EXHIBIT 11

UNITED STATES OF AMERICA
BEFORE THE UNITED STATES DEPARTMENT OF ENERGY

Federal Power Act Section 202(c) Emergency Order TransAlta Centralia Generation	Order No. 202-25-11

DECLARATION OF CLINTON LAMOREAUX
IN SUPPORT OF
MOTION TO INTERVENE, REQUEST FOR REHEARING,
AND MOTION TO STAY BY STATE OF WASHINGTON

I, Clinton Lamoreaux, declare under penalty of perjury under the laws of the state of Washington that the following is true and correct:

1. I am now and at all times mentioned have been a citizen of the United States, over the age of 18 years, competent to make this declaration, and I make this declaration from my own personal knowledge and judgment.

2. I have a Bachelor of Science in Chemical Engineering, with a minor in Environmental Engineering from Colorado State University. I am a licensed professional engineer in the State of Washington.

3. I am currently employed by the Southwest Clean Air Agency (SWCAA) as the Chief Engineer. I have worked in this position since October 1, 2021. Before becoming the Chief Engineer, I worked as an Air Quality Engineer at SWCAA. I held that position from May 2000 to October 2021. Prior to working in a regulatory capacity, I worked for a company named Air Pollution Testing from May 1994 through April 2000. My duties included working with clients and regulatory personnel to devise appropriate source emissions sampling plans, coordinating and directing field sampling, and reporting results as well as training project

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managers and technicians within the company. In cases of noncompliance, I worked with plant personnel to bring emissions within the regulatory limits. During my time at Air Pollution Testing I worked as a contractor at a variety coal-fired power plants throughout the western United States including the Centralia Plant, currently owned and operated by TransAlta Centralia Generation, LLC.

4. As the Chief Engineer at SWCAA, I supervise the engineering staff, provide technical assistance to all SWCAA staff, and continue to perform the duties of an Air Quality Engineer for several facilities, including the Centralia Plant.

5. I have been the inspector and permit writer for the Centralia Plant since 2000. My duties with respect to the Centralia Plant include conducting air quality inspections, monitoring source emissions testing, observing relative accuracy test audits of monitoring equipment, issuing Notices of Violation, and preparing New Source Review and Air Operating permits.

6. The Centralia Plant is a merchant plant and operates when it is profitable to do so. This typically means the plant experiences an extended period of non-operation in the spring when demand for power is lower. This reduces the ratio of the actual annual electrical output to the maximum potential annual electrical output (capacity factor) of the facility. TransAlta submits annual reports to SWCAA that include outage information and submits data to EPA as required by the Acid Rain Program, available online at: https://campd.epa.gov/data/custom-data-download, that allows us to calculate annual capacity factors. The table below details the last three spring outages and the most recent annual capacity factors based on the data from the EPA CAMPD website.

Year	Spring Outage Start	Duration	Annual Capacity Factor
2023	5/3/2023	915 hours	69%
2024	3/19/2024	2,340 hours	47%
2025	3/26/2025	1,705 hours	To be determined

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7. A review of quarterly reports submitted to SWCAA from 2023 through December 29, 2025, indicate that the Centralia Plant Unit #2 shut down 29 times, 25 of which were forced outages and the remainder of which were for economic dispatch or planned maintenance. Most forced outages were described as "tube leak repairs." Over the three-year period, the sum total duration between the commencement of the forced outages and the time the unit was again synchronized to the grid was over 10% of the hours in the three-year period. *See* Exs. 11-1 through 11-11.

8. A review of the quarterly reports reported to SWCAA for the 4th quarter of 2024 through the 3rd quarter of 2025 indicate that there were six "cold" startups during that time period. A cold startup (for the purposes of this review defined as a startup following an offline period of three or more days) takes longer than a startup after a briefer outage where the components are still warm or hot from recent operation. For these cold startups the time from commencement of startup to synchronization with the grid ranged from 11 to 16 hours. The time from commencement of startup to a load of 300 MW or more (the load at which the facility operated over 97% of the time) ranged from approximately 14 to 18 hours (+/- 1 hour, time is approximate because the end time is to the closest hour). *See* Exs. 11-1 through 11-11.

9. The Centralia Plant operates two sets of electrostatic precipitators (ESPs) in series to control particulate matter emissions consisting primarily of fly ash from the combustion of coal. The ESPs utilize numerous collection fields, most of which need to be operating optimally to ensure compliance with the permitted particulate matter emission limits and prevent excess ash being carried over to the wet scrubber. Over time, fields are forced offline for a variety of reasons and are repaired during maintenance outages. "Opacity" is measured in each of the two exhaust ducts exiting the ESPs as a surrogate indicator of the level of particulate matter in the exhaust. Opacity means the degree to which an object seen through a plume is obscured and is stated as a percentage. The Centralia Plant's Compliance Assurance Monitoring Plan (40 CFR 64) for particulate matter requires the average of the opacity in these

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ducts to remain below 30% (1-hour average). Excursions above this level require the plant to take the following actions to ensure compliance with its particulate matter emission limits:

(a) Inspect electrostatic precipitators within four hours. Report ESP field settings and a list of fields out of service.

(b) If the exceedance occurs during FGD (wet scrubber) operation, inspect FGD system for proper operation (excess inlet particulate loading can affect FGD performance) within four hours. Report the numbers of spray headers in service.

(c) Make necessary repairs as soon as practical.

(d) Restore opacity levels to less than the maximum levels indicated above as expeditiously as practical in accordance with good air pollution control practices for minimizing emissions.

(e) Notify SWCAA no later than the end of the next business day in accordance with R1 of the Air Operating Permit.

Ex. 16 at 49–50.

10. On October 23, 2025, during a routine inspection of the facility, I observed that the average opacity level was 26.8% while the plant operated at 672 MW (gross), 629 MW (net), which was somewhat below full load (730 MW gross, 670 MW net). The fact that the average opacity was approaching 30% indicates that ESP maintenance is due or overdue. *See* Ex. 11-12.

11. The Centralia Plant's most recent quarterly report indicated that the calendar year average CO emission concentration was 203 parts per million through the 3rd quarter of 2025. *See* Ex. 11-3 at 2. The annual average emission limit is 200 parts per million. This could be caused by an inability to pull enough air through the boiler, limiting oxygen levels in the boiler, which can lead to increased carbon monoxide (CO) emissions and a loss of efficiency (impacting all emissions), at peak loads. If the facility can derate (operate at a lower load) at

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certain times (especially during warm weather) or make certain repairs, excess emissions may be avoided.

The Centralia Plant's 2022 U2 Boiler Tune-up Report describes the problem:

> "The main issue with the unit is that even after coming out of a major outage the ID [induced draft] fan are maxed out due to air in leakage issues downstream of the boiler. This limits how high the boiler O2 can be raised. The FD [forced draft] fan is not limited at all during this time. If the air in leakage issues were to be corrected then the ID fans would not be limited and the O2 could be set slightly higher, which would dry the slag in the furnace." Ex. 11-13 at 8.

And

> "8/15/2022: Operations has issues with ID fan maxing out as the day gets warmer outside. With the FD fan being at 75% there is no reason to be maxed out on the ID fan. Therefore, it is obvious there are leaks due to cracks & holes in the that is allowing a significant amount of air in leakage. This is causing false higher readings on the O2 probes and lower CO readings. Operations says this is mostly on the South/Right side of the unit. Currently the FD fan is at 75% and the ID fans are maxed out. This is not normal and makes it very difficult to maintain load and keep the unit from going positive." Ex. 11-13 at Tuning Notes page 2 (pdf page 49).

And

> "… The operation of the unit, and therefore the COS [Combustion Optimization System], has always been limited due to ID fans nearing their maximum control level (100% damper opening), which results in the furnace draft being uncontrollable. A common operator practice to avoid this circumstance is to reduce the excess O2 setpoint, which reduces the total air in the unit. This reduces the demand on the ID fans, but it also affects combustion, most often by elevating CO emission rates.

