

NPDES Inspection Report – Pretreatment Categorical Industrial User

National Database Information	
Inspection Entry Date/Time: 5/19/2021 at 9:30 - 11:30am	Inspection Type: Pretreatment Categorical Industrial User
Inspection Closing Date/Time: 5/24/2021 at 1:00 – 2:30pm	NPDES ID Number: COP900273 and COP900709 – CDPHE; COPF00103 and COPF00104 – EPA
Inspection ID: 202105 COPF00103 and 202105 COPF00104	
Lead inspector and affiliation: Jessica Duggan, EPA Region 8	
Inspector and affiliation: Emilio Llamozas, EPA Region 8	

Facility Location Information <i>(Name/Location/ Mailing Address)</i>	
Site/Facility Name & Location: Colorado Energy Management 1500 South Clayton Street Brush, Colorado 80723	Mail Report (Electronic Delivery) to: Lisa Warren, Environmental Specialist Heorot Power Management lwarren@heorotpower.com cc: kmccormack@heorotpower.com; mschnabel@heorotpower.com

Contact Information	
	Name(s)/Title
Person/Company meeting definition of Owner/Operator	Colorado Energy Management
Facility Contacts: <i>(indicate primary lead and present during inspection)</i>	Lisa Warren / Environmental Specialist / Heorot Power Management (lead- present)
	Kyle McCormack / Sr. Environmental Manager / Heorot Power Management (present)
	Malcom Schnabel / Plant Manager / Heorot Power Management (present for part of inspection)
Authorized Official(s)	Malcom Schnabel / Plant Manager / Heorot Power Management

Areas Evaluated During Inspection		
Permit	Effluent/Receiving Waters	Compliance Schedule
<u>Records/Reports</u>	Flow Measurement	<u>Pollution Prevention</u>
Facility Site Review	<u>Self-Monitoring Program</u>	Laboratory
Stormwater	<u>Operations and Maintenance</u>	<u>Pretreatment</u>

Report Review and Signature		
Drafter Name	Date	Address/Phone Number
Jessica Duggan	8/13/2021	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202 303-312-6195
Reviewer Name	Date	Address/Phone Number
Emilio Llamozas	8/17/2021	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202 303-312-6407
Management Reviewer Signature	Date	Address/Phone Number
MICHAEL BOEGLIN  Digitally signed by MICHAEL BOEGLIN Date: 2021.08.24 06:24:29 -06'00'	8/24/2021	U.S. EPA Region 8 1595 Wynkoop Street 8ENF-W-NW Denver, Colorado 80202 303-312-6250
Michael Boeglin, NPDES and Wetlands Enforcement Section Chief		

Inspection Narrative and Site Description

Introduction

On Wednesday, May 19, 2021 at 9:30am and Monday, May 24, 2021, at 1:00pm, U.S. Environmental Protection Agency (EPA) inspectors Jessica Duggan and Emilio Llamozas (inspectors) conducted a remote pretreatment categorical industrial user (CIU) inspection of the Colorado Energy Management (CEM; facility) located at 1500 South Clayton Street, Brush, Colorado 80723. The inspection was conducted remotely due to concerns surrounding the COVID-19 pandemic. The purpose of the remote inspection was to evaluate CEM's compliance with the requirements in 40 CFR Parts 403 and 423 for the General Pretreatment Regulations and Steam Electric Power Generating Point Source Category, respectively.

The remote compliance evaluation consisted of an opening conference, industrial process and compliance questions, records review, and a closing conference. Throughout the remote inspection, inspectors noted observations in digital checklists.

On May 19, 2021, EPA inspectors introduced themselves and met with Ms. Lisa Warren, Environmental Specialist; Mr. Kyle McCormack, Sr. Environmental Manager; and Mr. Malcom Schnabel, Plant Manager through a Microsoft Teams video conference call. The facility representatives are associated with Heorot Power Management. The inspectors held an opening conference with the facility representatives to explain the purpose of the inspection and discussed the role of the EPA regarding pretreatment regulations in Colorado.

Colorado Energy Management operates the four power plants (generating units; units) at the Brush location (Brush 1, 2, 3, and 4D). Colorado Department of Public Health and Environment (CDPHE) had previously issued a permit for the Brush Power LLC – Brush 1, 3, and 4D plants (NPDES number COP900273) and the AltaGas Brush Energy, Inc. – Brush 2 plant (NPDES number COP900709). EPA has also assigned NPDES numbers for these power plants (COPF00103 for Brush 1,3,and 4D; and COPF00104 for Brush 2). In this report, the CDPHE permit number are used for simplicity. An EPA pretreatment permit application was emailed to the CEM contacts on May 19, 2021. Questions on the application form can be sent to the EPA Region 8 Pretreatment Coordinator, Al Garcia, at 303-312-6382 or garcia.al@epa.gov. Inspectors also explained to use of the remote inspection as a tool to evaluate compliance without being onsite during the COVID-19 pandemic.

Facility representatives provided an overview of the operations and processes at the collective site for Brush 1, 2, 3, and 4D units. Inspectors proceeded to ask a series of questions to help evaluate compliance with pretreatment regulations in 40 CFR Part 423.17 Steam Electric Power Generating Point Source Category. According to the CDPHE Permit Fact Sheets, construction on the original plants began in 1989 and power production began in 1990. The facility is a new source and pretreatment standards for new sources (PSNS) are applied because operations began after October 14, 1980. Based on the information provided during the process discussion and Fact Sheets, the facility discharges to the City of Brush Wastewater Treatment Facility (NPDES number CO0021245).

