



OFFICE OF THE VICE CHANCELLOR FOR RESEARCH  
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Via email to [compliance@baaqmd.gov](mailto:compliance@baaqmd.gov) and hard copy sent via U.S. Postal Service

October 26, 2021

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports

TV Tracking #: 324

1.  RECEIVED IN ENFORCEMENT: 10/27/2021

RE: UC Berkeley, Facility #A0059 – Semi-Annual Monitoring Report for the Title V Operating Permit, April 1, 2021 – September 30, 2021

Dear Director of Compliance and Enforcement:

This monitoring report satisfies the semi-annual reporting requirements for the University of California, Berkeley (Facility #A0059), for the reporting period of **April 1, 2021 – September 30, 2021**.

Enclosed are the Tables of Applicable Emission Limits and Compliance Monitoring Requirements referenced in the Title V Operating Permit, issued December 23, 2020.

Below is the summary of DAS system events, CEMS system events and other events as previously submitted in our monthly emission reports during this time period:

### Summary of DAS System Events

- **04/18/2021 (22:00) to 04/30/2021 (24:00):** BAD data recorded in the DAS due to turbine offline for Dry Low NOx conversion - Authority to Construct, Turbine, Application #30106
- **05/01/2021 (00:00) to 05/31/2021 (24:00):** No data recorded in the DAS due to turbine offline for Dry Low NOx conversion - Authority to Construct, Turbine, Application #30106
- **06/01/2021 (00:00-17:00, 18:00-24:00):** BAD data was recorded due to offline turbine for both stacks.
- **06/02/2021 (00:00-10:00, 11:00-12:00, 13:00-14:00):** BAD data was recorded due to offline turbine for both stacks.
- **06/03/2021 (05:00-11:00):** BAD data was recorded due to offline turbine for both stacks.
- **07/12/2021 (11:00-12:00):** BAD data was recorded due to CEM troubleshooting for both stacks.
- **07/13/2021 (12:00-13:00):** BAD data was recorded due to CEM troubleshooting for the bypass stack.
- **08/28/2021 (00:00-24:00):** BAD data was recorded due to maintenance for both stacks.
- **08/29/2021 (00:00-17:00):** BAD data was recorded due to maintenance for both stacks.
- **08/30/2021 (00:00-19:00):** BAD data was recorded due to maintenance for both stacks.

- **08/31/2021 (03:00-14:00):** BAD data was recorded due to maintenance for both stacks.
- **09/18/2021 (03:00-10:00):** BAD data was recorded due to offline turbine for both stacks.

### Summary of CEMS System Events

- **06/22/2021:** Algorithm error for “CO, ppm 15% O2” values found in the facility’s CEMS system during Source Test, which required a retest of the bypass stack. Results from the Source Test were passing with the applicable criteria but the retest was performed in order to provide accurate field accuracy test results for the CO analyzer.
- **07/13/2021:** Retesting was performed.

### Summary of Other Events

- **04/18/2021:** Turbine was offline due to Dry Low Nox conversion construction activities (Authority to Construct, Turbine, Application #30106).
- **06/01/2021-06/03/2021:** Turbine start-up CEMS mapping was conducted (Authority to Construct, Turbine, Application #30106).
- **06/22/2021 and 06/23/2021:** Source Testing conducted for both stacks (Ref #: NST-6552/6553).

### Schedule of Compliance Status Updates / Deviations

- **Deviation # 6385:** Source #4 – Auxiliary Boiler Fuel Metering: A Progress Report was sent to the BAAQMD on July 8, 2021 via email, followed by a Completion Report on August 18, 2021. Installation of the fuel meter was completed on August 11, 2021, and the fuel meter was inspected by the BAAQMD Inspector, Grace Leung on August 16, 2021. Both letters are attached to this report.
- **NTC A47326:** On July 8, 2021 UC Berkeley received a notice to comply regarding incomplete and missing records from May 2020-May 2021 for the Residential Student Services Program’s emergency generators. The appropriate records were submitted to the Air District prior to the compliance due date on August 8, 2021. To maintain recordkeeping compliance, Environmental Protection has been provided with a set of keys to all the generators and their enclosures for records of run time hours to be collected on a timely basis and to ensure monthly and yearly emissions are properly calculated.
- **NOV A58847:** On September 9, 2021 UC Berkeley received a notice of violation due to an unpermitted Diesel Fire Pump of > 50bhp which requires a Permit to Operate. The Diesel Fire Pump permit application and application fee was submitted on July 8, 2021. We will continue to work with the Air District for any additional information that is needed to obtain the Permit to Operate for this unit. A 10-Day Deviation Report was submitted to the BAAQMD on June 3, 2021, and a 30-Day Deviation Report was submitted on July 8, 2021. Following the issuance of NOV A58847 on September 9, UC Berkeley submitted an additional 10-Day Deviation report on September 20, 2021. All letters are attached to this report.
- **NOV A58848:** On September 9, 2021 UC Berkeley received a notice of violation for an emergency generator at the Valley Life Sciences building that exceeded the 20 hrs/yr testing limit. UC Berkeley will temporarily reduce the reliability run schedule (in normal operation, the emergency generator is tested twice a month for approximately 30 minutes). Once we are under our permitted reliability hours, we will resume normal preventative maintenance operations. Increased outreach to Facilities Services maintenance staff on permitted hours will be conducted to avoid any exceedances in permit limitations. A 10-Deviation Report was submitted to the BAAQMD on September 20, 2021 and is attached to this report.

