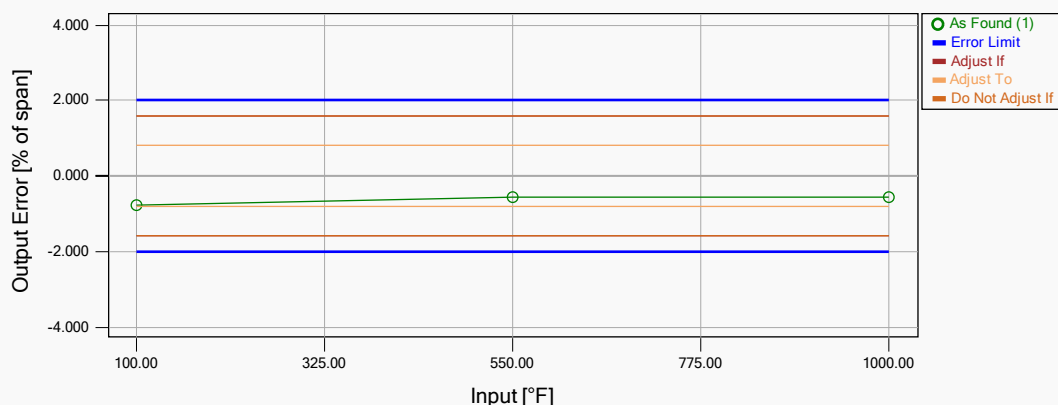
Calibration time 1/23/2023 10:40:22 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.778 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	93.000	-0.778
550.0	550.00	550.0	545.000	-0.556
1000.0	1000.01	1000.0	995.000	-0.557

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:40:22 AM

Calibration Certificate

Certificate Number:
Position ID: 2-TE-403B

Printed: 1/25/2023 9:27:46 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U2/

Device

Device ID 2-TE-403B
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U2 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

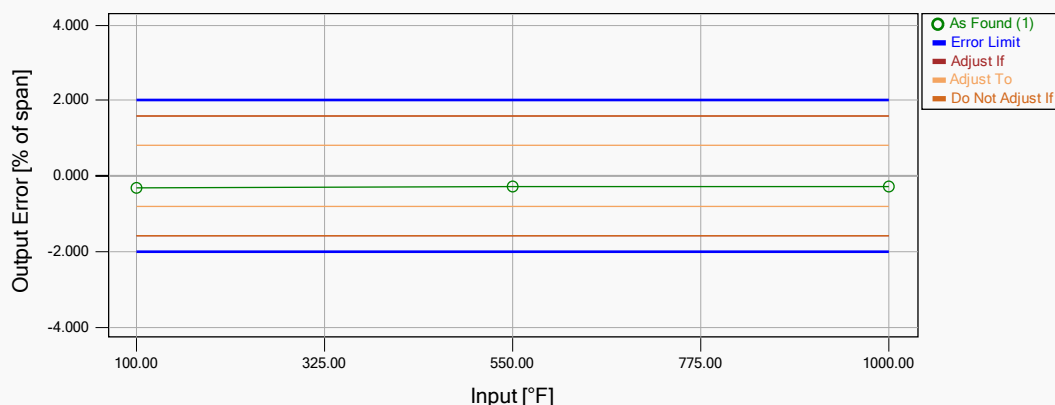
Calibration time 1/23/2023 10:44:52 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.333 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	97.000	-0.333
550.0	550.00	550.0	547.500	-0.278
1000.0	1000.01	1000.0	997.500	-0.279

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:44:52 AM

Calibration Certificate

Certificate Number:
Position ID: 2-TE-403C

Printed: 1/25/2023 9:27:46 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U2/

Device

Device ID 2-TE-403C
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U2 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