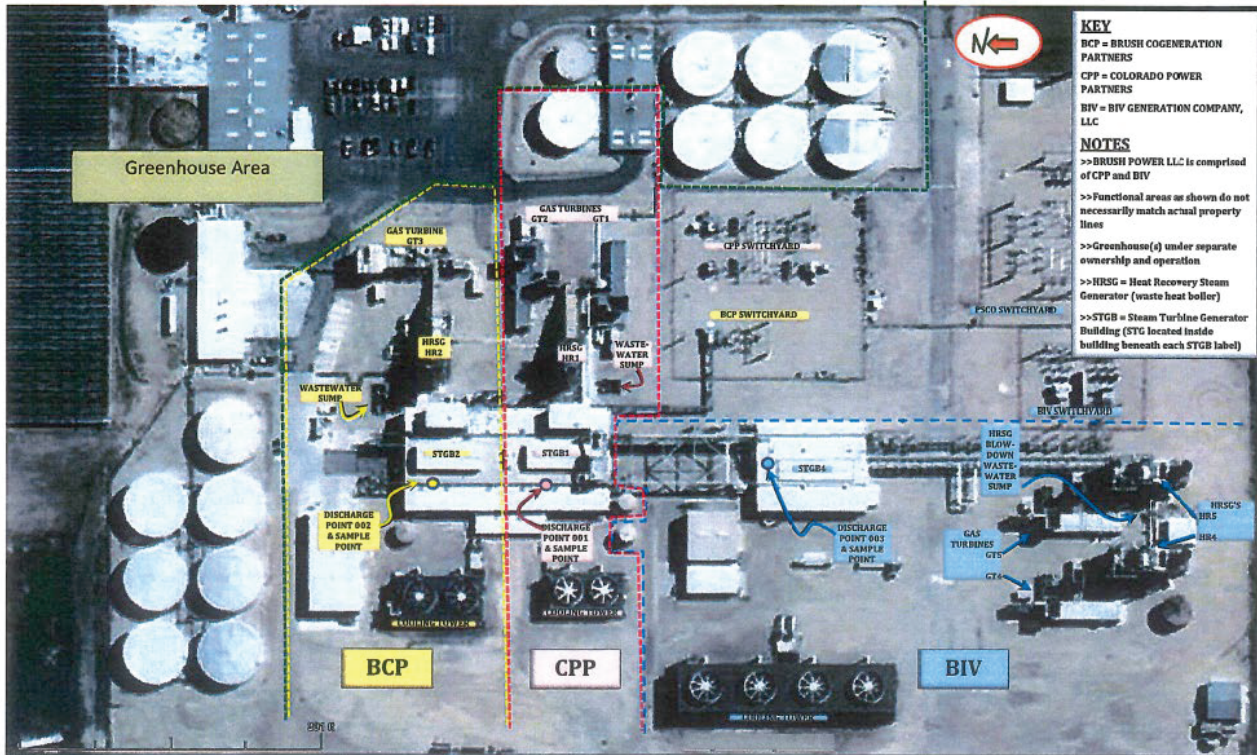
Facility Description and Process Overview

EPA inspectors discussed onsite processes with facility staff, but because the inspection was performed remotely, onsite conditions were not independently verified.

The Brush Power LLC facility consists of the Brush 1&3 power plants, owned by Colorado Power Partners (CPP) and Brush 4D, owned by BIV Generating Company LLC (BIV). Both Colorado Power Partners and BIV Generation Company LLC are wholly owned subsidiaries of Brush Power LLC. Not included in the Brush Power LLC facilities, but sharing some common infrastructure, is an adjacent power plant; Brush 2, is owned by Brush Cogeneration Partners (BCP).

GENERAL ARRANGEMENT - POWER GENERATION FACILITIES

rev 0- 2012-08-08



The plants have 32 employees and operations consist of two 10-hour shifts that overlap by a half hour. The operating schedule is typically 4:30am to 12:00am daily. Units are generally started in the mornings and shut down at night, though this sometimes changes due to power demand. The plant operates intermittently and operates more frequently in the summer months. The plant is considered a peaking plant.

Brush 1 is a combined cycle natural gas combustion turbine and with a cooling tower. Brush 3 is a simple cycle natural gas combustion turbine that is associated with Brush 1. Brush 4D is a combined cycle natural gas combustion turbine with a cooling tower. Brush 2 is a combined cycle natural gas combustion turbine with a cooling tower.

The source water for the facility is water from City of Brush. Process wastewater streams are generated from cooling tower blowdown, boiler blowdown, reverse osmosis brine, and building floor drains.

The property has a total of three (3) cooling towers for the power units. The cooling tower recirculation water is monitored continuously for conductivity and is adjusted for pH by adding sulfuric acid. The cooling tower recirculation system is blowdown and discharged to the POTW blowdown based on the conductivity. When the conductivity measures above 2,000 milliohms, a portion of the recirculation water is blowdown and discharged to the POTW and replaced with fresh water.

Four (4) reverse osmosis (RO) systems are used to treat water for use in the boiler and steam generation system. The RO water is treated with phosphate and Eliminox for corrosion control in the boiler feed water line. There are four (4) boiler blowdown locations that discharge into the onsite pits. The boiler blowdown is based on conductivity. RO backwash water and boiler blowdown water can be recirculated to the cooling tower or discharged to the pits.

Facility representatives discussed chemicals used in the water treatment, such as descale and corrosion inhibitor chemical. Additionally, facility representatives provided a list of chemicals used onsite and the table below identifies the name of the product, the injection point, and the purpose of the chemical.