- **NTC A47327:** On September 20, 2021 UC Berkeley received a notice to comply regarding the continuous emissions monitoring, where periods of inoperation greater than 24 hours shall be reported by the following work day, followed by notification of resumption of monitoring. Compliant CEM monitoring will be achieved by improved communication between co-generation plant personnel and Office of Environment, Health & Safety staff members to ensure timely reporting for any inoperative monitors.
- **NOV A58849:** On September 29, 2021 UC Berkeley received a notice of violation regarding boilers that did not have NOx and CO concentrations monitored in 2020. Since the portable monitor Source Test was late for 2020 due to scheduling conflicts, it was scheduled as soon as possible in January 2021 to meet requirements. Source testing again for this calendar year's 2021 emissions is planned as a good faith effort to keep in line with our testing schedule/portable analyzer requirement.

If you have any questions regarding the enclosed information, please contact Alicia Bihler at [abihler@berkeley.edu](mailto:abihler@berkeley.edu).

Based upon the information and belief formed after a reasonable inquiry, I, as the Responsible Official, certify the information contained in this report as accurate and true to the best of my knowledge.

Sincerely,



Randy Howard Katz  
Vice Chancellor for Research

Enclosures

cc Grace Leung, BAAQMD Inspector  
Norris Herrington, UC Berkeley  
Alicia Bihler, UC Berkeley  
Patrick Goff, UC Berkeley  
Diane Coppini, UC Berkeley

**Table VII-A  
Applicable Limits and Compliance Monitoring Requirements  
S2, S3, S4, Boilers**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NOx	BAAQMD 9-7-112.2	N		30 ppmvd @ 3% O2, dry	Condition 14330, Part 5	P/every calendar year of operation starting date of renewal of Title V permit in 2019	Portable monitor	X	
NOx	SIP 9-7-301.1	Y		30 ppmv @ 3% O2, dry, when operating on gaseous fuels	Condition 14330, Part 5	P/every calendar year of operation starting date of renewal of Title V permit in 2019	Portable monitor	X	
NOx	SIP 9-302.1	Y		40 ppmv @ 3% O2, dry, when operating on non-gaseous fuels		N		X	
NOx	SIP 9-7-303	Y		Weighted average of 9-7-301.1 and 9-7-302.1	BAAQMD 9-7-501	C	Non-resettable fuel meters	X	
NOx	SIP 9-7-305.1	Y		150 ppmv @ 3% O2, dry, when operating on non-gaseous fuels during natural gas curtailment		N		X	
NOx	SIP 9-7-306.1	Y		150 ppmv @ 3% O2, dry, when operating on non-gaseous fuels for equipment testing		N		X	
CO	BAAQMD 9-7-112.2	N		400 ppmvd @ 3% O2	Condition 14330, Part 5	P/every calendar year of operation starting date of renewal of Title V permit in 2019	Portable monitor	X	
CO	SIP 9-7-301.2	Y		400 ppmv @ 3% O2, dry	Condition 14330, Part 5	P/every calendar year of operation starting date of renewal of Title V permit in 2019	Portable monitor	X	
CO	SIP 9-7-302.2	Y		400 ppmv @ 3% O2, dry		N		X	
CO	SIP 9-7-303	Y		400 ppmv @ 3% O2, dry		N		X	
CO	SIP 9-7-305.2	Y		400 ppmv @ 3% O2, dry		N		X	

Opacity	BAAQMD Regulation 6-1-301	N		>Ringelmann 1.0 for < 3 minutes in any hour	Condition 14330, Part 6	P/E, after firing for 200 hours on fuel oil	Visible emission inspection	X	
Opacity	SIP Regulation 6-301	Y		>Ringelmann 1.0 for <3 minutes in any hour	Condition 14330, Part 6	P/E, after firing for 200 hrs on fuel oil	Visible emission inspection	X	
FP	BAAQMD Regulation 6-1-310.3	N		0.15 gr/dscf @ 6% O2		N		X	
FP	SIP Regulation 6-310.3	Y		0.15 gr/dscf @ 6% O2		N		X	
SO2	BAAQMD 9-1-301	Y		Property Line Ground Level Limits: < 0.5 ppm for 3 minutes and < 0.25 ppm for 60 min and <0.05 ppm for 24 hours	None	N	N/A	X	
	BAAQMD 9-1-302	Y		300 ppm when burning gaseous fuels				X	
	BAAQMD 9-1-304	Y		0.5% wt Sulfur in liquid fuel		N	N	X	
Heat input limit	BAAQMD 9-7-112.2	N		< 120,012 MMBtu/any consecutive 12-month period for each boiler	BAAQMD 9-7-504	C	Non-resettable fuel meters for each fuel for each boiler within one year of renewal of Major Facility Review permit	X	