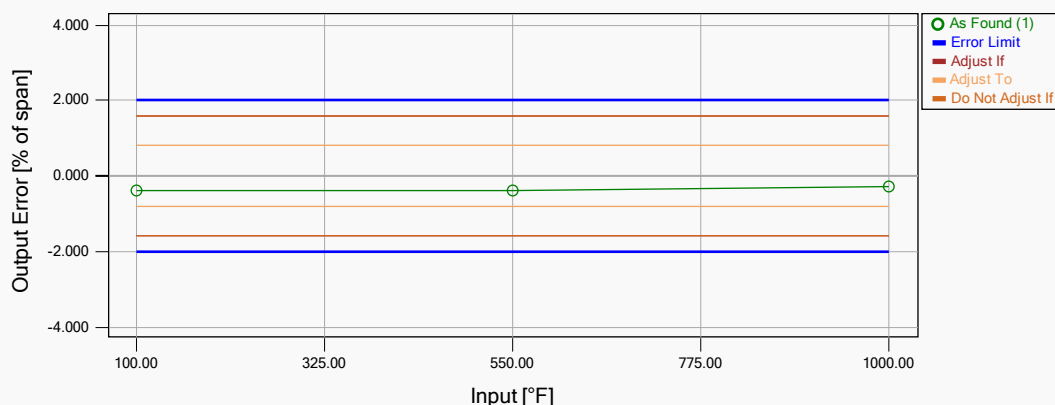
Calibration time 1/23/2023 10:47:18 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.390 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	96.500	-0.390
550.0	550.01	550.0	546.500	-0.390
1000.0	1000.01	1000.0	997.500	-0.279

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:47:18 AM

Calibration Certificate

Certificate Number:
Position ID: 2-TE-403D

Printed: 1/25/2023 9:27:46 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U2/

Device

Device ID 2-TE-403D
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U2 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

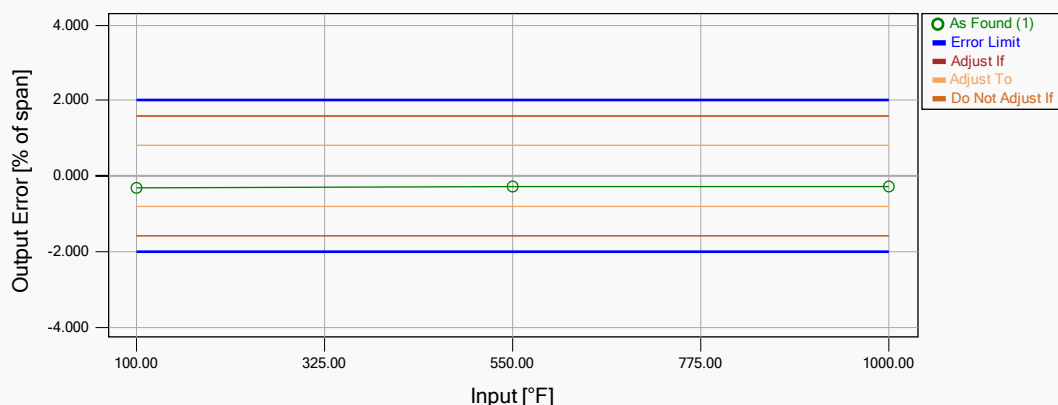
Calibration time 1/23/2023 10:49:45 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.334 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	97.000	-0.334
550.0	550.01	550.0	547.500	-0.279
1000.0	1000.01	1000.0	997.500	-0.279

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 10:49:45 AM

Calibration: SCR Inlet Temperature
Unit 3 TE-403A-403D

Calibration Certificate

Certificate Number:
Position ID: 3-TE-403A

Printed: 1/25/2023 9:30:47 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U3/

Device

Device ID 3-TE-403A
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U3 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

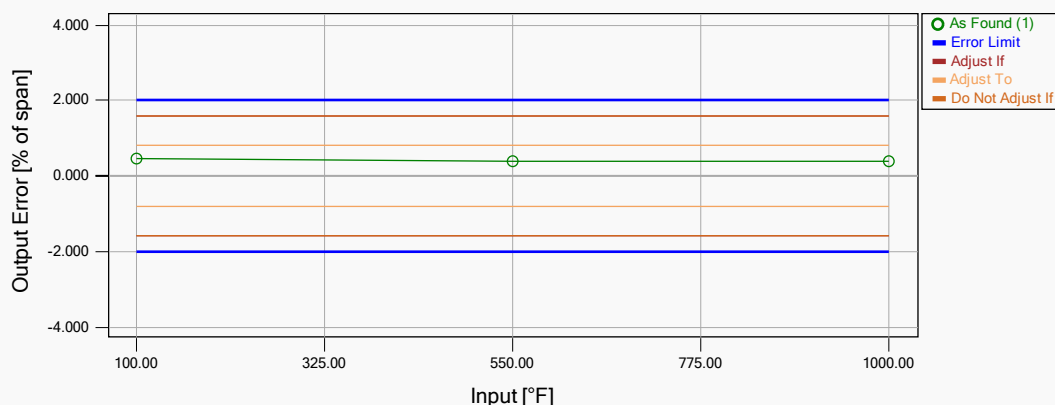
Calibration time 1/23/2023 12:11:48 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.442 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.02	100.0	104.000	0.442
550.0	550.02	550.0	553.500	0.387
1000.0	1000.01	1000.0	1003.500	0.388