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To help automatically address the ID fans reaching their control maximum and furnace draft becoming uncontrollable, logic was further modified within the COS to automatically reduce the excess O2 setpoint when the ID fans are very near to their maximum setting. The rate at which the excess O2 setpoint is decreased is proportional to the ID fan position and current furnace draft. With the furnace draft within a control range, the optimizer will focus on adjusting air staging to meet all emission rate objectives." Ex. 11-13 at Taber International COS Tuning Report at 3 (pdf page 57).

12. I issued two Notices of Violation in December 2025 for issues that may have been related to reduced staffing or maintenance. The first was related to excess emissions from the fly ash unloading baghouse and the second was for not fully engaging all relevant pollution control equipment prior to firing coal on startups. *See* Exs. 11-14 and 11-15. Based on a conversation with Centralia Plant staff by Teams meeting on December 10, 2025, I understand that approximately 60 of the 100 remaining employees received layoff notices due to the pending shutdown. The uncertainty associated with 90-day continuations of operation may make it increasingly difficult to retain sufficient qualified staff to prevent such oversights in the future.

DATED this 12th day of January, in Vancouver, Washington.

CLINTON LAMOREAUX

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EXHIBIT 11 -1

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

   a. Specify the period of time covered by the report: **January 1, 2025 – March 31, 2025**

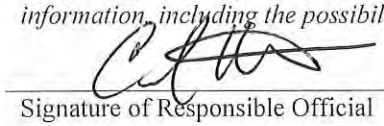
   b. Specify the Type or Name of Report:
   [ ] Annual Compliance Status Report
   [ ] Annual Emissions Inventory Report
   [X] Semi-annual Report
   [X] Other: Quarterly Report, 1st Quarter 2025. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

   c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:
   _____
   _____

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:
   _____
   _____

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.



Signature of Responsible Official — 4/30/2025 Date

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l**.

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q1Y25.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
2nd Quarter 2024	8.8	Tons
3rd Quarter 2024	276.2	Tons
4th Quarter 2024	268.2	Tons
1st Quarter 2025	256.1	Tons
12 Month Rolling Total		
January	964.3	Tons
February	923.3	Tons
March	809.3	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

1st Quarter 2025	0.175
Year to date	0.175

Rate for loads of 360 MWG or greater, Unit 2:

1st Quarter 2025	0.176
Year to date	0.176

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q1Y25.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q1Y25.xlsx**

NOTE: There was no use of urea or the SNCR system in Q1 2025.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
January	8,361
February	8,430
March	8,474

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	302,227	29,258	10,589
February	235,371	3,380	3,923
March	185,039	58,763	17,316
April			
May			
June			
July			
August			
September			
October			
November			
December			
Annual Total			

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q1 2025	250
Calendar Year Average YTD	250

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity

based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 1st quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 1st quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 1st quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours – Unit #1 retired on December 31, 2020

Unit 2 Operating Time: 1845.4 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**01/10/25 01:40**	Breaker Closed (Date/Time):		**01/11/25 16:01**
Total Time out of service:	**38**	Hours	**22**	Minutes
Reason for outage	**Feedwater heater tube leak repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**02/25/25 00:02**	Breaker Closed (Date/Time):		**03/04/25 03:02**
Total Time out of service:	**171**	hours	**1**	Minutes
Reason for outage	**Economic dispatch**			

Unit Shutdown				
Breaker Open (Date/Time):	**03/26/25 22:26**	Breaker Closed (Date/Time):		**n/a**
Total Time out of service:	**121**	hours	**34**	Minutes
Reason for outage	**Economic dispatch into second quarter 2025**			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.
SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q1Y25.xlsx
Note: No coal samples were collected due to the operating time in Q2.

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 18, 2024
Hg STS RATA	EU2	July 18, 2024
CO_2 RATA	EU2	July 18, 2024
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	October 15, 2024
	EU2 – High Load	October 14, 2024
Particulate Matter Stack Testing	EU2	March 25, 2025

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2_Q1Y25.xlsx, MATS_HG_Excess_Unit2_Q1Y25.xlsx, MATS_SO2_CEMSUM_U2_Q1Y25.xlsx,** and **MATS_SO2_Excess_Unit2_Q1Y25.xlsx**.
TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.I)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2_Q1Y25.xlsx** and **MATS_SO2_Downtime_Unit2_Q1Y25.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.

DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
02/04/2025	10:49 – 11:19	31	Lens cleaning
02/17/2025	12:41 – 13:02	22	Lens cleaning
02/24/2025	10:55 – 11:22	28	Lens cleaning
	Total Mins.	**81**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.

DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
02/04/2025	08:05 – 10:35	151	Lens cleaning
02/15/2025	16:33 – 16:58	26	Lens cleaning
03/04/2025	10:41 – 11:20	40	Lens cleaning
	Total Mins.	**217**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q1Y25.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q1Y25.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q1Y25.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 29 JAN 2025 **Weather Conditions:** Cold, Breezy, Clear sky

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:00	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	09:08	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	09:08	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	09:09		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	09:10	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	09:10	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	09:20	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	09:22	East of Coal Pile	Y	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	09:23	East side of CUF below Car Unloader	N/A	N		5%	NOT Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	09:33	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	09:31		N/A	N		20%	NO TRUCK/RAIL CAR
EU-4	Fly Ash bins vents 11, 12, 13, & 14	09:33	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	09:33	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	09:33	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	09:36	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	09:42	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	09:45	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	09:45	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	09:46	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	10:30	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	8" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

BAD KV FDBK

NO XFMR

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

NO XFMR

BAD KV FDBK

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

CLOSE CLEARANCE

CC

GROUNDED

OOS

CC

OOS

CC

OOS

CC

OOS

CC

BAD KV FDBK

21
KOPPERS

22
KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Online**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Online**

Date:	30 January 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 09:11 Stop Time: 09:17

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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2	0	0	0	0	22					42				
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16					36					56				
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20					40					60				

Average Opacity:	
Range Of Opacity:	

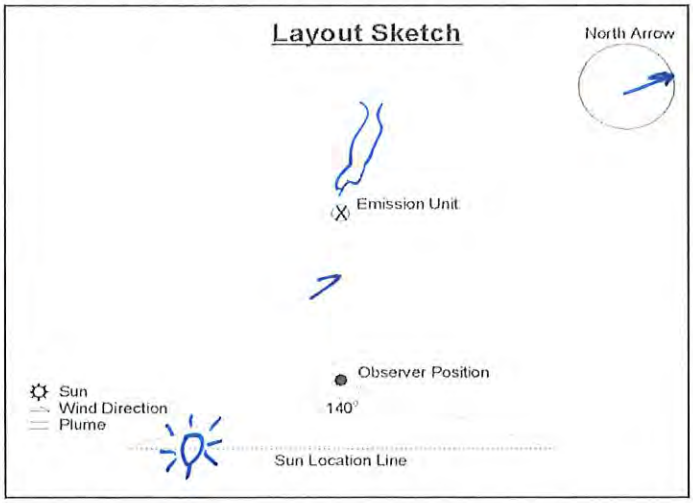
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	1100'
Direction From Observer:	NW

Describe Emissions:	Attatched Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	36°F
Wind Speed:	2 mph	Relative Humidity:	87%
Wind Direction:	SW	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	30 January 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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16					36					56				
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19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

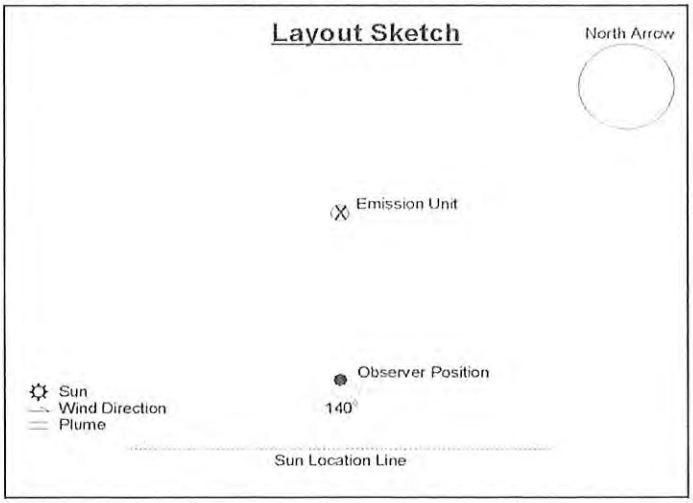
Describe Emission Unit: **Auxiliary Boiler**
Height Above Ground:
Height Relative To Observer:
Distance From Observer:
Direction From Observer:

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Online**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Online**

Date:	30 January 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 09:51 Stop Time: 09:57

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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14					34					54				
15					35					55				
16					36					56				
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20					40					60				

Average Opacity:	
Range Of Opacity:	

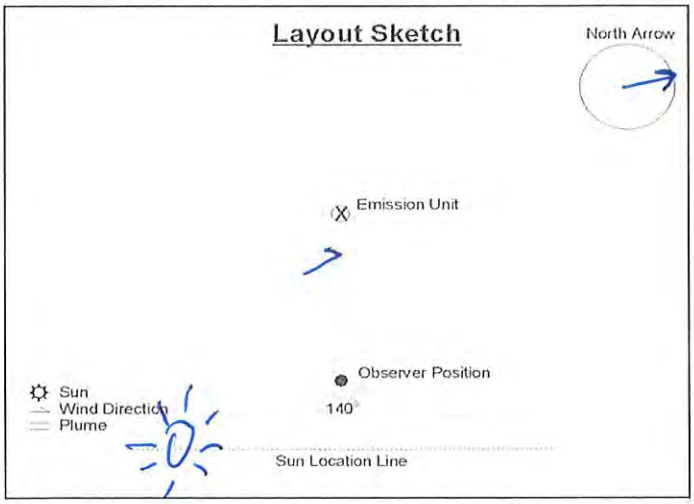
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	20'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	38°F
Wind Speed:	2 mph	Relative Humidity:	87%
Wind Direction:	SW	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 27 Feb 2025 **Weather Conditions:** Cold, Clear Sky, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:01	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:07	Southwest of Coal Storage	Y	N		20%	Not Running
EU-4	Coal Blending System	10:07	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Storage Pile	10:07		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:10	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Stacker-Reclaimer	10:10	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Conveyor 3 & coal transfer	10:12	Southeast of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:12	East of Coal Pile	Y	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	10:13	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:20	East of unloading facility	N/A	N		20%	Empty
EU-4	6050 Fly Ash Unloader	10:19		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:20	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:20	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:21	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:24	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:31	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	Not Running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:33	10th floor – Center	N/A	N		20%	Empty
EU-4	Coal silos bin vents 21,23,25,27	10:33	10th floor – Center South	N/A	N		20%	Empty
EU-4	Coal silos bin vents 22,24,26,28	10:34	10th floor - South	N/A	N		20%	Empty
EU-16	Emergency Diesel Fire Pump Engine	11:00	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF	~~0~~	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	OFF	N/A	No	

ESP Status: OFF LINE

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N		5.1 S		5.2 N		5.2 S		5.3 N		5.3 S		5.4 N		5.4 S	
4.1 N		4.1 S		4.2 N		4.2 S		4.3 N		4.3 S		4.4 N		4.4 S	
3.1 N		3.1 S		3.2 N		3.2 S		3.3 N		3.3 S		3.4 N		3.4 S	
2.1 N		2.1 S		2.2 N		2.2 S		2.3 N		2.3 S		2.4 N		2.4 S	
1.1 N		1.1 S		1.2 N		1.2 S		1.3 N		1.3 S		1.4 N		1.4 S	

Air Flow

21 KOPPERS **22 KOPPERS**

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off**

Date:	27 February 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
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15					35					55				
16					36					56				
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OFF LINE

Average Opacity:	
Range Of Opacity:	

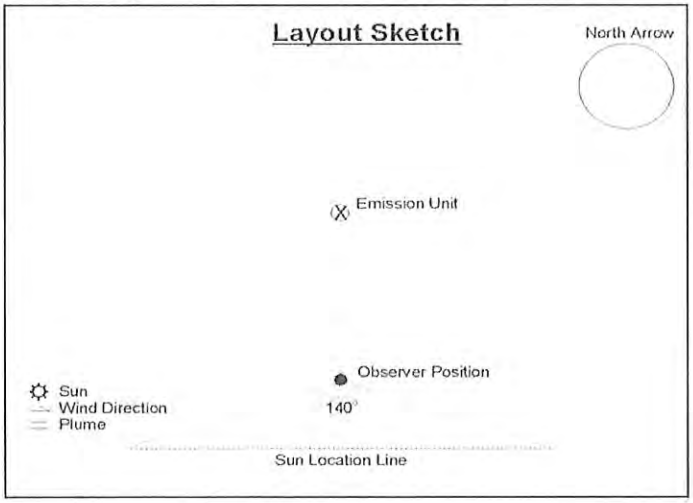
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	27 February 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
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16					36					56				
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OFF LINE

Average Opacity:	
Range Of Opacity:	

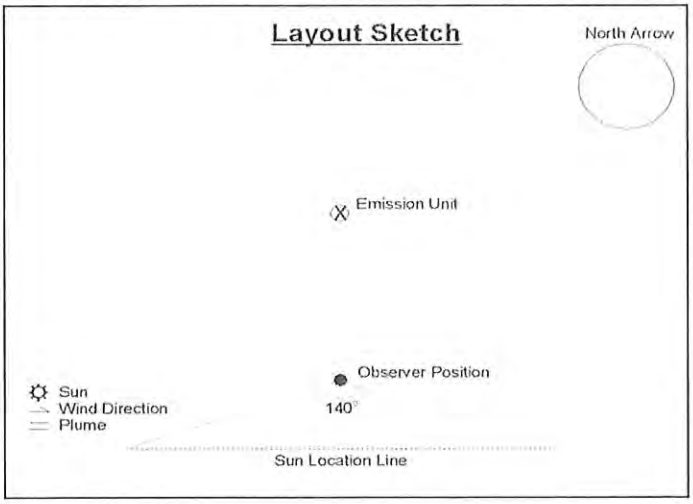
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off**

Date:	27 February 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
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16					36					56				
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OFF LINE

Average Opacity:	
Range Of Opacity:	

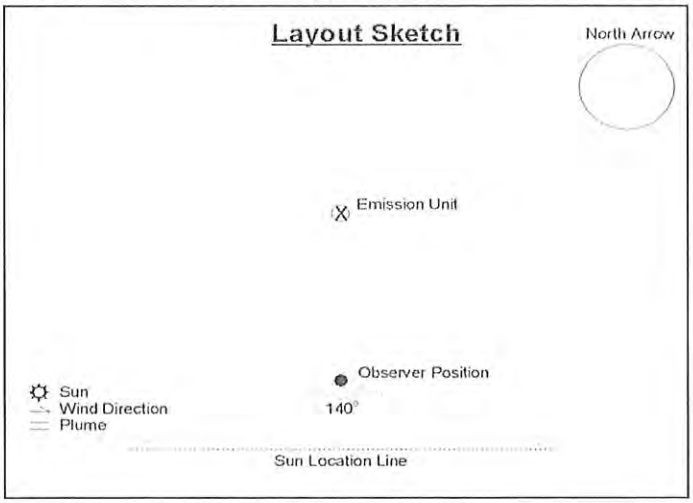
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 31 MAR 2025 **Weather Conditions:** Cold, Overcast, Windy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	13:03	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	13:09	Southwest of Coal Storage	Y	N		20%	Not Running
EU-4	Coal Blending System	13:09	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Storage Pile	13:10		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	13:10	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Stacker-Reclaimer	13:10	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Conveyor 3 & coal transfer	13:13	Southeast of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	13:17	East of Coal Pile	Y	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	13:17	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	13:25	East of unloading facility	N/A	N		20%	Empty
EU-4	6050 Fly Ash Unloader	13:22		N/A	N		20%	Not Running
EU-4	Fly Ash bins vents 11, 12, 13, & 14	13:26	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	13:27	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	13:27	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	13:30	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	13:09	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	Not Running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	13:09	10th floor – Center	N/A	N		20%	Empty
EU-4	Coal silos bin vents 21,23,25,27	13:09	10th floor – Center South	N/A	N		20%	Empty
EU-4	Coal silos bin vents 22,24,26,28	13:09	10th floor - South	N/A	N		20%	Empty
EU-16	Emergency Diesel Fire Pump Engine	13:01	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