**Table VII-B  
Applicable Limits and Compliance Monitoring Requirements**

**S62, S63, S64, S65, S105, S106, S107, S108, S109, S110, S111, S112, S113, S114, S115, S116, S117, S118, S120, S121, S122, S123, S125, S126, S128, S129, S130, S131, S132, S133, S142, S143, S144, S145, S200, In-use Emergency Diesel Engine Generators**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD Regulation 6-1-303.1	N		>=Ringlemann 2.0 for no more than 3 minutes in any hour.		N		X	
Opacity	SIP Regulation 6-303.1	Y		>=Ringleman 2.0 for no more than 3 minutes in any hour		N		X	
FP	BAAQMD Regulation 6-1-310.1	N		0.15 gr/dscf		N		X	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		X	
SO <sub>2</sub>	BAAQMD 9-1-301	Y		Property Line Ground level limits: <=0.5 ppm for 3 minutes and <= 0.25 ppm for 60 min. and <= 0.05 ppm for 24 hours.	None	N	N/A	X	
SO <sub>2</sub>	BAAQMD 9-1-304	Y		0.5% wt. Sulfur in liquid fuel		N		X	
	CARB ATCM 93115.5(a)(1)	N		Sulfur content of diesel fuel ≤ 15 ppmw		N			
Hours of Operation	BAAQMD 9-8-330.1	N		Unlimited hours for emergencies	BAAQMD 9-8-530.2	C P/M	Hour Meter, Records of Operating Hours	X	

Hours of Operation	BAAQMD 9-8-330.3	N	1/1/2012	50 hours per calendar year or permit limit whichever is lower for reliability-related activities	BAAQMD 9-8-530	C P/M	Hour Meter, Records of Operating Hours		X
	BAAQMD Condition #22728 Part 2	Y		Applies to S145 Unlimited hours for emergencies	BAAQMD Condition 22728, Part 5	C P/M	Hour Meter, Record Keeping	X	
	BAAQMD Condition #22728 Part 1	Y		Applies to S145 ≤ 26 hours per year for reliability-related activities	BAAQMD Condition # 22728, Part 5	C P/M	Hour Meter, Record Keeping	X	
Hours of Operation	BAAQMD Condition # 22820, Part 2	Y		Applies to S105, S106, S107, S108, S111, S112, S113, S114, S115, S117, S120, S121, S122, S123, S125, S126, S128, S129, and S200 Unlimited hours for emergencies	BAAQMD Condition # 22820, Parts 3 and 4	C P/M	Hour meter, record keeping	X	
	BAAQMD Condition # 22820, Part 1	Y		Applies to S105, S106, S107, S108, S111, S112, S113, S114, S115, S117, S120, S121, S122, S123, S125, S126, S128, S129, and S200 ≤20 hours per year for reliability-related activities	BAAQMD Condition # 22820, Parts 3 and 4	C P/M	Hour meter, record keeping		X
	BAAQMD Condition # 22826, Part 2	Y		Applies to S62, S63, S64, S65, S133, S142, S143, S144, and S146 Unlimited hours for emergencies	BAAQMD Condition # 22826, Parts 3 and 4	C P/M	Hour meter, record keeping	X	
Hours of Operation	BAAQMD Condition # 22826, Part 1	Y		Applies to S62, S63, S64, S65, S133, S142, S143, S144, and S146 ≤ 26 hours per year for reliability-related activities	BAAQMD Condition # 22826, Parts 3 and 4	C P/M	Hour meter, record keeping	X	
	BAAQMD Condition # 22830, Part 2	Y		Applies to S109, S110, and S118 Unlimited hours for emergencies	BAAQMD Condition # 22830, Parts 3 and 4	C P/M	Hour meter, record keeping	X	
	BAAQMD Condition # 22830, Part 1	Y		Applies to S109, S110, and S118 ≤ 30 hours per year for reliability-related activities	BAAQMD Condition # 22830, Parts 3 and 4	C P/M	Hour meter, record keeping	X	
	BAAQMD Condition # 22850, Part 2	Y		Applies to S130, S131, and S132 Unlimited hours for emergencies	BAAQMD Condition # 22850, Parts 3 and 4	C P/M	Hour meter, Record keeping	X	
	BAAQMD Condition # 22850, Part 1	Y		Applies to S130, S131, and S132 ≤ 50 hours per year for reliability-related activities	BAAQMD Condition # 22850, Parts 3 and 4	C P/M	Hour meter, Record keeping	X	

**Table VII-C  
Applicable Limits and Compliance Monitoring Requirements  
S148, S149, S150, S152, S153, S154, S155, S156, S157, S158, S160, S162, S163, S164  
New Emergency Diesel Engine Generators**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD Regulation 6-1-303.1	N		>Ringlemann 2.0 for < 3 minutes in any hour.		N		X	
Opacity	SIP Regulation 6-303.1	Y		>Ringlemann 2.0 for < 3 minutes in any hour		N		X	
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf		N		X	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		X	
SO <sub>2</sub>	BAAQMD 9-1-301	Y		Property Line Ground level limits: <0.5 ppm for 3 minutes and < 0.25 ppm for 60 min. and < 0.05 ppm for 24 hours.	None	N	N/A	X	
SO <sub>2</sub>	BAAQMD 9-1-304	Y		0.5% wt. Sulfur in liquid fuel		N		X	
	CARB ATCM 93115.5(a)(1)	N		Sulfur content of diesel fuel < 15 ppmw		N			
Hours of Operation	BAAQMD 9-8-330.1	N		Unlimited hours for emergencies	BAAQMD 9-8-530.2	C P/M	Hour Meter, Records of Operating Hours	X	
	BAAQMD 9-8-330.3	N	1/1/2012	50 hours per calendar year or permit limit whichever is lower for reliability-related activities	BAAQMD 9-8-530	C P/M	Hour Meter, Records of Operating Hours	X	
	BAAQMD Condition #22850, Part 2	Y		Unlimited hours for emergencies	BAAQMD Condition # 22820, Parts 3 and 4	C P/M	Hour Meter, Record Keeping	X	
Hours of Operation	BAAQMD Condition #22850, Part 1	Y		< 50 hours per year for reliability-related activities	BAAQMD Condition # 22820, Parts 3 and 4	C P/M	Hour Meter, Record Keeping	X	