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 12:11:48 PM

Calibration Certificate

Certificate Number:
Position ID: 3-TE-403B

Printed: 1/25/2023 9:30:47 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U3/

Device

Device ID 3-TE-403B
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U3 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

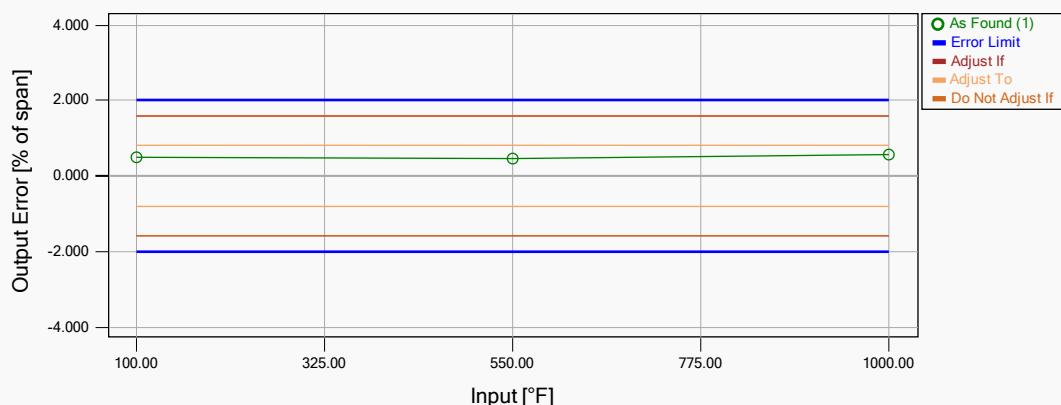
Calibration time 1/23/2023 12:14:34 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.554 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.02	100.0	104.500	0.498
550.0	550.01	550.0	554.000	0.443
1000.0	1000.01	1000.0	1005.000	0.554

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 12:14:34 PM

Calibration Certificate

Certificate Number:
Position ID: 3-TE-403C

Printed: 1/25/2023 9:30:47 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U3/

Device

Device ID 3-TE-403C
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U3 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

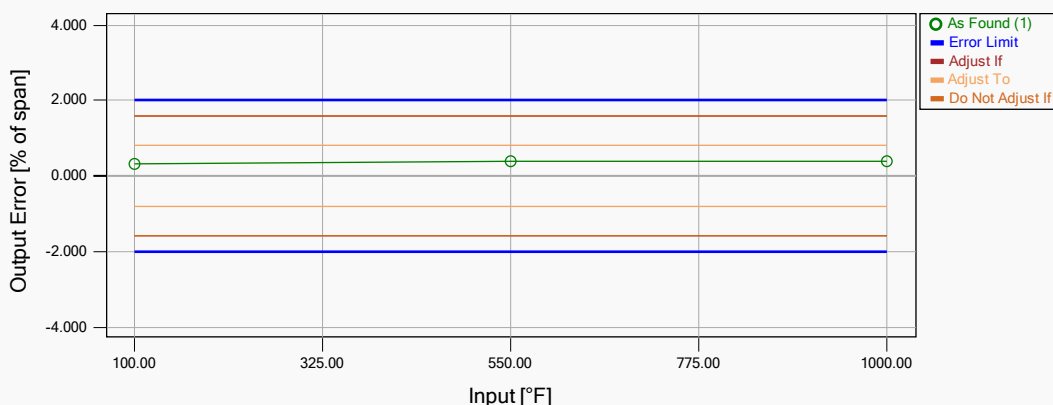
Calibration time 1/23/2023 12:17:12 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.388 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	103.000	0.332
550.0	550.01	550.0	553.500	0.388
1000.0	1000.01	1000.0	1003.500	0.388

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 12:17:12 PM

Calibration Certificate

Certificate Number:
Position ID: 3-TE-403D

Printed: 1/25/2023 9:30:47 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U3/

Device

Device ID 3-TE-403D
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U3 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