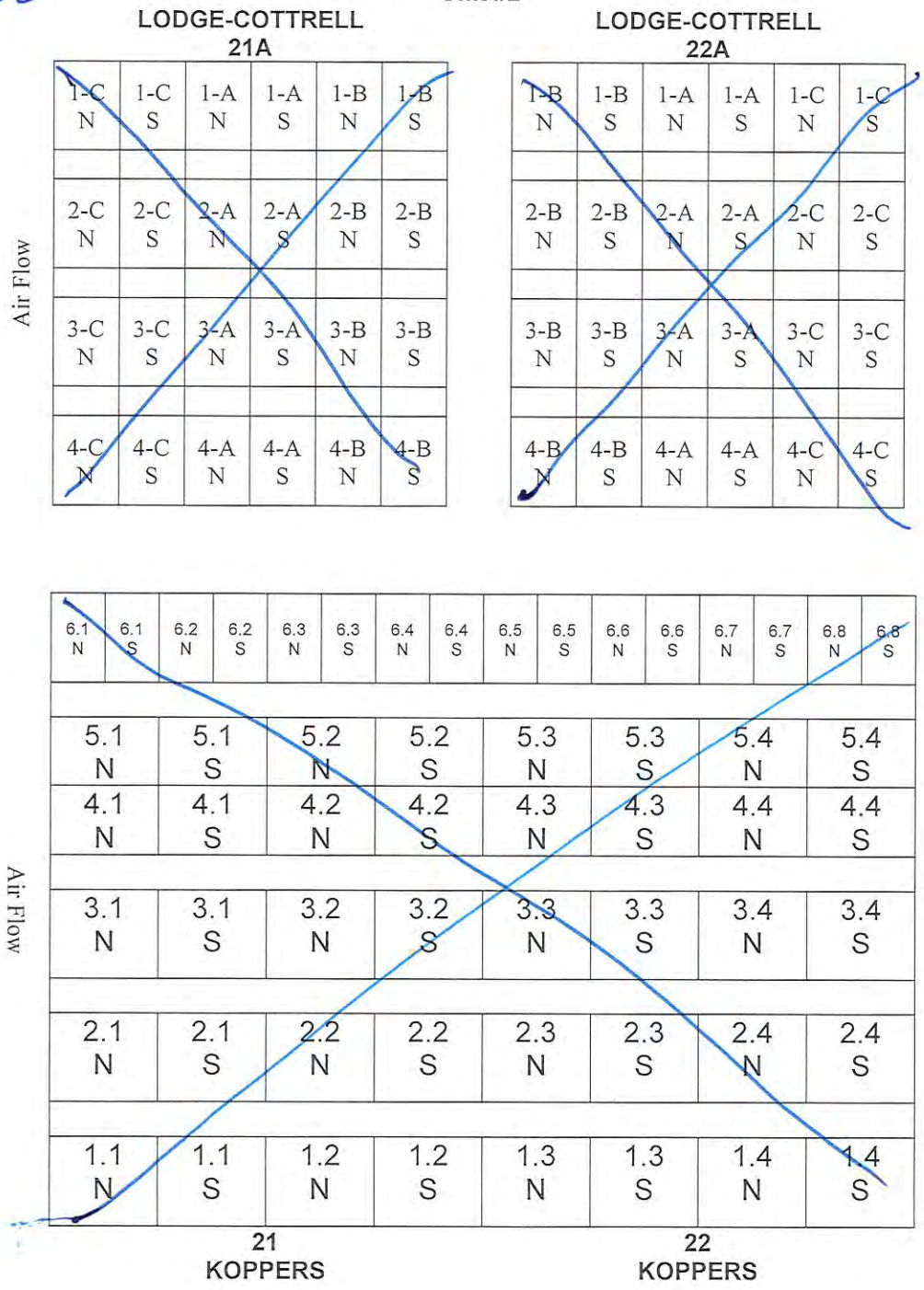
Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF	OFF	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	OFF	—	No	

ESP Status: OFF LINE

Unit #2



VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off**

Date:	31 March 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

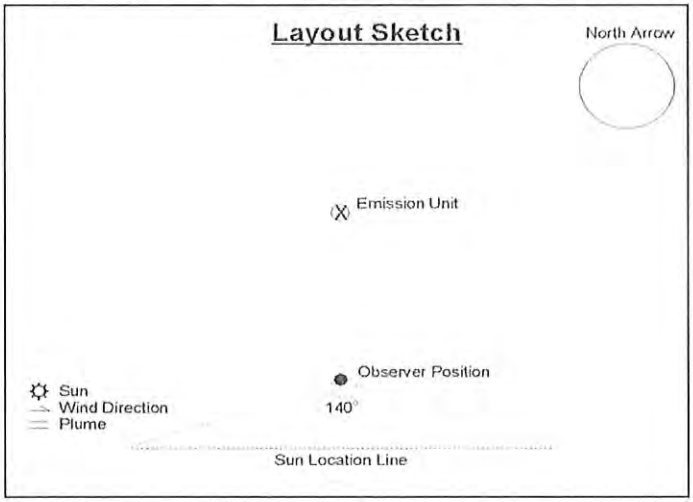
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	31 March 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
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11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

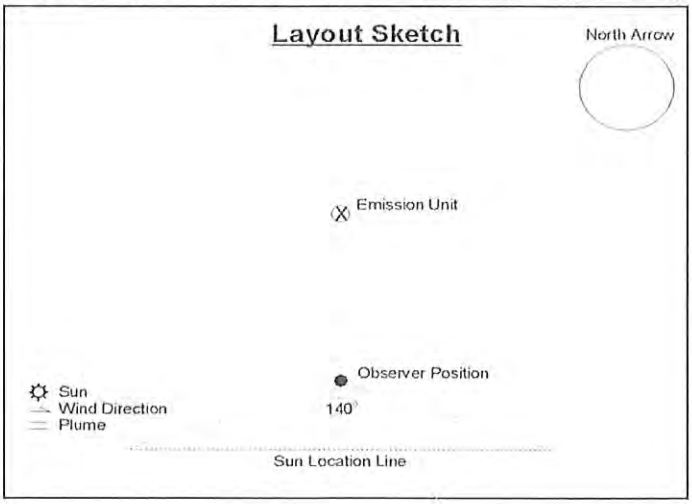
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off**

Date:	31 March 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
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12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

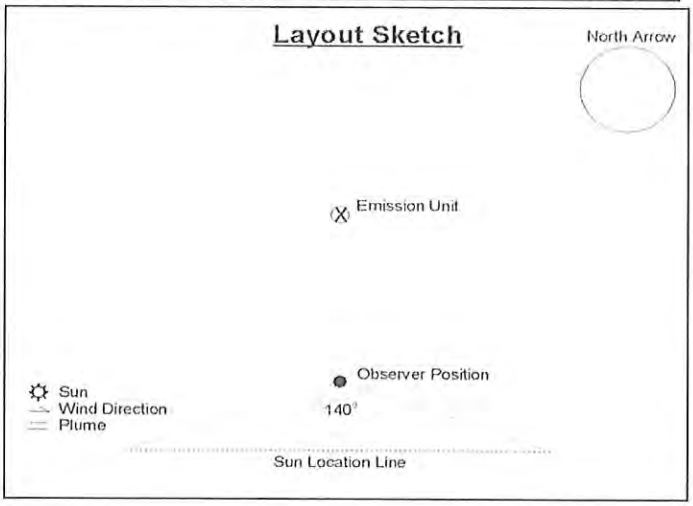
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