**Table VII-D  
Applicable Limits and Compliance Monitoring Requirements  
S139, Emergency Natural Gas Engine Generator  
S140, Emergency Propane Engine Generator**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD Regulation 6-1-303.1	N		≥Ringlemann 2.0 for <3 minutes in any hour		N		X	
Opacity	SIP Regulation 6-303.1	Y		≥Ringlemann 2.0 for <3 minutes in any hour		N		X	
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf		N		X	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		X	
SO <sub>2</sub>	BAAQMD 9-1-301	Y		Property Line Ground Level Limits: ≤0.5 ppm for 3 minutes and ≤0.25 ppm for 60 min. and ≤0.05 ppm for 24 hours	None	N	N/A	X	
	BAAQMD 9-1-302	Y		300 ppm when burning gaseous fuels		N		X	
Hours of Operation	BAAQMD 9-8-330.1	N		Unlimited hours for emergencies	BAAQMD 9-8-530.2	C P/M	Hour meter, Records of Operating Hours	X	

	BAAQMD 9-8-330.3	N	1/1/2012	50 hours per calendar year or permit limit whichever is lower for reliability-related activities	BAAQMD 9-8-530	C P/M	Hour meter, Records of Operating Hours	X	
	BAAQMD Condition # 19533, Part 1	Y		50 hours per calendar year for reliability-related activities	BAAQMD Condition # 19533, Parts 2 and 3	P/E	Record-keeping	X	

**Table VII-E  
Applicable Limits and Compliance Monitoring Requirements  
S151, S159, Emergency Natural Gas Engine Generators**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
Opacity	BAAQMD Regulation 6-1-303.1	N		≥Ringelmann 2.0 for <3 minutes in any hour		N		X	
Opacity	SIP Regulation 6-303.1	Y		≥Ringelmann 2.0 for <3 minutes in any hour		N		X	
FP	BAAQMD Regulation 6-1-310	N		0.15 gr/dscf		N		X	
FP	SIP Regulation 6-310	Y		0.15 gr/dscf		N		X	
SO2	BAAQMD 9-1-301	Y		Property Line Ground Level Limits: ≤0.5 ppm for 3 minutes and ≤0.25 ppm for 60 min and ≤0.05 ppm for 24 hours	None	N	N/A	x	
	BAAQMD 9-1-302	Y		300 ppm		N		X	
	BAAQMD Condition #23107, Part 1	Y		Applies to S159: 50 hours per calendar year for reliability-related activities	BAAQMD Condition 23107, Parts 2 and 3	P/E	Record-keeping	X	
	BAAQMD Condition # 23112, Part 1	Y		Applies to S151: 50 hours per calendar year for reliability-related activities	BAAQMD Condition 23112, Parts 2 and 3	P/E	Record-keeping	X	

**Table VII-F  
Applicable Limits and Compliance Monitoring Requirements  
S201, Turbine**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NOx	BAAQMD 9-9-301.2 and 9-9-603	N		0.70 lbs/MW-hr or 20.2 ppmv, 3-hr average when burning natural gas	BAAQMD 9-9-501	C	CEM	X	
	BAAQMD 9-9-301.2 and 9-9-603	N		1.97 lbs/MW-hr or 42 ppmv, 3-hr average when burning non-gaseous fuel	BAAQMD 9-9-501	C	CEM	X	
NOx	SIP 9-9-303.2	Y		20.2 ppmv @ 15% O2, dry (adjusted per 9-9-401), except during start-up	SIP 9-9-501	C	CEM	X	
	SIP 9-9-303.2	Y		42 ppmv @ 15% O2, dry when burning fuel oil during natural gas curtailment or short testing periods	SIP 9-9-501	C	CEM	X	