Chemical Name	Injection Point	Purpose
POWERFILM 10000	Condensate pump discharge	Corrosion inhibitor for boiler water treatment and condensate systems
ELIMIN-OX	Boiler feed water line	Oxygen scavenger and passivator
NALCO BT 3000	Boiler feed water line	Boiler corrosion control
PERMATREAT PC-191T	Inlet of 1 st pass RO	Antiscalant
NALCO 7408	Inlet of 1 st pass RO	Dichlorination of City water
3D TRASAR 3DT128	Condenser inlet	Circulation water scale and corrosion inhibitor
PERMACLEAN PC-77	RO clean in place skid when cleaning RO	To clean iron and calcium carbonate from membranes

Wastewater

As mentioned above, process wastewater streams are generated from cooling tower blowdown, boiler blowdown, reverse osmosis brine, and building floor drains. Process wastewater from Brush 4D flows into Pit 4 and combines with wastewater flow from Brush 1 and 3 that flows into Pit 1. Process wastewater from Brush 2 unit flows into Pit 2. Pits 1 and 2 each have an oil skimmer and the pH is monitored. Wastewater in Pits 1 and 2 discharge into a containment sump, where the conductivity is verified and pumped to the City's collection system. The pits are automatically controlled to discharge to the City once they are full. Frequency of discharge depends upon load, temperature, and how often the units are operating.

Discharges at this facility that are regulated under the federal categorical standard for the Steam Electric Power Generating Point Source Category (40 CFR Part 423) are those associated with the cooling tower blowdown and boiler cleaning wastes. The last boiler cleaning was conducted in 2001 and there have not been any recent discharges of boiler cleaning wastes or metal cleaning wastes. The table below lists the unit, permit number, and outfall number.

Unit	Permit	Outfall
Brush 1 and 3 – cooling tower blowdown	COP900273	001
Brush 4D – cooling tower blowdown	COP900273	002
Metal cleaning waste – Brush 1, 3, and 4D	COP900273	003
Brush 2 – cooling tower blowdown	COP900709	001
Metal cleaning waste – Brush 2	COP900709	002

The sanitary wastewater generated from the adjacent greenhouse combines with the sanitary flow from the facility. The combined flow and flow from the process wastewater sump discharges to the POTW.

Sample Collection

Wastewater samples are collected by the onsite field operators when cooling tower blowdown occurs from the designated sample port on circulating water pipe for Brush 1 and 3 (COP900273; outfall 001), sample port on the circulating water pipe for Brush 4D (COP900273; outfall 002), and the sample port on the circulating water pipe for Brush 2 (COP900709; outfall 001).

The Brush power plants are peaking units and do not operate on a continuous basis, thus cooling tower blowdown wastewater does not discharge every day. The conductivity of the cooling tower is constantly monitored, and blowdown wastewater occurs when the conductivity is above 2,000 milliohms. Grab sample aliquots are collected from the sample ports designated at each of the three cooling tower blowdown locations and combined in a field composite sample for that specific outfall. Each grab sample is collected in a 1500ml, pre-preserved with nitric acid sample container provided by the testing laboratory which is filled and then added to the composite sample container. According to the *DMR Sampling and Testing Procedure, ENV-02-04 and ENV-02-05, Rev #4*, the composite sample is stored in Water Treatment 2 at room temperature. A subsample is collected from the composite sample and sent to Colorado Analytical for metals analysis. The procedure states a 500ml plastic sample bottle is used for the laboratory analysis and the *DMR Sample Logs* indicates the subsample volume is 100ml. The daily flow from cooling tower blowdown from Brush 1 & 3, Brush 4, and Brush 2 are recorded in a spreadsheet. The pH from Brush 2 is also collected and recorded. Lisa Warren prepares the discharge monitoring reports (DMR) in NetDMR using the daily operation logs and laboratory analyses, and Malcom Schnabel signs and certifies the DMRs.

Facility Walk-Through

EPA inspectors did not conduct an onsite inspection of the facility due to COVID-19 concerns. The evaluations focused on records review and interviews with facility representatives.

Records Review

Inspectors provided access to a shared folder on Microsoft OneDrive (OneDrive) to allow for facility representatives to upload records. EPA requested records and information about wastewater sludge removal and the last boiler cleaning. The most recent cooling tower sludge sampling was conducted in March 2012 and no sludge has been recently removed. The last boiler cleaning occurred in approximately 2001 when Brush 4D was commissioned. The plant manager, Malcom Schnabel, was not aware of a chemical clean on any of the boilers since approximately 2001. A dry-ice blast of the outside of the tubes was conducted on a unit (referred to as HR2) approximately 15 years ago.

Inspectors initially received the Slug Control Plan dated 12/14/12, but learned during the inspection that the plan had been updated. Inspectors reviewed the Slug Control Plan with a Revision Date of 11/28/17.

Inspectors reviewed the DMRs and associated laboratory records, reports, and chains-of-custody (COCs) from January 2020 to March 2021 (i.e., Q1, Q2, Q3, and Q4 in 2020, and Q1 2021). The samples were analyzed by Colorado Analytical Laboratories, Inc. in Brighton, Colorado. The DMR data was reported using the CDPHE permit numbers for the Brush Power LLC – Brush 1, 3, and 4D plants (NPDES number COP900273) and the AltaGas Brush Energy, Inc. – Brush 2 plant (NPDES number COP900709).

Closing and Follow-Up

The inspectors held a closing conference with Ms. Warren, Mr. McCormack, and Mr. Schnabel on May 24, 2021. EPA inspectors informed the facility contacts of the preliminary observations that were noted during the inspection. On June 1, 2021, EPA emailed the preliminary findings to the facility representatives.

Findings, Corrective Actions and Recommendations

Finding #1: The Slug Discharge Control Plan contained procedures for immediately notifying the City of Brush Wastewater Treatment Plant, but did not include procedures to notify the EPA or CDPHE. Additionally, the plan identifies a follow-up written report is required, but failed to identify that the report is due within five (5) days.

The Slug Control Plan (Rev. Date 11/28/17), identified the Slug Reporting information in Part 7 of the Plan. The Slug Reporting section identifies immediate notification to the City of Brush Wastewater Treatment Plant in the event of a slug discharge. However, immediate notification to the EPA and/or CDPHE of the slug discharge was not included in the notification information. The Slug Reporting section identifies that a follow up report is required, and the information required to be in the report, but didn't include information that the report was due to the control authority within 5-days as required.