ESP Status **(Mark all fields that are out of service)** **Date:** 01-05-25

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	~~2-B N~~	~~2-B S~~
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

~~1-B N~~	~~1-B S~~	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	~~6.5 S~~	6.6 N	6.6 S	~~6.7 N~~	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	~~5.2 N~~	5.2 S	5.3 N	5.3 S	~~5.4 N~~	~~5.4 S~~								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	~~4.4 S~~								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	~~1.2 S~~	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS **22 KOPPERS**

ESP Status **(Mark all fields that are out of service)**

Date: 3/1/25

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS

22 KOPPERS

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2855.2	3-01-25	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	275.7	3-01-25	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	377.7	3-01-25	Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: Mark Griffith

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2852.2	01-05-25	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	272.3		Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	375.6		Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: Mark Griffith

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Cross **Signature:**

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1869.0		Record Engine Hour Meter Reading	Jan Readings
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	342.2		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	993.2		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	82.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	NA		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	5431.8		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	7430.6		Record Engine Hour Meter Reading	

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Cross **Signature:**

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1890.8	1-28-25	Record Engine Hour Meter Reading	Feb Readings
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1955.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	344.4		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	NA	mine	Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	993.8		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	952.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	NA		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	5394.5		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	7453.6		Record Engine Hour Meter Reading	

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:**

EU	Emissions Unit	Hour Meter Reading	Date of Reading 2/6/25		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1891.0	~~2/6/25~~	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	344.4		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3723.9		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	NA		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	993.2		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	82.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	NA		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	~~4958~~	5394.4	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	~~7430.0~~	7493.6	Record Engine Hour Meter Reading	

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:**

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1899.2	3/5/25	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	345.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.6		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	993.8		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	NA		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	5568.2		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	7453.6		Record Engine Hour Meter Reading	

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1.0 inches of Water Column.

Run Time Meter Reading: 4271.4
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 01-13-2025

Observation Time (24 Hr Clock): 1500

Observer's Signature: Mark Griffith

Observer's Name (print): Mark Griffith

Employee Number: 102902

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: .5 inches of Water Column.

Run Time Meter Reading: 04273
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 3/3/2025

Observation Time (24 Hr Clock): 10:00

Observer's Signature: [signature]

Observer's Name (print): D. Thaxt

Employee Number: 109152

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-2

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

a. Specify the period of time covered by the report: **April 1, 2025 – June 30, 2025**

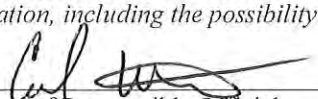
b. Specify the Type or Name of Report:
[ ] Annual Compliance Status Report
[ ] Annual Emissions Inventory Report
[X] Semi-annual Report
[X] Other: Quarterly Report, 2nd Quarter 2025. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:
_____
_____

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:
_____
_____

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.



Signature of Responsible Official — Date: 7/29/2025

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l**.

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q2Y25.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
3rd Quarter 2024	276.2	Tons
4th Quarter 2024	268.2	Tons
1st Quarter 2025	256.1	Tons
2nd Quarter 2025	84.6	Tons
12 Month Rolling Total		
April	809.3	Tons
May	809.3	Tons
June	885.1	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

2nd Quarter 2025	0.173
Year to date	0.174

Rate for loads of 360 MWG or greater, Unit 2:

2nd Quarter 2025	0.179
Year to date	0.177

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q2Y25.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q2Y25.xlsx**

NOTE: There was no use of urea or the SNCR system in Q2 2025.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
April	0
May	0
June	8,559

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	302,227	29,258	10,589
February	235,371	3,380	3,923
March	185,039	58,763	17,316
April	0	0	0
May	0	0	0
June	164,870	107,038	28,611
July			
August			
September			
October			
November			
December			
Annual Total	**887,507**	**198,440**	**60,439**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q2 2025	245
Calendar Year Average YTD	249

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity

based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 2nd quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 2nd quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 2nd quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours – Unit #1 retired on December 31, 2020

Unit 2 Operating Time: 556.56 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**03/26/25 22:26**	Breaker Closed (Date/Time):		**06/06/25 00:00**
Total Time out of service:	**1584**	Hours	**00**	Minutes
Reason for outage	**Return to service after annual outage**			

Unit Shutdown				
Breaker Open (Date/Time):	**06/08/25 17:40**	Breaker Closed (Date/Time):		**06/11/25 12:03**
Total Time out of service:	**66**	hours	**24**	Minutes
Reason for outage	**Superheater tube leak repairs**			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.
SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m

Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file: **Coal_Samples_Report_Q2Y25.xlsx**

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by

Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 18, 2024
Hg STS RATA	EU2	July 18, 2024
CO_2 RATA	EU2	July 18, 2024
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	October 15, 2024
	EU2 – High Load	October 14, 2024
Particulate Matter Stack Testing	EU2	March 25, 2025*

**Q2 PM testing was delayed until July of 2025 due to stack tester availability.*

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2_Q2Y25.xlsx, MATS_HG_Excess_Unit2_Q2Y25.xlsx, MATS_SO2_CEMSUM_U2_Q2Y25.xlsx,** and **MATS_SO2_Excess_Unit2_Q2Y25.xlsx**.

TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.l)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input

rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request. Since 2022, we have performed tuning on the neural network combustion control system every 6 months and have completed preventative maintenance on the SOFAs and CCOFAs during every annual outage.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2_Q2Y25.xlsx** and **MATS_SO2_Downtime_Unit2_Q2Y25.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
06/06/25	07:21 – 07:48	28	Lens cleaning
	Total Mins.	**28**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
06/06/25	07:21 – 07:48	28	Lens cleaning
	Total Mins.	**28**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q2Y25.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q2Y25.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q2Y25.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 30 APR 2025 **Weather Conditions:** Almost Warm, Mostly Clear, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	14:07	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	14:15	Southwest of Coal Storage	Y	N		20%	Not Running
EU-4	Coal Blending System	14:15	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Storage Pile	14:15		N/A	N		20%	Not Running
EU-4	Conveyor 4 & coal transfer	14:15	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Stacker-Reclaimer	14:15	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Conveyor 3 & coal transfer	14:15	Southeast of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	14:21	East of Coal Pile	Y	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	14:21	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	14:30	East of unloading facility	N/A	N		20%	Empty
EU-4	6050 Fly Ash Unloader	14:28		N/A	N		20%	No Truck/Railcar
EU-4	Fly Ash bins vents 11, 12, 13, & 14	14:30	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	14:31	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	14:31	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	14:34	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	14:15	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	Not Running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	14:15	10th floor – Center	N/A	N		20%	Empty
EU-4	Coal silos bin vents 21,23,25,27	14:15	10th floor – Center South	N/A	N		20%	Empty
EU-4	Coal silos bin vents 22,24,26,28	14:15	10th floor - South	N/A	N		20%	Empty
EU-16	Emergency Diesel Fire Pump Engine	14:00	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF	~~0~~	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	—	—	No	

ESP Status: OFF LINE

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off**

Date:	30 April 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

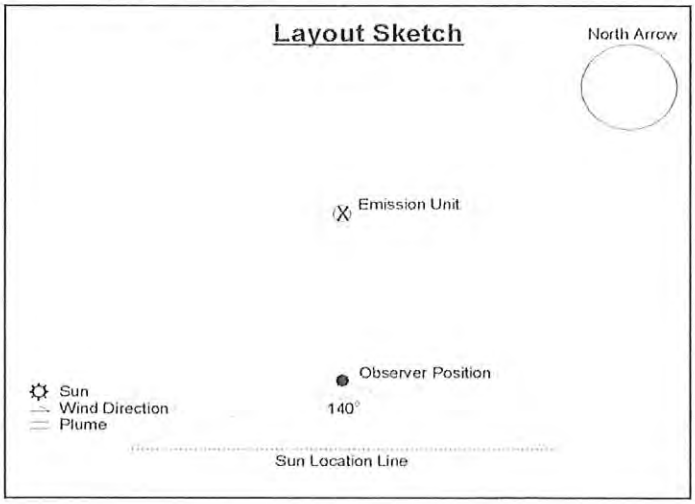
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	30 April 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