	BAAQMD Condition #366, Part 4	Y		0.70 lbs/MW-hr or 20.2 ppm <sub>dv</sub> - natural gas: @ 15% O <sub>2</sub> , 3 hr avg, except during start-up	BAAQMD Condition #366, Part 12	C	CEM	X	
NO <sub>x</sub>	BAAQMD Condition #366, Part 5	Y		0.70 lbs/MW-hr or 20.2 ppm <sub>dv</sub> - natural gas: @ 15% O <sub>2</sub> (combined S201 & S202), 3 hr avg, except during start-up	BAAQMD Condition #366, Part 12	C	CEM	X	
	BAAQMD Condition #366, Part 6	Y		42 ppm <sub>dv</sub> - fuel oil: @ 15% O <sub>2</sub> , 3 hr avg, except during start-up	BAAQMD Condition #366, Part 12	C	CEM	X	
NO <sub>x</sub>	BAAQMD Condition #366, Part 7	Y		39 ppm <sub>dv</sub> - fuel oil: @ 15% O <sub>2</sub> (combined S201 & S202), 3 hr avg, except during start-up	BAAQMD Condition #366, Part 12	C	CEM	X	
	BAAQMD Condition #366, Part 10	Y		547 lb/day when burning natural gas and 1,093 lb/day when burning fuel oil (combined S201 & S202)	BAAQMD Condition #366, Part 12	C	CEM	X	
	NSPS Subpart GG, 60.332(a)(1)	Y		99 ppm <sub>dv</sub> @ 15% O <sub>2</sub> dry, 4-hr average	NSPS Subpart GG, 60.334(b)	C	CEM	X	
CO	BAAQMD Condition #366, Part 4a	Y		200 ppm @ 15% O <sub>2</sub> , 3-hour average except during start-up	BAAQMD Condition #366, Part 12a	C	CEM	X	
CO	BAAQMD Condition #366, Part 5a	Y		200 ppm @ 15% O <sub>2</sub> (combined S201 & S202) 3-hour average except during start-up	BAAQMD Condition #366, Part 12a	C	CEM	X	
CO	BAAQMD Condition #366, Part 10	Y		2,195 lb/day (natural gas or fuel oil) (combined S201 & <del>S201</del> S202)	BAAQMD Condition #366, Parts 10, 12a, and 18	C	CEM, annual source test	X	
SO <sub>2</sub>	BAAQMD Condition #366, Part 2	Y		Maximum of 0.12% by wt. Sulfur in fuel oil	BAAQMD Condition #366, Parts 2	P/E	At Each Delivery, Fuel Sampling using District's Laboratory Procedure Method 10	X	
SO <sub>2</sub>	BAAQMD Condition #366, Part 3	Y		Maximum of 0.25% by wt. Sulfur in fuel oil during periods of natural gas curtailment	BAAQMD Condition #366, Parts 2	P/E	At Each Delivery, Fuel Sampling using District's Laboratory Procedure Method 10	X	
	BAAQMD Condition #366, Part 11	Y		987 lb/day except during natural gas curtailment or shutdown as allowed by Cond #366, Part 3 (combined S201 & S202)	BAAQMD Condition #366, Part 11	P/E	Fuel Sampling using District's Laboratory Procedure Method 10	X	
	BAAQMD Condition #366, Part 11	Y		40 tons/year (combined S201 & S202)	BAAQMD Condition #366, Part 11	P/E	Fuel Sampling using District's	X	

							Laboratory Procedure Method 10		
SO2	BAAQMD 9-1-301	Y		GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	
SO2	BAAQMD 9-1-302	Y		300 ppm (dry)		N		X	
	BAAQMD 9-1-304	Y		0.5% wt. Sulfur in liquid fuel		P/E	Fuel certification	X	
SO2	NSPS Subpart GG, 60.333 (a)	Y		0.015% (vol) @ 15% O2 (dry), or 0.8% sulfur in gaseous fuel by weight	NSPS Subpart GG, 60.334 (h)(3)	P/M or EN	Monthly gaseous fuel analysis or current, valid purchase contract, tariff sheet or transportation contract	X	
SO2	NSPS Subpart GG, 60.33 (b)	Y		0.8 % sulfur in fuel oil by weight	NSPS Subpart GG, 60.334 (h)(1), 60.334(i)(1)	P/E	At Each Fuel Delivery, Fuel Sampling using District's Laboratory Procedure Method 10	X	
Opacity	BAAQMD 6-1-301	N		≥Ringelmann No. 1 for <3 minutes in an hour	BAAQMD Condition #366, Part 19	P/E, during distillate oil combustion	Visible emissions monitoring	X	
Opacity	SIP 6-301	Y		≥Ringelmann No. 1 for <3 minutes in an hour	BAAQMD Condition #366, Part 19	P/E, during distillate oil combustion	Visible emissions monitoring	X	
FP	BAAQMD 6-1-310.1 and 6-1-310.3	N		0.15 grain/dscf @ 6% O2		N		X	
FP	SIP 6-310	Y		0.15 grain/dscf @ 6% O2		N		X	

<sup>1</sup> Ground Level Concentration

**Table VII-G  
Applicable Limits and Compliance Monitoring Requirements  
S-202, Duct Burner**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
NOx	BAAQMD 9-9-301.2	N		0.70 lbs/MW-hr or 15 ppmv, 3-hr average when burning natural gas	BAAQMD 9-9-501	C	CEM	X	
	BAAQMD 9-9-301.2	N		1.97 lbs/MW-hr or 42 ppmv, 3-hr average when burning non-gaseous fuel	BAAQMD 9-9-501	C	CEM	X	
NOx	SIP 9-9-303.2	Y		20.2 ppmv @ 15% O2, dry (adjusted per 9-9-401), except during start-up	BAAQMD 9-9-501	C	CEM	X	
NOx	SIP 9-9-303.2	Y		42 ppmv @ 15% O2, dry during natural gas curtailment or short testing periods	BAAQMD 9-9-501	C	CEM	X	
NOx	BAAQMD Cond #366, Part 5	Y		0.70 lbs/MW-hr or 15 ppmv - natural gas: @ 15% O2 (combined S201 & S202), 3 hr avg, except during start-up	BAAQMD Condition #366, Part 12	C	CEM	X	