Pretreatment requirement:

40 C.F.R. §403.8(f)(2)(vi) identifies the minimum elements to be included in a slug control plan and element (C) states, "Procedures for immediately notifying the POTW of Slug Discharges, including any Discharge that would violate a prohibition under 403.5(b) with procedures for follow-up written notification within five days;"

COP900273, E.3 – Notice of Slug Loading and Upsets

"The permittee, as soon as becoming aware, shall immediately notify the Director, EPA, and POTW of any discharge that could cause problems to the POTW, including slug loadings, or that has the potential to cause a violation of the Specific Prohibitions listed in Part D of this Notice. The permittee shall provide any follow-up written notices as required by their slug plan (if applicable). The permittee shall provide a follow-up written notification within five (5) days to the Director, EPA, and POTW."

Corrective Action:

Ensure the Slug Control Plan contains, at a minimum, the element identified in 40 C.F.R. §403.8(f)(2)(vi) to include procedures for immediate notification to the City of Brush Wastewater Treatment Plant and EPA, and follow-up written notification within five days. Comply with the CDPHE permit requirement to immediately notify the CDPHE, EPA, and the City of Brush Wastewater Treatment Plant and provide any follow-up written notifications within five days. In your response to the EPA, indicate how the facility has addressed this finding and provide EPA a copy of the revised Slug Control Plan.

Finding #2: Grab sample aliquots for composite samples in Q2 and Q4 2020 for Brush 2 cooling tower blowdown were not collected over a 24-hour period.

In Q2 2020, grab sample aliquots for composite sample were collected from Brush 2 cooling tower blowdown water discharge over several days, approximately 48-hour period. The first aliquot was collected on June 22, 2020 at 10:30 pm, the second aliquot was collected on June 23, 2020 at 5:00 pm, the third aliquot was collected on June 23, 2020 at 7:00 pm and the fourth aliquot was collected on June 24, 2020 at 5:30 pm. Therefore, the composite sample was collected over a 24-hour period and exceeded the 24-hour period.

In Q4 2020, grab sample aliquots for composite sample were collected from Brush 2 cooling tower blowdown water discharge approximately two (2) months apart (October 8, 2020 and December 1,

2020). The 2020 Q4 DMR Sample Log lists three (3) grab aliquot samples in Q4 2020. The first aliquot was collected on October 8, 2020 at 2:30pm, the second aliquot was collected on October 8, 2020 at 4:30pm, and the third aliquot was collected on December 1, 2020 at 3:00pm. Therefore, the composite sample was collected over multiple weeks period rather than a 24-hour period.

The permit and 40 C.F.R. 403 require a composite sample to be representative of the discharge collected over a 24-hour period.

Pretreatment requirement:

40 C.F.R. §423.17(a)(4)(i) Cooling Tower Blowdown. The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant	Maximum for any time (mg/L)
The 126 priority pollutants (appendix A) contained in chemicals added for cooling tower maintenance, except:	(¹)
Chromium, total	0.2
Zinc, total	1.0

(¹)No detectable amount.

40 C.F.R. §403.12(g)(3) states, “Grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds. For all other pollutants, 24-hour composite samples must be obtained through flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the Control Authority. Where time-proportional composite sampling or grab sampling is authorized by the Control Authority, the samples must be representative of the Discharge and the decision to allow the alternative sampling must be documented in the Industrial User file for that facility or facilities. Using protocols (including appropriate preservation) specified in 40 CFR part 136 and appropriate EPA guidance, multiple grab samples collected during a 24-hour period may be composited prior to the analysis as follows: For cyanide, total phenols, and sulfides the samples may be composited in the laboratory or in the field; for volatile organics and oil & grease the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by the Control Authority, as appropriate.

Corrective Action:

Ensure samples collected are representative of the discharge and are collected over a 24-hour period. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #3: The Q4 2020, grab sample aliquots for Brush 1 were not collected over 24-hour and were instead collected over 4 hours.

The Q4 2020, grab sample aliquots for the composite sample for Brush 1 were not collected over a 24-hour period and were instead collected over 4 hours. All three aliquots were collected on December 1, 2020, and the first aliquot was collected at 3:00pm, the second aliquot was collected at 5:00pm, and the third aliquot was collected at 7:00pm.

The excel file labeled 2020 4th QTR DMR lab Data Brush Power LLC, has discharge data on December 1, 2020 and December 2, 2020 for Brush 1 (CPP Daily Flows), indicating that discharge

may have occurred for 24-hours and a composite sample collected over 24-hour period could have been collected. Ensure representative sample of the discharge are collected over a 24-hour period.

Pretreatment requirement:

40 C.F.R. §423.17(a)(4)(i) Cooling Tower Blowdown. The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant	Maximum for any time (mg/L)
The 126 priority pollutants (appendix A) contained in chemicals added for cooling tower maintenance, except:	(¹)
Chromium, total	0.2
Zinc, total	1.0

(¹)No detectable amount.

40 C.F.R. §403.12(g)(3) states, “Grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds. For all other pollutants, 24-hour composite samples must be obtained through flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the Control Authority. Where time-proportional composite sampling or grab sampling is authorized by the Control Authority, the samples must be representative of the Discharge and the decision to allow the alternative sampling must be documented in the Industrial User file for that facility or facilities. Using protocols (including appropriate preservation) specified in 40 CFR part 136 and appropriate EPA guidance, multiple grab samples collected during a 24-hour period may be composited prior to the analysis as follows: For cyanide, total phenols, and sulfides the samples may be composited in the laboratory or in the field; for volatile organics and oil & grease the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by the Control Authority, as appropriate.

Corrective Action:

Ensure samples collected are representative of the discharge and are collected over a 24-hour period. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #4: In Q4 2020 and Q1 2021, the grab sample aliquots for Brush 2 were collected on dates that cooling tower blowdown did not occur. Additionally, in Q1 2021 the grab sample aliquots for Brush 4D were collected on a date that cooling tower blowdown did not occur. Samples do not appear to be representative of the discharge from the cooling tower blowdown.