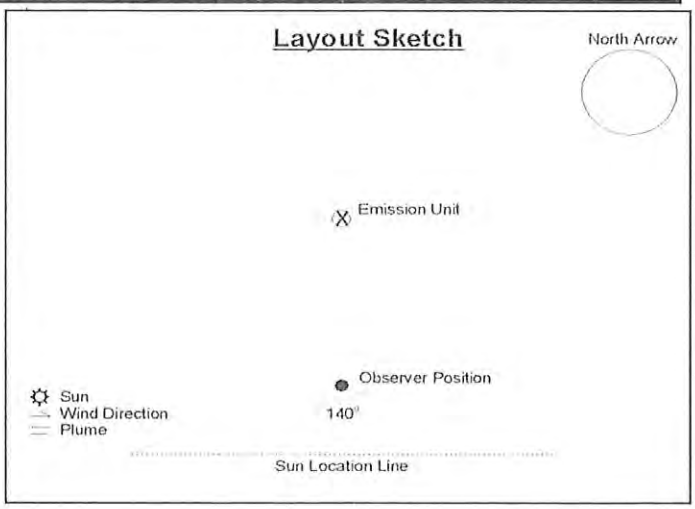
Describe Emission Unit: **Auxiliary Boiler**
Height Above Ground:
Height Relative To Observer:
Distance From Observer:
Direction From Observer:

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off**

Date:	30 April 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

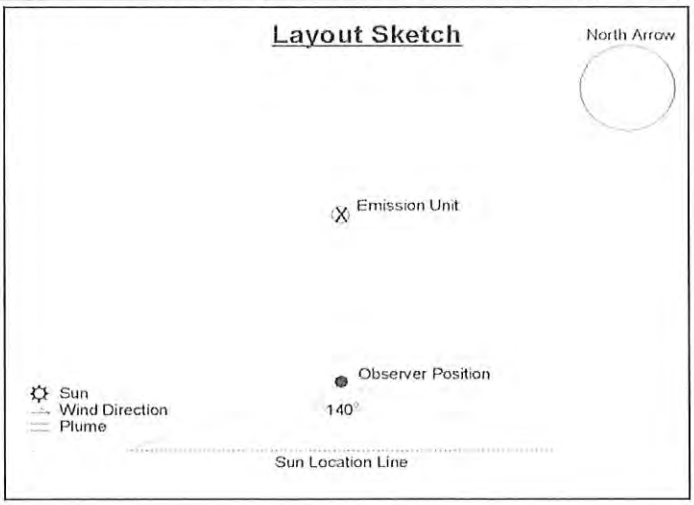
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 29 MAY 2025 **Weather Conditions:** Temperate, Partly Cloudy, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:10	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:12	Southwest of Coal Storage	Y	N		20%	Not Running
EU-4	Coal Blending System	10:12	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Storage Pile	10:13		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:14	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Stacker-Reclaimer	10:14	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Conveyor 3 & coal transfer	10:17	Southeast of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:19	East of Coal Pile	Y	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	10:19	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:29	East of unloading facility	N/A	N		20%	Empty
EU-4	6050 Fly Ash Unloader	10:27		N/A	N		20%	Not Running
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:29	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:30	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:30	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:34	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:52	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	Not Running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:56	10th floor – Center	N/A	N		20%	Empty
EU-4	Coal silos bin vents 21,23,25,27	10:56	10th floor – Center South	N/A	N		20%	Empty
EU-4	Coal silos bin vents 22,24,26,28	10:57	10th floor - South	N/A	N		20%	Empty
EU-16	Emergency Diesel Fire Pump Engine	11:30	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

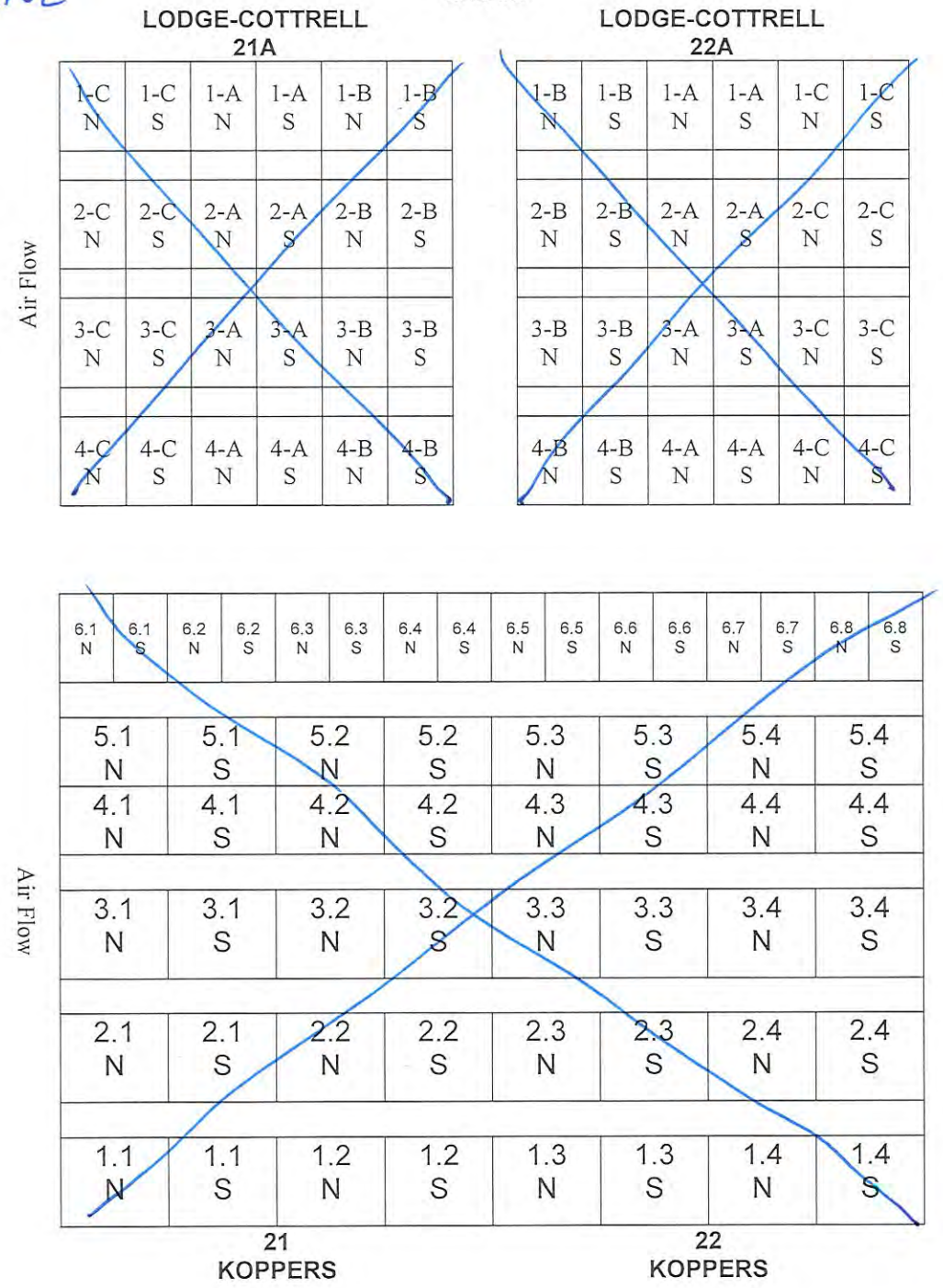
Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF	N/A	—	—

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	N/A	—	—	—

ESP Status: OFF LINE

Unit #2



VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off**

Date:	29 May 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
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6					26					46				
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12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