	BAAQMD Condition #366, Part 7	Y		39 ppmdv - fuel oil: @ 15% O2 (combined S201 & S202), 3 hr avg, except during start-up	BAAQMD Condition #366, Part 12	C	CEM	X	
	BAAQMD Condition #366, Part 10	Y		547 lb/day when burning natural gas and 1,093 lb/day when burning fuel oil (combined S201 & S202)	BAAQMD Condition #366, Parts 9 and 12	C	CEM	X	
	NSPS Subpart GG, 60.332(a)(1)	Y		99 ppmdv @ 15% O2 dry, 4-hr average	NSPS Subpart GG, 60.334(b)	C	CEM	X	
CO	BAAQMD Condition #366, Part 5a	Y		200 ppm @ 15% O2 (combined S201 & S202) 3-hour average except during start-up	BAAQMD Condition #366, Part 12a	C	CEM	X	
CO	BAAQMD Condition #366, Part 10	Y		2,195 lb/day (natural gas) 2,195 lb/day (fuel oil) (combined S201 & S202)	BAAQMD Condition #366, Parts 10, 12a, and 18	C	CEM, annual source test	X	
SO2	BAAQMD Condition #366, Part 11	Y		987 lb/day except during natural gas curtailment or shutdown as allowed by Condition #366, Part 3 (combined S201 & S202)	BAAQMD Condition #366, Part 11	P/E	Fuel Sampling using District's Laboratory Procedure Method 10	X	
SO2	BAAQMD Condition #366, Part 11	Y		40 tons/year (combined S201 & S202)	BAAQMD Condition #366, Part 11	P/E	At Each Delivery, Fuel Sampling using District's Laboratory Procedure Method 10	X	
SO2	BAAQMD 9-1-301	Y		GLC <sup>1</sup> of 0.5 ppm for 3 min or 0.25 ppm for 60 min or 0.05 ppm for 24 hours		N		X	
SO2	BAAQMD 9-1-302	Y		300 ppm (dry)		N		X	
	BAAQMD 9-1-304	Y		0.5% wt. Sulfur in liquid fuel		P/E	Fuel certification	X	
SO2	NSPS Subpart GG, 60.333 (a)	Y		0.015% (vol) @ 15% O2 (dry) or 0.8% sulfur in gaseous fuel by weight	NSPS Subpart GG, 60.334 (h)(3)	P/M or EN	Monthly gaseous fuel analysis or current, valid purchase contract, tariff sheet or transportation contract	X	
SO2	NSPS Subpart GG, 60.333(b)	Y		0.8% sulfur in fuel oil by weight	NSPS Subpart GG, 60.334(h)(1), 60.334(i)(1)	P/E	At Each Fuel Oil Delivery, Fuel Sampling using District's Laboratory Procedure Method 10	X	
Opacity	BAAQMD 6-1-301	N		≥Ringelmann No. 1 for < 3 minutes in an hour	BAAQMD Condition #366, Part 19	P/E, during distillate oil combustion	Visible emissions monitoring	X	
Opacity	SIP 6-301	Y		≥Ringelmann No. 1 for < 3 minutes in an hour	BAAQMD Condition #366, Part 19	P/E, during distillate oil combustion	Visible emissions monitoring	X	
FP	BAAQMD 6-1-310.1 and 6-1-310.3	N		0.15 grain/dscf @ 6% O2		N		X	
FP	SIP 6-310	Y		0.15 grain/dscf @ 6% O2		N		X	

<sup>1</sup> Ground Level Concentration

**Table VII-H  
Applicable Limits and Compliance Monitoring Requirements  
S100, Facility-wide Painting Operations**

Type of Limit	Emission Limit Citation	FE Y/N	Future Effective Date	Emission Limit	Monitoring Requirement Citation	Monitoring Frequency (P/C/N)	Monitoring Type	Compliance	
								Yes	No
VOC	BAAQMD 8-19-302	Y		Baked Coatings: 2.3 lb/gal Air Dried Coatings: 2.8 lb/gal	BAAQMD 8-19-501 and Condition 21880, Part 1c.iv	P/W/M	Records	X	
VOC	BAAQMD 8-19-312.1	Y		Camouflage: Baked Coatings: 3.0 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, Part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-19-312.3	Y		Heat Resistant: Baked Coatings: 3.0 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, Part 1c.iv	P/W/M	Records	X	
VOC	BAAQMD 8-19-312.4	Y		High Performance Architectural Baked Coatings: 3.5 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, Part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-19-312.5	Y		Metallic Topcoat Baked Coatings: 3.0 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, Part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-19-312.7	Y		Pretreatment Wash Primer Baked Coatings: 3.5 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-19-312.8	Y		Silicon Release Baked Coatings: 3.5 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-19-312.9	Y		Solar Absorbent Baked Coatings: 3.0 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-19-312.12	Y		Extreme Performance Baked Coatings: 3.5 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
VOC	BAAQMD 8-19-312.13	Y		High Temperature Baked Coatings: 3.5 lb/gal Air Dried Coatings: 3.5 lb/gal	BAAQMD 8-19-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-23-301	Y		2.1 lb/gal	BAAQMD 8-23-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-302	Y		2.8 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-302	Y		2.8 lb/gal	BAAQMD	P/W/M	Records	X	