In Q4 2020, grab sample aliquots for the composite sample for Brush 2 were collected on October 8, 2020 and December 1, 2020. The *2020 Q4 DMR Sample Log* lists three (3) grab aliquot samples in Q4 2020. The first aliquot was collected on October 8, 2020 at 2:30pm, the second aliquot was collected on October 8, 2020 at 4:30pm, and the third aliquot was collected on December 1, 2020 at 3:00pm. The excel file labeled *2020 4th QTR DMR lab Data AltaGas Brush Energy Inc.* does not show cooling tower blowdown from Brush 2 on December 1, 2020. Samples do not appear to be representative of the discharge from Brush 2 cooling tower blowdown in Q4 2020.

In Q1 2021, grab sample aliquots for the composite sample for Brush 2 were collected on March 18, 2021 at 7:30am, 9:30am, and 11:30am and were recorded on the *B2 Sample Log*. The excel file labeled *2021 1st QTR DMR lab data - AltaGas Brush Energy Inc.* does not show the cooling tower blowdown

from Brush 2 on March 18, 2021. Samples do not appear to be representative of the discharge from Brush 2 cooling tower blowdown in Q1 2021.

In Q1 2021, grab sample aliquots for the composite sample for Brush 4D were collected on March 18, 2021 at 7:30am, 9:30am, and 11:30am and were recorded on the *B4 Sample Log*. The excel file labeled *2021_1st_QTR_DMR lab Data_Brush Power LLC* does not show cooling tower blowdown from Brush 4D on March 18, 2021. Samples do not appear to be representative of the discharge from Brush 4D cooling tower blowdown in Q1 2021.

Pretreatment requirement:

40 C.F.R. §423.17(a)(4)(i) Cooling Tower Blowdown. The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant	Maximum for any time (mg/L)
The 126 priority pollutants (appendix A) contained in chemicals added for cooling tower maintenance, except:	(¹)
Chromium, total	0.2
Zinc, total	1.0

(¹)No detectable amount.

40 C.F.R. §403.12(g)(3) states, “Grab samples must be used for pH, cyanide, total phenols, oil and grease, sulfide, and volatile organic compounds. For all other pollutants, 24-hour composite samples must be obtained through flow-proportional composite sampling techniques, unless time-proportional composite sampling or grab sampling is authorized by the Control Authority. Where time-proportional composite sampling or grab sampling is authorized by the Control Authority, the samples must be representative of the Discharge and the decision to allow the alternative sampling must be documented in the Industrial User file for that facility or facilities. Using protocols (including appropriate preservation) specified in 40 CFR part 136 and appropriate EPA guidance, multiple grab samples collected during a 24-hour period may be composited prior to the analysis as follows: For cyanide, total phenols, and sulfides the samples may be composited in the laboratory or in the field; for volatile organics and oil & grease the samples may be composited in the laboratory. Composite samples for other parameters unaffected by the compositing procedures as documented in approved EPA methodologies may be authorized by the Control Authority, as appropriate.

Corrective Action:

Ensure samples collected are representative of the cooling tower blowdown discharge. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #5: Incorrect date and time of sample collection listed in the sample record and chain-of-custody.

Grab sample aliquots are collected from the sample ports designated at each of the three cooling tower blowdown locations and combined into a field composite sample for that specific outfall. Each grab sample is collected in a 1500ml, pre-preserved with nitric acid sample container provided by the testing laboratory which is filled and then added to the composite sample container. According to the *DMR Sampling and Testing Procedure, ENV-02-04 and ENV-02-05, Rev #4*, the composite sample is stored in Water Treatment 2 at room temperature. A subsample is collected from the composite sample and sent to Colorado Analytical for metals analysis. The procedure states a 500ml plastic sample bottle is

used for the laboratory analysis and the *DMR Sample Logs* indicates the subsample volume is 100ml.

Samples for laboratory analysis are subsampled from the field composite several days after the grab aliquots were collected. The date the field composite was subsampled for laboratory analysis is listed on the chain-of-custody (COC) as the sample date, instead of the actual sample collection date.

For example, in Q4 2020, the grab sample aliquots from Brush 4D were recorded on the *2020 Q4 DMR Sample Log* as being collected on October 12, 2020 at 2:30pm, 4:30pm, 6:30pm, and 8:30pm. The COC lists the sample date to be December 11, 2020 at 9:30am, which is two months after the field composite was collected. The laboratory used the sample date on the COC (December 11, 2020) as the date the sample was collected in the analysis records.

Additionally, the subsampling of the composite sampling for the laboratory analysis on December 11, 2020 was not documented in the *2020 Q4 DMR Sample Log* or in the COC notes.

Pretreatment requirement:

40 C.F.R. §423.17(a)(4)(i) *Cooling Tower Blowdown.* The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant	Maximum for any time (mg/L)
The 126 priority pollutants (appendix A) contained in chemicals added for cooling tower maintenance, except:	(¹)
Chromium, total	0.2
Zinc, total	1.0

(¹)No detectable amount.

40 C.F.R. §403.12(o) Record-keeping requirements. (1) Any Industrial User and POTW subject to the reporting requirements established in this section shall maintain records of all information resulting from any monitoring activities required by this section, including documentation associated with Best Management Practices. Such records shall include for all samples:

- (i) The date, exact place, method, and time of sampling and the names of the person or persons taking the samples;
- (ii) The dates analyses were performed;
- (iii) Who performed the analyses;
- (iv) The analytical techniques/methods use; and
- (v) The results of such analyses.

Corrective Action:

Ensure the correct date and time of the field composite sample is recorded in the sample records and chain-of-custody. Accurate date and time of field composite sample collection is necessary to determine sample holding timeframes. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #6: COC for samples collected from Brush 1, 2, and 4D indicates the samples were preserved, but doesn't identify what chemicals were used in the preservation.