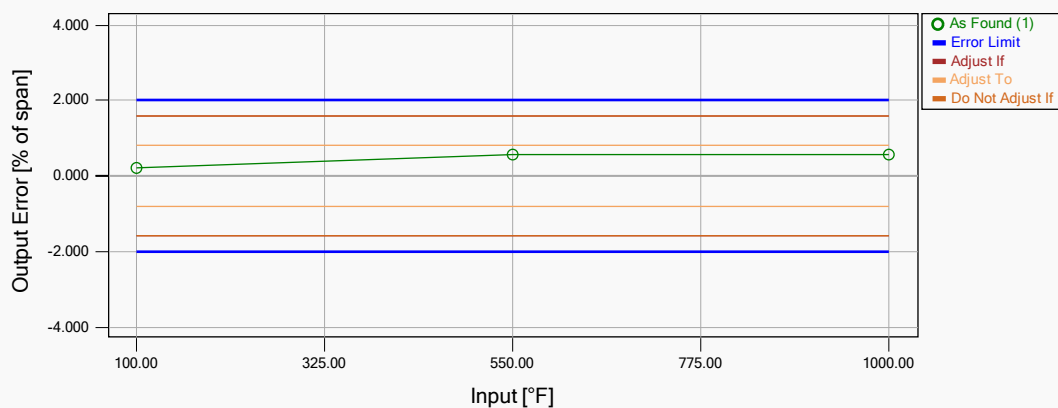
Calibration time 1/23/2023 12:19:52 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.553 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.03	100.0	102.000	0.219
550.0	550.02	550.0	555.000	0.553
1000.0	1000.03	1000.0	1005.000	0.552

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 12:19:52 PM

Calibration: SCR Inlet Temperature
Unit 4 TE-403A-403D

Calibration Certificate

Certificate Number:
Position ID: 4-TE-403A

Printed: 1/25/2023 9:34:54 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U4/

Device

Device ID 4-TE-403A
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U4 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

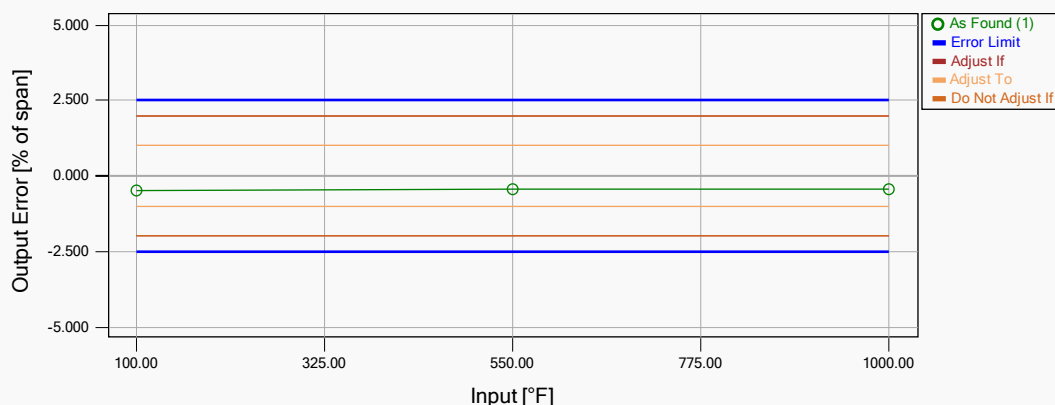
Calibration time 1/23/2023 1:31:26 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2.5 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.502 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.02	100.0	95.500	-0.502
550.0	550.01	550.0	546.000	-0.446
1000.0	1000.01	1000.0	996.000	-0.446

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 1:31:26 PM

Calibration Certificate

Certificate Number:
Position ID: 4-TE-403B

Printed: 1/25/2023 9:34:54 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U4/

Device

Device ID 4-TE-403B
Serial Number
Manufacturer
Rangeability
Operating Operating Humidity

Function

Name U4 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

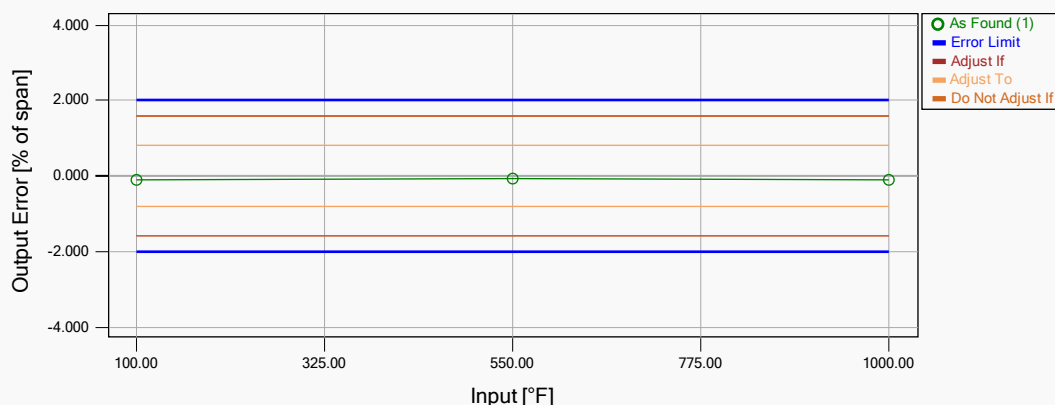
Calibration time 1/23/2023 1:34:05 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.112 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	99.000	-0.112
550.0	550.01	550.0	549.500	-0.057
1000.0	1000.01	1000.0	999.000	-0.112