					8-31-501 and Condition 21880, part 1c.iv				
	BAAQMD 8-31-306.1	Y		Flexible Parts: Flexible Primer: 4.1 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-306.2	Y		Flexible Parts: Color Topcoat: 3.8 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
VOC	BAAQMD 8-31-306.3	Y		Flexible Parts: Base coat/clear coat (combined system): 2.8 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
VOC	BAAQMD 8-31-309.1	Y		Camouflage: 3.5 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-309.2	Y		Conductive: 2.7 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-309.3	Y		Metallic Topcoat: 3.5 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-309.4	Y		Extreme Performance: 6.2 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-309.5	Y		High Gloss: 3.5 lb/gal	BAAQMD 8-31-501 and Condition 21880, part 1c.iv	P/W/M	Records	X	
VOC	BAAQMD 8-31-309.6	Y		Optical: 6.7 lb/gal	BAAQMD 8-31-501 and Condition 21880, Part 1c.iv	P/W/M	Records	X	
	BAAQMD 8-31-301	Y		See rule		N		X	
Through-put	Condition 21880, part 1a	Y		Non-water-based coating < 80 gal/consecutive 12-month period	Condition 21880, part 1c.iii	P/W/M	Record-keeping	X	
	Condition 21880, part 1a	Y		Water-based coating <250 gal/consecutive 12-month period	Condition 21880, part 1c.iii	P/W/M	Record-keeping	X	
	Condition 21880, part 1b	Y		Cleanup and surface preparation solvent <10 gal/consecutive 12-month period	Condition 21880, part 1c.i and 1c.ii	P/W/M	Record-keeping	X	
	Condition 21880, part 1b	Y		Organic thinner < 10 gal/consecutive 12-month period	Condition 21880, part 1c.ii and 1c.iii	P/W/M	Record-keeping	X	

## **Attachments**



OFFICE OF ENVIRONMENT, HEALTH AND SAFETY  
317 UNIVERSITY HALL  
BERKELEY, CALIFORNIA 94720-1150

Via email to: [compliance@baaqmd.gov](mailto:compliance@baaqmd.gov)

June 3, 2021

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports

RE: UC Berkeley, Facility #A0059 – 10-Day Deviation Report for one Unpermitted Diesel Fire Pump Emission Source

Dear Director of Compliance and Enforcement:

This letter is to inform you of UC Berkeley's deviation from the Title V Operating Permit, issued in 2020.

On May 26, 2021, our Air District inspector, Grace Leung, was performing a routine campus inspection of all Facility #A0059 emission sources. The Air District Inspector requested information on whether or not we own any diesel fire pumps on campus, as they were not listed on our permit.

Upon a follow-up audit with Facilities Services, the primary operation and maintenance department of UC Berkeley, it came to our attention that we have one historic diesel fire pump in use on our Hill Campus that is not currently permitted with the Air District. We plan on inspecting this unit on June 10, 2021 with our Air District Inspector, Grace Leung, to verify engine specifications and to submit appropriate permit application forms for the unit. Based on known information, the engine is listed as 73 bhp, which meets the threshold for requiring a permit.

We will follow-up with a 30-Day Deviation Report.

If you have any questions or concerns, please contact Bernadette Santos at [bsantos@berkeley.edu](mailto:bsantos@berkeley.edu).

Sincerely,

Bernadette Santos  
Environmental Specialist

Cc Grace Leung, BAAQMD Inspector  
Alicia Bihler, UC Berkeley  
Diane Coppini, UC Berkeley



OFFICE OF ENVIRONMENT, HEALTH AND SAFETY  
317 UNIVERSITY HALL  
BERKELEY, CALIFORNIA 94720-1150

Via email to: [compliance@baaqmd.gov](mailto:compliance@baaqmd.gov)

July 8, 2021

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports

RE: UC Berkeley, Facility #A0059 –30-Day Deviation Report for one Unpermitted Diesel Fire Pump Emission Source

Dear Director of Compliance and Enforcement:

This letter is to inform you of UC Berkeley's deviation from the Title V Operating Permit, issued in 2020.

On July 8, 2021, UC Berkeley submitted a New Source Review permit application for a historical diesel fire pump that was found during the routine Air District inspection.

As we investigated and reviewed old records, we found that obtaining property authority to construct/permit to operate permits was an oversight during the 2002 permitting process, when campus compliance personnel worked with the Air District to permit multiple historical emission sources for the first time under our Main Campus permit. The compliance advisory we received during that time was for "diesel-fired internal combustion engines, larger than 50 hp, which power standby generators". Based on interpretation of the compliance advisory, the diesel fire pump was not powering a "standby generator", therefore, we did not pursue a permit for the unit at this time.

It is unknown between now and 2002, when the permitting regulations/advisory notices were updated to include fire diesel pumps. This unit has been in operation since its installation, which we estimate as 1996, based on the engine model year. The unit has been maintained appropriately over the years with required 30-minute weekly service, which is performed by a certified diesel fire pump operator and is a requirement by our Campus Fire Marshal.

We hope to work with the Air District to obtain a permit for this unit.

If you have any questions or concerns, please contact Bernadette Santos at [bsantos@berkeley.edu](mailto:bsantos@berkeley.edu).

Sincerely,

A handwritten signature in black ink that reads "Bernadette Santos".