EPA inspectors reviewed the DMRs and associated laboratory records, reports and COCs from Q1 2020, Q2 2020, Q3 2020, Q4 2020, and Q1 2021. In the COCs for all quarters, the samples were

marked as preserved, but the type or name of the chemical preservative was not listed.

Pretreatment requirement:

40 C.F.R. §423.17(a)(4)(i) Cooling Tower Blowdown. The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant	Maximum for any time (mg/L)
The 126 priority pollutants (appendix A) contained in chemicals added for cooling tower maintenance, except:	(¹)
Chromium, total	0.2
Zinc, total	1.0

(¹)No detectable amount.

40 C.F.R. §403.12(o) Record-keeping requirements. (1) Any Industrial User and POTW subject to the reporting requirements established in this section shall maintain records of all information resulting from any monitoring activities required by this section, including documentation associated with Best Management Practices. Such records shall include for all samples:

- (i) The date, exact place, method, and time of sampling and the names of the person or persons taking the samples;
- (ii) The dates analyses were performed;
- (iii) Who performed the analyses;
- (iv) The analytical techniques/methods use; and
- (v) The results of such analyses.

40 C.F.R §136, Table II – Required Containers, Preservation Techniques, and Holding Times
Table IB – Metals

Parameter	Container	Preservation	Maximum holding time
Total Chromium (19), and Zinc (75)	Polyethylene, fluoropolymer, or glass.	HNO ₃ to pH <2, or at least 24 hours prior to analysis ¹⁹	6 months

¹⁹ An aqueous sample may be collected and shipped without acid preservation. However, acid must be added at least 24 hours before analysis to dissolve any metals that adsorb to the container walls. If the sample must be analyzed within 24 hours of collection, add the acid immediately (see footnote 2). Soil and sediment samples do not need to be preserved with acid. The allowances in this footnote supersede the preservation and holding time requirements in the approved metals methods.

Corrective Action:

Ensure proper preservation is recorded for samples. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #7: Q2 2020 sampling records for Brush 2 did not document the required records for the pH. Additionally, in Q1 2020 the sampling records for Brush 2 were missing the analytical method used.

In Q2 2020, sampling records for Brush 2 (COP900709, Outfall 001) did not document the pH sampling documentation including:

- The date, exact place, method, and time of sampling and the names of the person or persons taking the samples;
- The dates analyses were performed;
- Who performed the analyses;
- The analytical techniques/methods use; and
- The results of such analyses.

There was a July 17, 2020 email indicating that the pH values were pulled from the vantage WT log. However, it was still missing most of the information indicated above except for the date of the samples and the result for the samples.

In Q1 2020, sampling records for Brush 2 (COP900709, Outfall 001) were missing the analytical method used for pH.

Pretreatment requirement:

40 C.F.R. §403.12(o) Record-keeping requirements. (1) Any Industrial User and POTW subject to the reporting requirements established in this section shall maintain records of all information resulting from any monitoring activities required by this section, including documentation associated with Best Management Practices. Such records shall include for all samples:

- (i) The date, exact place, method, and time of sampling and the names of the person or persons taking the samples;
- (ii) The dates analyses were performed;
- (iii) Who performed the analyses;
- (iv) The analytical techniques/methods use; and
- (v) The results of such analyses.

COP900709

LIMITATIONS & MONITORING FOR DISCHARGE POINT 001:					
Effluent from the cooling tower blowdown water at the Brush 2 power plant, based upon a sample collected from the sample line located in STGB2					
PARAMETER	UNITS	NUMERIC LIMITATIONS		SAMPLE TYPE ¹	FREQUENCY OF ANALYSIS
		Monthly Average	Daily Maximum		
Flow	gal/day	Report	Report	Instantaneous	Once/week
pH	s.u.	>5.0	N/A	Grab or Continuous	Once/week
Total Chromium	mg/l	N/A	0.2	Composite	Quarterly
Total Zinc	mg/l	N/A	1.0	Composite	Quarterly
126 Priority Pollutants, except for zinc and chromium ²		N/A	less than detection	VOCs = Grab others= composite	Twice/year ³

Corrective Action:

Ensure record-keeping requirements for samples collected are maintained pursuant to 40 C.F.R. §403.12(o). In your response to the EPA, indicate how the facility has addressed this finding.

Finding #8: Quarterly average flow was reported on the DMRs, rather than 30-day average flow.

EPA reviewed Q1, Q2, Q3, and Q4 2020, and Q1 2021, flow data and noted the quarterly average flow was reported on each DMR, rather than the 30-day average flow. The quarterly DMR lab data excel spreadsheets provided appear to calculate the average flow for the entire quarter (i.e., 3-month average), rather than calculating each individual monthly average and reporting the highest monthly average on the DMR.

For example, in Q1 2020 for Brush 1 and 3 the monthly average was reported as 13,851.0 gallons per day. The flow data in the *2020_1st_QTR_DMR lab Data_Brush Power LLC* excel spreadsheet indicates that there were 7 discharge days in Q1 2020 and that the total volume of discharge for the 7 days was 96,958 gallons. If you divide 96,958 by 7 days you get 13,851 gallons per day which is what the facility reported for the 30-day average; however, that is the quarterly average. The 30-day average is calculated by arithmetic mean of all samples collected during the calendar month. There were no discharge events in January 2020, six discharge events in February 2020 and one discharge event in March 2020. The highest 30-day average should be reported, which was for February 2020. The total discharge in February 2020 was 96,474 gallons divided by 6 days of discharge in February 2020 is equal to 16,079 gallons per day.