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 1:34:05 PM

Calibration Certificate

Certificate Number:
Position ID: 4-TE-403C

Printed: 1/25/2023 9:34:54 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U4/

Device

Device ID 4-TE-403C
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U4 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

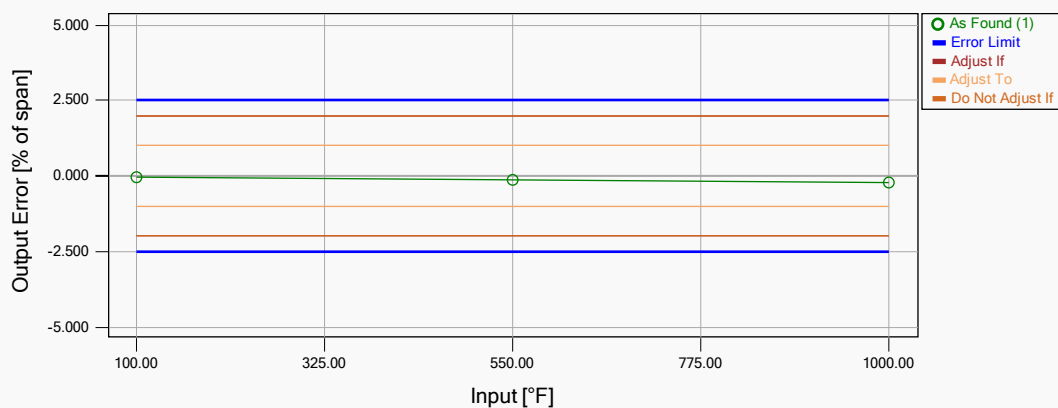
Calibration time 1/23/2023 1:36:37 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2.5 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.223 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.00	100.0	99.500	-0.056
550.0	550.01	550.0	549.000	-0.112
1000.0	1000.01	1000.0	998.000	-0.223

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 1:36:37 PM

Calibration Certificate

Certificate Number:
Position ID: 4-TE-403D

Printed: 1/25/2023 9:34:54 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name SCR INLET TEMP
Work Order Number
Location NH3 INJ SKID
Plant CANYON/ERU/U4/

Device

Device ID 4-TE-403D
Serial Number
Manufacturer
Rangeability
Operating
Operating Humidity

Function

Name U4 SCR INLET TEMP (ud)
Transfer Function Linear
Range 100 ... 1000 °F 100 ... 1000 °F

Calibration Event

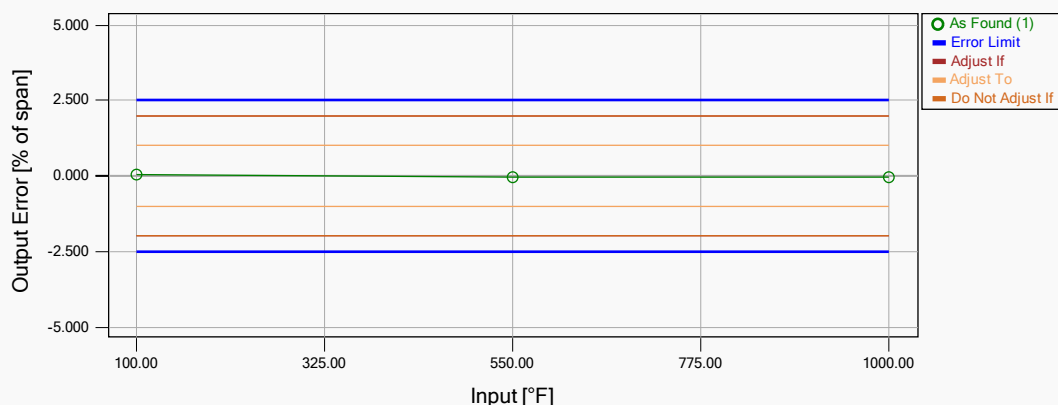
Calibration time 1/23/2023 1:39:01 PM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/23/2024 Interval 1 years
Reject If Error > 2.5 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module TC-R-OUT/ TC1 : 65279 Due Date: 2/28/2023
Output Calibrator
Output Module Due Date:



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.057 % of span

Nominal Input [°F]	Actual Input [°F]	Nominal Output [°F]	Actual Output [°F]	Found Error [% of span]
100.0	100.01	100.0	100.500	0.054
550.0	550.01	550.0	549.500	-0.057
1000.0	1000.01	1000.0	999.500	-0.057

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/23/2023 1:39:01 PM

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 20

AQ-19
SCR DIFFERENTIAL PRESSURE SENSOR
CALIBRATION REPORTS

**Calibration Report: SCR Differential Pressure Sensor
Unit 1 PDIT-403**

Calibration Certificate

Certificate Number:
Position ID: 1-PDIT-403

Printed: 1/25/2023 9:18:30 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name U1 SCR DP
Work Order Number
Location U1 ERU
Plant CANYON/ERU/U1/

Device

Device ID 1-PDIT-403
Serial Number
Manufacturer Rosemount 3051S2CD1A2F12A1AB3E5L4M5Q4
Rangeability
Operating Operating Humidity

Function

Name U1 SCR DP (ud)
Transfer Function Linear
Range 0 ... 10 inH2O (G) 4 ... 20 mA

Calibration Event

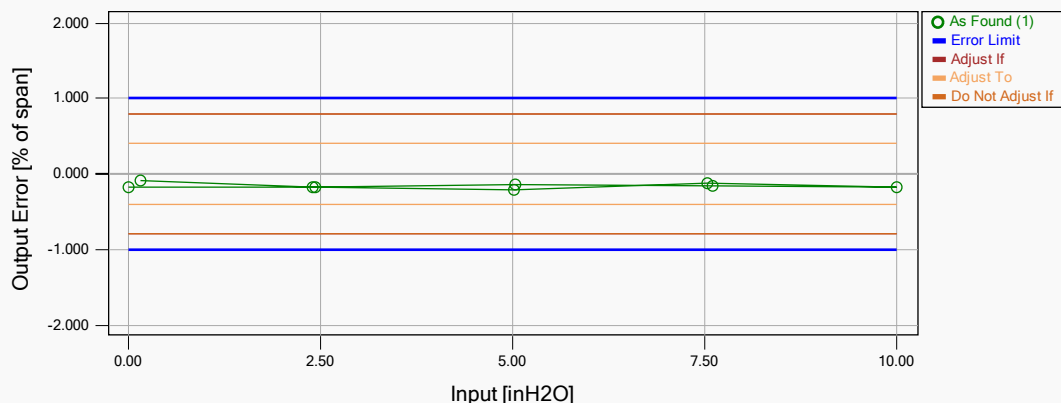
Calibration time 1/18/2023 8:26:55 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/18/2024 Interval 1 years
Reject If Error > 1 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module P2C : 69381 Due Date: 3/1/2023
Output Calibrator MC6 : 605835 Due Date: 2/25/2023
Output Module IN : 25613 Due Date: 2/25/2023



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.215 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.00	4.0000	3.9714	-0.179
2.500	2.44	8.000	7.8757	-0.177
5.000	5.03	12.000	12.0136	-0.215
7.500	7.55	16.000	16.0598	-0.126
10.000	10.00	20.000	19.9721	-0.174
7.500	7.61	16.000	16.1501	-0.162
5.000	5.04	12.000	12.0402	-0.149
2.500	2.40	8.000	7.8119	-0.176
0.0000	0.16	4.0000	4.2420	-0.088

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2023 8:26:55 AM

Calibration Report: SCR Differential Pressure Sensor
Unit 2 PDIT-403

Calibration Certificate

Certificate Number:
Position ID: 2-PDIT-403

Printed: 1/25/2023 9:25:21 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name U2 SCR DP
Work Order Number
Location U2 ERU
Plant CANYON/ERU/U2/

Device

Device ID 2-PDIT-403
Serial Number
Manufacturer Rosemount 3051S2CD1A2F12A1AB3E5L4M5Q4
Rangeability
Operating Operating Humidity

Function

Name U2 SCR DP (ud)
Transfer Function Linear
Range 0 ... 10 inH2O (G) 4 ... 20 mA