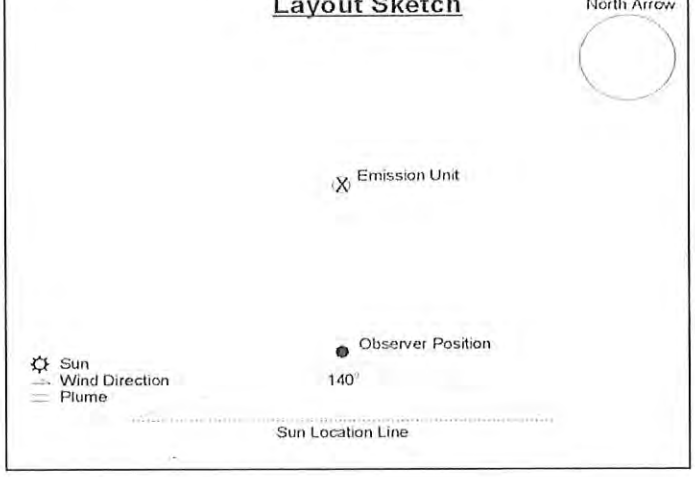
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	29 May 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
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15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

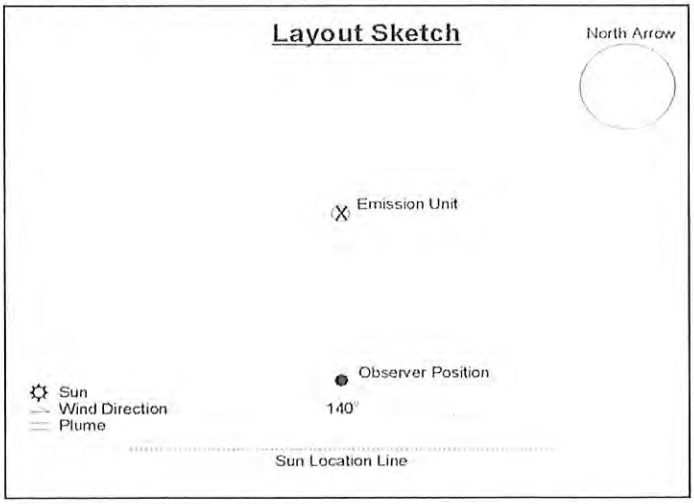
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off**

Date:	29 May 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

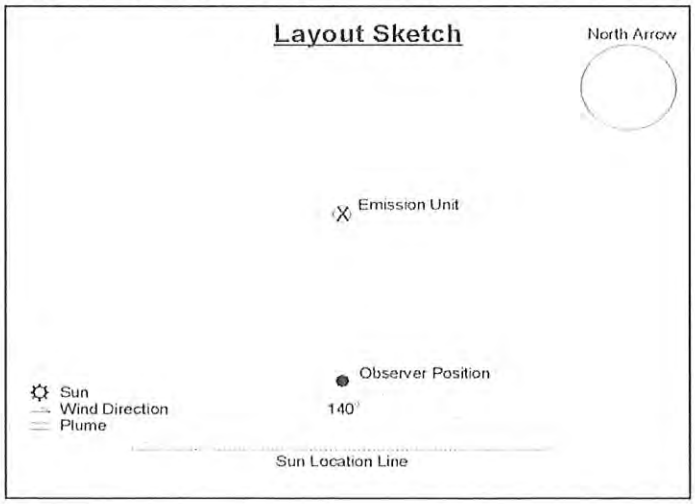
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 30 JUN 2025 **Weather Conditions:** Hot, Clear Sky, Almost Windy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:43	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:47	Southwest of Coal Storage	Y	N		20%	NOT RUNNING
EU-4	Coal Blending System	10:47	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	10:50		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:50	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	11:02	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	11:03	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:06	East of Coal Pile	Y	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	11:06	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	11:20	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	11:13		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	11:21	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	11:21	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	11:21	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	11:23	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	11:28	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	11:31	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:31	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:32	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	11:51	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	ON	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	ON	A	5" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

Air Flow

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Close Clearances

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N		5.1 S		5.2 N		5.2 S		5.3 N		5.3 S		5.4 N		5.4 S	
4.1 N		4.1 S		4.2 N		4.2 S		4.3 N		4.3 S		4.4 N		4.4 S	
3.1 N		3.1 S		3.2 N		3.2 S		3.3 N		3.3 S		3.4 N		3.4 S	
2.1 N		2.1 S		2.2 N		2.2 S		2.3 N		2.3 S		2.4 N		2.4 S	
1.1 N		1.1 S		1.2 N		1.2 S		1.3 N		1.3 S		1.4 N		1.4 S	

Air Flow

21
KOPPERS

22
KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Online**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Online**

Date:	30 June 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: 10:55 Stop Time: 11:01

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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2	0	0	0	0	22					42				
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15					35					55				
16					36					56				
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20					40					60				

Average Opacity:	
Range Of Opacity:	

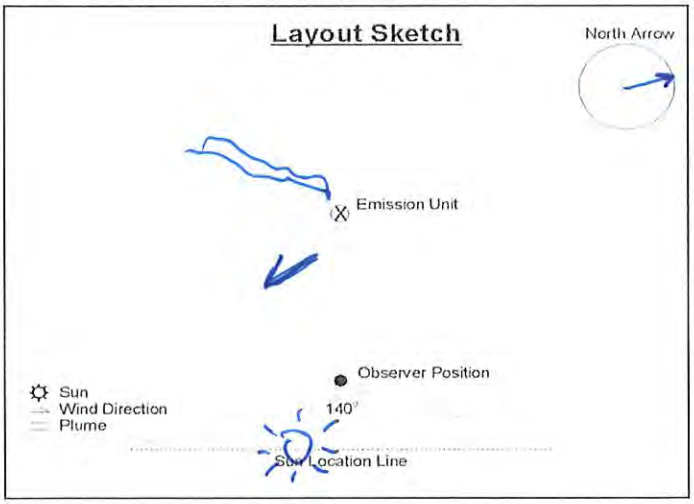
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1050'
Direction From Observer:	W

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	SKY
Background Color:	BLUE

Sky Conditions:	CLEAR	Temperature:	76°F
Wind Speed:	8 mph	Relative Humidity:	57%
Wind Direction:	NNE	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	30 June 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
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15					35					55				
16					36					56				
17					37					57				
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20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

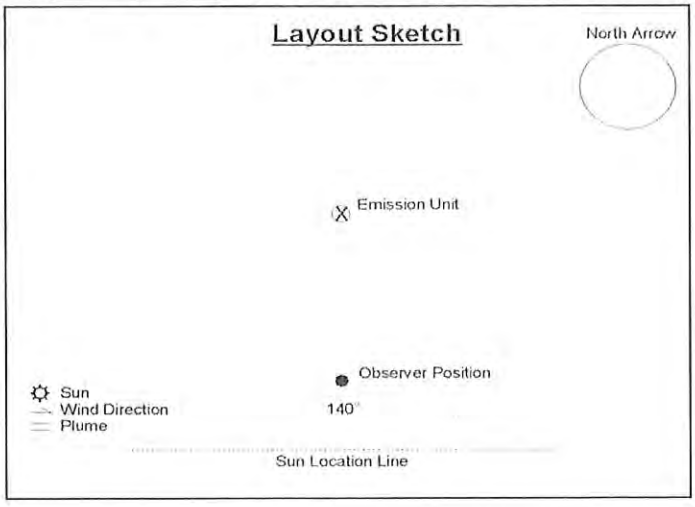
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Online**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Online**

Date:	30 June 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: 11:36 Stop Time: 11:42

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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2	0	0	0	0	22					42				
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20					40					60				

Average Opacity:	
Range Of Opacity:	