This issue of reporting the quarterly average flow rather than the 30-day average flow on the DMRs was also noted in following quarters: Q1 2020 for Brush 4D, Q2 2020 for Brush 1 and 3, Q2 2020 for Brush 2, Q3 2020 for Brush 1 and 3, Q3 2020 for Brush 4D, Q3 2020 for Brush 2, Q4 2020 for Brush 1 and 3, Q4 2020 for Brush 4D, Q4 2020 for Brush 2, Q1 2021 for Brush 1 and 3, Q1 2021 for Brush 4D, and Q1 2021 for Brush 2.

Pretreatment requirement:

40 C.F.R. §403.12(e) Any Industrial User subject to a categorical Pretreatment Standard (except a Non-Significant Categorical User as defined in §403.3(v)(2)), after the compliance date of such Pretreatment Standard, or, in the case of a New Source, after commencement of the discharge into the POTW, shall submit to the Control Authority during the months of June and December, unless required more frequently in the Pretreatment Standard or by the Control Authority or the Approval Authority, a report indicating the nature and concentration of pollutants in the effluent which are limited by such categorical Pretreatment Standards. In addition, this report shall include a record of measured or estimated average and maximum daily flows for the reporting period for the Discharge reported in paragraph (b)(4) of this section except that the Control Authority may require more detailed reporting of flows.

COP900273**LIMITATIONS & MONITORING FOR DISCHARGE POINT 001:**

Effluent from Brush 1 and 3 discharging to the POTW. Sampling location is at the sample port for the circulating water pipe.

ICIS CODE	PARAMETER	UNITS	NUMERIC LIMITATIONS		SAMPLE TYPE ¹	FREQUENCY OF ANALYSIS
			Daily Maximum	Monthly Average		
50050	Flow	gal/day	Report	n/a	Continuous	Daily
01034	Total Chromium	mg/l	0.2	n/a	Composite	Quarterly
01092	Total Zinc	mg/l	1.0	n/a	Composite	Quarterly
50008	126 Priority Pollutants ² , except for zinc and chromium		N/A	less than detection	VOCs = Grab others= composite	Twice/year

LIMITATIONS & MONITORING FOR DISCHARGE POINT 002:

Effluent from Brush 4D discharging to the POTW. Sampling location is at the sample port for the circulating water pipe.

ICIS CODE	PARAMETER	UNITS	NUMERIC LIMITATIONS		SAMPLE TYPE ¹	FREQUENCY OF ANALYSIS
			Daily Maximum	Monthly Average		
50050	Flow	gal/day	Report	n/a	Continuous	Daily
01034	Total Chromium	mg/l	0.2	n/a	Composite	Quarterly
01092	Total Zinc	mg/l	1.0	n/a	Composite	Quarterly
50008	126 Priority Pollutants ² , except for zinc and chromium		N/A	less than detection	VOCs = Grab others= composite	Twice/year

COP900709**LIMITATIONS & MONITORING FOR DISCHARGE POINT 001:**

Effluent from the cooling tower blowdown water at the Brush 2 power plant, based upon a sample collected from the sample line located in STGB2

PARAMETER	UNITS	NUMERIC LIMITATIONS		SAMPLE TYPE ¹	FREQUENCY OF ANALYSIS
		Monthly Average	Daily Maximum		
Flow	gal/day	Report	Report	Instantaneous	Once/week
pH	s.u.	>5.0	N/A	Grab or Continuous	Once/week
Total Chromium	mg/l	N/A	0.2	Composite	Quarterly
Total Zinc	mg/l	N/A	1.0	Composite	Quarterly
126 Priority Pollutants, except for zinc and chromium ²		N/A	less than detection	VOCs = Grab others= composite	Twice/year ³

COP900273, Part G Definitions: ““MONTHLY AVERAGE” means a monthly average determined by the arithmetic mean of all samples collected during a calendar month unless otherwise defined in the regulations except that split samples shall be averaged as a single value. Samples may not be used for more than one reporting period.”

Corrective Action:

Ensure 30-day average flow is reported on the DMRs rather than quarterly average flow. Submit corrected DMRs and report the 30-day average flow in the following DMRs: Q1 2020 for Brush 1 and 3, Q1 2020 for Brush 4D, Q2 2020 for Brush 1 and 3, Q2 2020 for Brush 2, Q3 2020 for Brush 1 and 3, Q3 2020 for Brush 4D, Q3 2020 for Brush 2, Q4 2020 for Brush 1 and 3, Q4 2020 for Brush 4D, Q4 2020 for Brush 2, Q1 2021 for Brush 1 and 3, Q1 2021 for Brush 4D, and Q1 2021 for Brush 2. In your response to the EPA, indicate how the facility has addressed this finding.

Finding #9: In Q1 2021, the record of the time of sampling at Brush 1, 2, and 4D may not have been exact.

In the DMR sample log for Q1 2021, all 3 outfalls (Brush 1, 2, and 4D) were collected at the exact time (7:30am, 9:30am, and 11:30am) on March 18, 2021. Facility representative indicated that sample collection is approximately 5 minutes, and the timeframes on the DMR sample log may have been rounded.

Pretreatment requirement:

40 C.F.R. §403.12(o) Record-keeping requirements. (1) Any Industrial User and POTW subject to the reporting requirements established in this section shall maintain records of all information resulting from any monitoring activities required by this section, including documentation associated with Best Management Practices. Such records shall include for all samples:

- (i) The date, exact place, method, and time of sampling and the names of the person or persons taking the samples;
- (ii) The dates analyses were performed;
- (iii) Who performed the analyses;
- (iv) The analytical techniques/methods use; and
- (v) The results of such analyses.

Corrective Action:

Ensure record-keeping requirements for sample collection are recorded accurately. No corrective action is requested at this time.

Finding #10: There was a typo on the chain-of-custody which requested copper instead of chromium analysis for samples collected on September 16, 2020 from Brush 1, 2, and 4 outfalls.