Bernadette Santos  
Environmental Specialist

Cc Grace Leung, BAAQMD Inspector  
Alicia Bihler, UC Berkeley  
Diane Coppini, UC Berkeley





OFFICE OF ENVIRONMENT, HEALTH AND SAFETY  
317 UNIVERSITY HALL  
BERKELEY, CALIFORNIA 94720-1150

Via email to: [compliance@baaqmd.gov](mailto:compliance@baaqmd.gov)

July 8, 2021

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports

RE: UC Berkeley, Facility #A0059 – Source # 4 – Auxiliary Boiler Fuel Metering Progress Report (Deviation #6385)

Dear Director of Compliance and Enforcement:

This letter is to inform you of the status of UC Berkeley's auxiliary boiler fuel metering deviation from the Title V Operating Permit, issued in 2020.

**Source #4**

As a follow-up to our April 26, 2021 deviation report, we are still in the process of finalizing the commissioning activities of the gas turbine unit with its new emission control technology. We are still on track to complete the fuel metering for Boiler #4 by September 30, 2021, which was our requested extension date.

We will continue to inform the BAAQMD of our progress on the fuel metering.

If you have any questions or concerns, please contact Bernadette Santos at [bsantos@berkeley.edu](mailto:bsantos@berkeley.edu).

Sincerely,

Bernadette Santos  
Environmental Specialist

Cc Grace Leung, BAAQMD Inspector  
Alicia Bihler, UC Berkeley  
Norris Herrington, UC Berkeley



OFFICE OF ENVIRONMENT, HEALTH AND SAFETY  
317 UNIVERSITY HALL  
BERKELEY, CALIFORNIA 94720-1150

Via email to: [compliance@baaqmd.gov](mailto:compliance@baaqmd.gov)

August 18, 2021

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports

RE: UC Berkeley, Facility #A0059 – Boiler # 4 - Auxiliary Boiler Fuel Metering Completion Report (Deviation # 6385)

Dear Director of Compliance and Enforcement:

This letter is to inform you of our progress for the auxiliary boiler #4 fuel metering project.

Source # 4:

As a follow-up to our July 8, 2021 Deviation Report, we are informing the District that we have completed installation of the fuel metering for Boiler #4.

The boiler was taken off-line on Sunday, August 8, 2021 and re-routing of the fuel line was performed that week. Installation of the fuel meter was completed on August 11, 2021.

The Bay Area Air Quality Management District Inspector, Grace Leung, inspected the fuel meter on Monday, August 16, 2021 at the facility.

To the right, is a photo of the newly installed, non-resettable natural gas boiler meter. The meter reading at installation was: 00,000.96 mcf.



If you have any questions or concerns, please contact Bernadette Santos at [bsantos@berkeley.edu](mailto:bsantos@berkeley.edu).

Sincerely,

A handwritten signature in black ink that reads "Bernadette Santos".

Bernadette Santos  
Environmental Specialist

Cc Grace Leung, BAAQMD Inspector  
Alicia Bihler, UC Berkeley  
Norris Herrington, UC Berkeley  
Diane Coppini, UC Berkeley

# UNIVERSITY OF CALIFORNIA, BERKELEY

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SANTA BARBARA • SANTA CRUZ

OFFICE OF ENVIRONMENT, HEALTH AND SAFETY  
317 UNIVERSITY HALL  
BERKELEY, CALIFORNIA 94720-1150

Via email to: [compliance@baaqmd.gov](mailto:compliance@baaqmd.gov)

September 20, 2021

Director of Compliance and Enforcement  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105  
Attn: Title V Reports

RE: UC Berkeley, Facility #A0059 –10-Day Deviation Report (NOV A58847, NOV A57748, and NTC A47327)

Dear Director of Compliance and Enforcement:

This letter is to inform you of UC Berkeley's deviation from the Title V Operating Permit, issued in 2020.

On Thursday, September 9, 2021, UC Berkeley received two Notices of Violation, Ref. # A58847 – Diesel Fire Pump and Ref. # A58848 for overage of permitted hours for Valley Life Sciences Building.

For NOV A58847, UC Berkeley will continue working with the Air District to obtain a Permit to Operate for the Diesel Fire Pump. A permit application was submitted on July 8, 2021. An invoice from the Air District was received soon after, and a payment is expected to be received at the BAAQMD this week. We will continue to work with the Air District for any additional information that is needed to obtain the Permit to Operate for the unit.

For NOV A58848, UC Berkeley will temporarily reduce the reliability run schedule (in normal operation, the emergency generator is tested twice a month for approximately 30 minutes). Once we are under our permitted reliability hours, we will resume normal preventative maintenance operations. Increased outreach to Facilities Services maintenance staff on permitted hours will be conducted to avoid any exceedances in permit limitations

In addition, on Monday, September 20, 2021, UC Berkeley received a Notice to Comply (Ref. # A47327) regarding the continuous emissions monitoring, where periods of inoperation greater than 24 continuous hours shall be reported by the following work day, followed by notification of resumption of monitoring. Compliance will be achieved by improved communication between co-generation plant personnel and Office of Environment, Health & Safety staff members to ensure timely reporting for any inoperative monitors is performed within the deadlines.

If you have any questions or concerns, please contact Bernadette Santos at [bsantos@berkeley.edu](mailto:bsantos@berkeley.edu).

Sincerely,

A handwritten signature in black ink that reads 'Bernadette Santos'.

Bernadette Santos  
Environmental Specialist

Cc Grace Leung, BAAQMD Inspector  
Alicia Bihler, UC Berkeley