Calibration Event

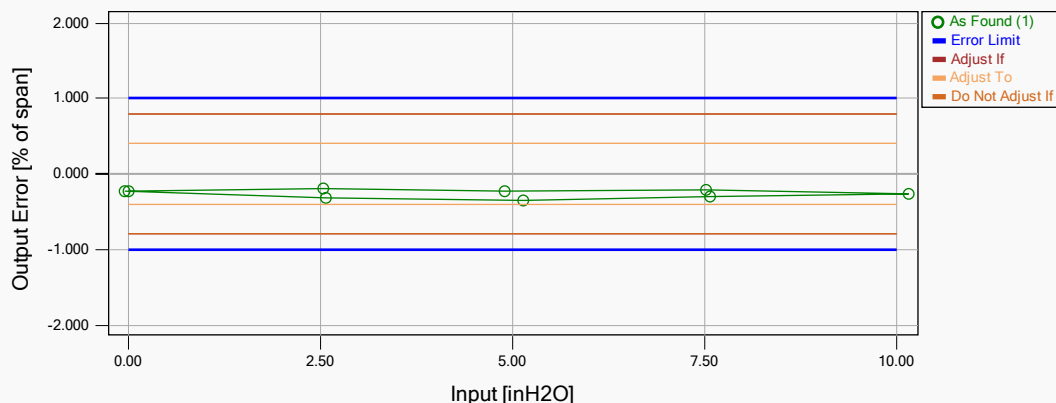
Calibration time 1/18/2023 9:02:39 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/18/2024 Interval 1 years
Reject If Error > 1 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module P2C : 69381 Due Date: 3/1/2023
Output Calibrator MC6 : 605835 Due Date: 2/25/2023
Output Module IN : 25613 Due Date: 2/25/2023



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.344 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.00	4.0000	3.9638	-0.226
2.500	2.55	8.000	8.0491	-0.193
5.000	4.90	12.000	11.8040	-0.225
7.500	7.53	16.000	16.0131	-0.218
10.000	10.17	20.000	20.2305	-0.259
7.500	7.58	16.000	16.0813	-0.292
5.000	5.14	12.000	12.1689	-0.344
2.500	2.57	8.000	8.0624	-0.310
0.0000	-0.04	4.0000	3.8999	-0.226

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2023 9:02:39 AM

Calibration Report: SCR Differential Pressure Sensor
Unit 3 PDIT-403

Calibration Certificate

Certificate Number:
Position ID: 3-PDIT-403

Printed: 1/25/2023 9:28:59 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name U3 SCR DP
Work Order Number
Location U3 ERU
Plant CANYON/ERU/U3/

Device

Device ID 3-PDIT-403
Serial Number
Manufacturer Rosemount 3051S2CD1A2F12A1AB3E5L4M5Q4
Rangeability
Operating Operating Humidity

Function

Name U3 SCR DP (ud)
Transfer Function Linear
Range 0 ... 10 inH2O (G) 4 ... 20 mA

Calibration Event

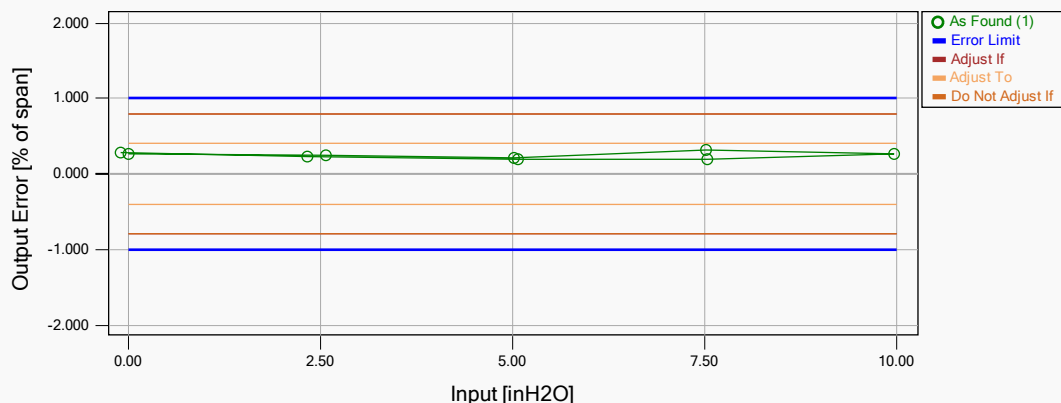
Calibration time 1/18/2023 10:04:58 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/18/2024 Interval 1 years
Reject If Error > 1 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module P2C : 69381 Due Date: 3/1/2023
Output Calibrator MC6 : 605835 Due Date: 2/25/2023
Output Module IN : 25613 Due Date: 2/25/2023