In Q3 2020, the COC listed copper instead of chromium as the test requested for samples collected on September 16, 2020 from Brush 1, 2, and 4 outfalls. The facility representatives stated that the laboratory called to verify the analyses request prior to analyzing the samples, and the notation for copper analysis was a typo. Laboratory results from Colorado Analytical confirms that the samples were analyzed for chromium, as required.

Pretreatment requirement:

40 C.F.R. §423.17(a)(4)(i) states, “*Cooling Tower Blowdown*. The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant	Maximum for any time (mg/L)
The 126 priority pollutants (appendix A) contained in chemicals added for cooling tower maintenance, except:	(¹)
Chromium, total	0.2
Zinc, total	1.0

(¹)No detectable amount.

Corrective Action:

No corrective action is requested at this time.

Finding #11: Engineering calculations for 126 priority pollutants were not provided for the cooling tower blowdown for Brush 1&3, Brush 4, and Brush 2.

Facility representatives informed inspectors that a letter, dated April 22, 2021, from the chemical manufacturer, Nalco Water an Ecolab Company, was used to demonstrate compliance with the 126 priority pollutant discharge limits. The letter stated, “To the best of our knowledge, chemicals present on the Priority Pollutants List of the Clean Water Act (40 CFR Part 423 Appendix A) are not intended ingredients in these products and are not expected to be present in these products at or above the reporting threshold of 0.1%.” Chemicals listed in the letter included: Powerfilm 10000; Eliminator-Ox; Nalco BT-3000; Permatreat PC-191T; Nalco 7408; 3D Trasar 3DT128; 3D Trasar 3DT288; PermaClean PC-77; and Nalco 8735.

No additional analytical information, mass balance, or engineering calculations accompanied the letter to demonstrate the cooling tower blowdown wastewater was in compliance with the 126 priority pollutant discharge limit.

Pretreatment requirement:

40 C.F.R. §423.17(a)(4)(i) states, “*Cooling Tower Blowdown*. The pollutants discharged in cooling tower blowdown shall not exceed the concentration listed in the following table:

Pollutant	Maximum for any time (mg/L)
The 126 priority pollutants (appendix A) contained in chemicals added for cooling tower maintenance, except:	(¹)
Chromium, total	0.2
Zinc, total	1.0

(¹)No detectable amount.

(ii) At the permitting authority's discretion, instead of the monitoring in 40 CFR 122.11(b), compliance with the standards for the 126 priority pollutants in paragraph (a)(4)(i) of this section may be determined by engineering calculations which demonstrate that the regulated pollutants are not detectable in the final discharge by the analytical methods in 40 CFR part 136.”

Federal Register 52295 / Vol. 47, No. 224 / November 19, 1982 states, “Therefore, as an alternative to routine monitoring by sampling and analysis of effluents, the final rule provides for mass balance calculations to demonstrate compliance with the prohibition. For example, the discharger may provide the certified analytical contents of all biofouling and maintenance formulations used and engineering

calculations demonstrating that any of the priority pollutants present in the maintenance chemicals would not be detectable in the cooling tower discharge using appropriate analytical methods. The permit issuing authority shall determine the appropriate approach.”

Corrective Action:

Ensure the pretreatment requirements to collect samples for the 126 priority pollutants, or if approved by the permitting authority, the mass balance engineering calculations are completed to demonstrate compliance with the 126 priority pollutant discharge limit. This requirement and corrective action will be addressed with the facility’s permit application to the EPA for the EPA-issued control mechanism that will replace the CDPHE NPDES permits.

Finding #12: Certification statements for the metal cleaning outfalls were not included with the quarterly DMRs, as required by the permits.

The permits for metal cleaning outfalls for Brush 2 (COP900709 – Outfall 002) and Brush 1, 3, and 4 (COP900273 – Outfall 003) require an additional certification statement about discharging chemical metal cleaning wastes to be submitted with each quarterly DMR. Section A of the permits indicates, “If the permittee does not discharge any process water resulting from chemical metal cleaning activities, then the permittee must submit the following certification statement each quarter to cover the previous quarter and must be signed in accordance with the signatory requirements in this Notice. The certification statement must include a description of the process and equipment used make the certification statement.” The metal cleaning certification statement was missing for Q1, Q2, Q3, and Q4 2020 and Q1 2021. However, the facility indicated in the DMRs that they did not do any chemical cleaning of their boilers during the reporting period. The DMRs were signed a certified with the standard certification.

Pretreatment requirement:

COP900273, A.1. Quarterly Chemical Metal Cleaning Waste Certification states, “If the permittee does not discharge any process water resulting from chemical metal cleaning activities, then the permittee must submit the following certification statement each quarter to cover the previous quarter and must be signed in accordance with the signatory requirements in this Notice. The certification statement must include a description of the process and equipment used make the certification statement.

“Based on my inquiry of the person or persons directly responsible for managing compliance with the categorical Pretreatment Standards under 40 CFR PART 423.17, I certify that, to the best of my knowledge and belief that during the period from to , the facility described as Brush 1, 3, and 4D, never discharged chemical metal cleaning wastes to the POTW on any given day during this reporting period. This compliance certification is based upon the following information:

_____.

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.”

COP900709, A. Quarterly Certification states , “If the Industrial User does not discharge any process water resulting from chemical metal cleaning activities, then the Industrial User must submit the following certification statement each quarter to cover the previous quarter and must be signed in accordance with the signatory requirements in this NDR. The certification statement must include a description of the process and equipment used to determine that the daily discharge restriction in Section I.A.1 have been complied with.

“Based on my inquiry of the person or persons directly responsible for managing compliance with the categorical Pretreatment Standards under 40 CFR PART 423.17, I certify that, to the best of my knowledge and belief that during the period from to , the facility described as Brush 2, never discharged any chemical metal cleaning wastes to the POTW on any given day during this reporting period. This compliance certification is based upon the following information:

_____.

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.”

Recommendation:

Include all the permit required certification statements in the DMR submittals as attachments in NetDMR. No corrective action is requested at this time.