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: 0.319 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.00	4.0000	4.0416	0.260
2.500	2.58	8.000	8.1679	0.249
5.000	5.02	12.000	12.0668	0.218
7.500	7.52	16.000	16.0830	0.319
10.000	9.98	20.000	20.0117	0.273
7.500	7.55	16.000	16.1109	0.193
5.000	5.07	12.000	12.1417	0.186
2.500	2.33	8.000	7.7637	0.223
0.0000	-0.09	4.0000	3.8999	0.274

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2023 10:04:58 AM

Calibration Report: SCR Differential Pressure Sensor
Unit 4 PDIT-403

Calibration Certificate

Certificate Number:
Position ID: 4-PDIT-403

Printed: 1/25/2023 9:32:46 AM
Printed by: vnguyen
CMX Version: 2.11.214.0 (2.11)

Position

Name U4 SCR DP
Work Order Number
Location U4 ERU
Plant CANYON/ERU/U4/

Device

Device ID 4-PDIT-403
Serial Number 393481
Manufacturer Rosemount 3051C
Rangeability
Operating Operating Humidity

Function

Name U4 SCR DP (ud)
Transfer Function Linear
Range 0 ... 10 inH2O (G) 4 ... 20 mA

Calibration Event

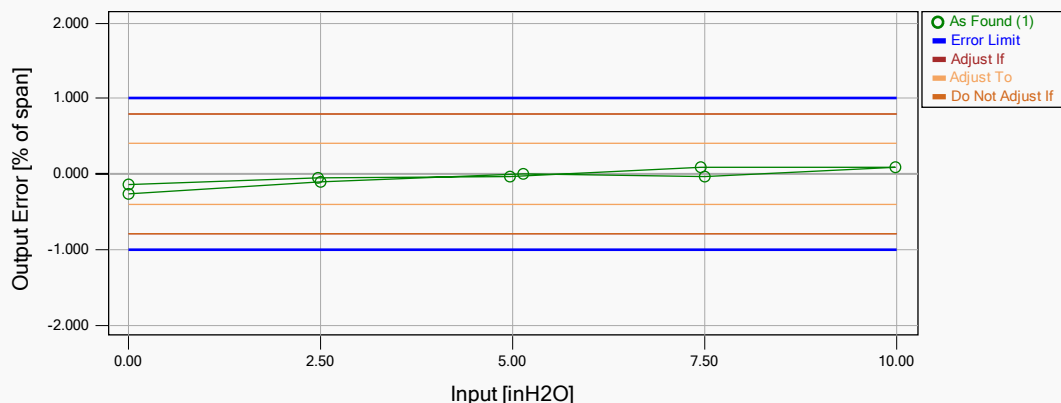
Calibration time 1/18/2023 10:30:52 AM
Next Calibration
Environment Environment

Calibration Procedure

Due Date 1/18/2024 Interval 1 years
Reject If Error > 1 % of span
Adjust To Error < 40 % of Reject If Error Classification
Calibration Strategy

Calibrators

Input Calibrator MC6 : 605835 Due Date: 2/25/2023
Input Module P2C : 69381 Due Date: 3/1/2023
Output Calibrator MC6 : 605835 Due Date: 2/25/2023
Output Module IN : 25613 Due Date: 2/25/2023



1. As Found

PASSED, DO NOT ADJUST

Maximum Error: -0.261 % of span

Nominal Input [inH2O]	Actual Input [inH2O]	Nominal Output [mA]	Actual Output [mA]	Found Error [% of span]
0.0000	0.01	4.0000	3.9742	-0.261
2.500	2.50	8.000	7.9840	-0.100
5.000	5.14	12.000	12.2234	-0.004
7.500	7.51	16.000	16.0116	-0.028
10.000	9.99	20.000	19.9987	0.092
7.500	7.45	16.000	15.9339	0.087
5.000	4.98	12.000	11.9630	-0.031
2.500	2.47	8.000	7.9442	-0.049
0.0000	0.00	4.0000	3.9783	-0.136

Calibration Note:

Calibrated by: VINCENT NGUYEN
1/18/2023 10:30:52 AM

CANYON POWER PLANT
ANNUAL COMPLIANCE REPORT

ATTACHMENT 21

WASTE-10
COOLING TOWER SLUDGE TESTING

No Sludge developed for CY 2023

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