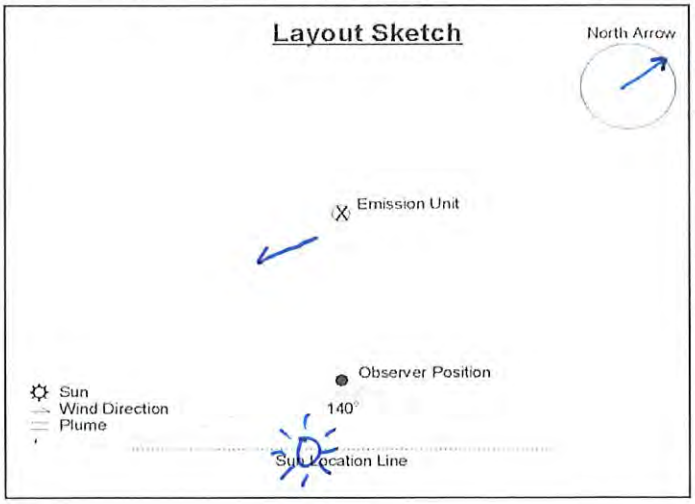
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	20'
Direction From Observer:	W

Describe Emissions:	None Visible
Emission Color:	N/A (would be black if visible)

Describe Background:	SKY
Background Color:	BLUE

Sky Conditions:	CLEAR	Temperature:	78°F
Wind Speed:	9 mph	Relative Humidity:	52%
Wind Direction:	NNE	Wet Bulb Temp.:	

Layout Sketch



Comments:

EU	Emissions Unit	Hour Meter Reading	Date 4-01-25		Comments	
EU4	Unit 1 Emergency Diesel Generator	2856.6		Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	277.5		Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	379.1		Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: Mark Griffith

EU	Emissions Unit	Hour Meter Reading	Date		Comments This is the May monthly reading	
EU4	Unit 1 Emergency Diesel Generator	2857.9	4-30-25	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	279.2	"	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	380.3	"	Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: _____

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	286.0	6-14-25	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	281.4	6-14-25	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	382.9	6-13-25	Record Engine Hour Meter Reading		

Printed Name: M. Graham

Signature:

ESP Status **(Mark all fields that are out of service)**

Date: 4/1/25

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	~~2-B N~~	~~2-B S~~
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

~~1-B N~~	~~1-B S~~	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	~~6.5 S~~	6.6 N	6.6 S	~~6.7 N~~	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	~~5.2 N~~	5.2 S	5.3 N	5.3 S	~~5.4 N~~	~~5.4 S~~								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	~~4.4 S~~								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	~~1.2 S~~	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS

22 KOPPERS

ESP Status **(Mark all fields that are out of service)**

Date: 4/30/25
For month of May

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	~~2-B N~~	~~2-B S~~
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

~~1-B N~~	~~1-B S~~	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	~~6.5 S~~	6.6 N	6.6 S	~~6.7 N~~	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	~~5.2 N~~	5.2 S	5.3 N	5.3 S	~~5.4 N~~	~~5.4 S~~								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	~~4.4 S~~								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	~~1.2 S~~	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS **22 KOPPERS**

ESP Status **(Mark all fields that are out of service)** **Date:** 6-14-25

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N		5.1 S		5.2 N		5.2 S		5.3 N		5.3 S		5.4 N		5.4 S	
4.1 N		4.1 S		4.2 N		4.2 S		4.3 N		4.3 S		4.4 N		4.4 S	
3.1 N		3.1 S		3.2 N		3.2 S		3.3 N		3.3 S		3.4 N		3.4 S	
2.1 N		2.1 S		2.2 N		2.2 S		2.3 N		2.3 S		2.4 N		2.4 S	
1.1 N		1.1 S		1.2 N		1.2 S		1.3 N		1.3 S		1.4 N		1.4 S	

21 KOPPERS **22 KOPPERS**

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:**

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1911.0	3/31/25	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	346.7		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	993.8		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	952.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	NA		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	5680.0		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	7453.6		Record Engine Hour Meter Reading	

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:** Chad Gross

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1911.8	4/30/25	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	346.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3723.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4528.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	993.8		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	NA		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	5739.1		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	NA		Record Engine Hour Meter Reading	Battery dead Digital hr meter

EXHIBIT 11-3

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

   a. Specify the period of time covered by the report: **July 1, 2025 – September 30, 2025**

   b. Specify the Type or Name of Report:
   [ ] Annual Compliance Status Report
   [ ] Annual Emissions Inventory Report
   [X] Semi-annual Report
   [X] Other: Quarterly Report, 3rd Quarter 2025. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

   c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature of Responsible Official — Date: 10/30/2025

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l**.

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q3Y25.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
4th Quarter 2024	268.2	Tons
1st Quarter 2025	256.1	Tons
2nd Quarter 2025	84.6	Tons
3rd Quarter 2025	342.6	Tons
12 Month Rolling Total		
July	900.4	Tons
August	895.7	Tons
September	951.6	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

3rd Quarter 2025	0.175
Year to date	0.175

Rate for loads of 360 MWG or greater, Unit 2:

3rd Quarter 2025	0.169
Year to date	0.173

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q3Y25.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q3Y25.xlsx**

NOTE: There was no use of urea or the SNCR system in Q3 2025.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
July	8,627
August	8,595
September	8,304

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	302,227	29,258	10,589
February	235,371	3,380	3,923
March	185,039	58,763	17,316
April	0	0	0
May	0	0	0
June	164,870	107,038	28,611
July	241,113	64,187	15,216
August	197,336	106,349	33,502
September	228,168	54,361	16,999
October			
November			
December			
Annual Total	**1,554,124**	**423,336**	**126,156**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q3 2025	149
Calendar Year Average YTD	203

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity

based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 3rd quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 3rd quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 3rd quarter of 2025. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours – Unit #1 retired on December 31, 2020

Unit 2 Operating Time: 4,251.07 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**07/24/25 22:50**	Breaker Closed (Date/Time):		**07/29/25 13:23**
Total Time out of service:	**109**	Hours	**34**	Minutes
Reason for outage	**Boiler Inspection**			

Unit Shutdown				
Breaker Open (Date/Time):	**08/10/25 13:27**	Breaker Closed (Date/Time):		**08/12/25 18:05**
Total Time out of service:	**52**	hours	**39**	Minutes
Reason for outage	**Waterwall tube leak repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**08/12/25 23:07**	Breaker Closed (Date/Time):		**08/18/25 09:05**
Total Time out of service:	**129**	hours	**59**	Minutes
Reason for outage	**Boiler tube leak repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**08/26/25 12:17**	Breaker Closed (Date/Time):		**08/26/25 17:00**
Total Time out of service:	**4**	hours	**44**	Minutes
Reason for outage	**Generator tripped by BPA, caused by logging activity**			

Unit Shutdown				
Breaker Open (Date/Time):	**09/08/25 05:03**	Breaker Closed (Date/Time):		**09/12/25 22:00**
Total Time out of service:	**112**	hours	**58**	Minutes
Reason for outage	**Boiler tube leak repairs**			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.
SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q3Y25.xlsx

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	August 5, 2025
Hg STS RATA	EU2	October 14-15, 2025
CO_2 RATA	EU2	August 5, 2025
Stack Flow RATA	EU2 – Low Load	September 17-18, 2025
	EU2 – Mid Load	August 6, 2025
	EU2 – High Load	August 5, 2025
Particulate Matter Stack Testing	EU2	September 16, 2025

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2_Q3Y25.xlsx, MATS_HG_Excess_Unit2_Q3Y25.xlsx, MATS_SO2_CEMSUM_U2_Q3Y25.xlsx,** and **MATS_SO2_Excess_Unit2_Q3Y25.xlsx**.

TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.l).**

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request. Since 2022, we have performed tuning on the neural network combustion control system every 6 months and have completed preventative maintenance on the SOFAs and CCOFAs during every annual outage.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2_Q3Y25.xlsx** and **MATS_SO2_Downtime_Unit2_Q3Y25.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
08/18/25	14:51 – 15:27	37	Lens cleaning
	Total Mins.	**37**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY

07/17/25	14:55 – 15:25	31	Lens cleaning
08/19/25	12:19 – 14:37	139	Lens cleaning and maintenance
	Total Mins.	**170**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q3Y25.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q3Y25.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q3Y25.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 31 July 2025 **Weather Conditions:** Warming / Few Clouds / Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	11:13	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	11:17	Southwest of Coal Storage	Y	N		20%	Not Running
EU-4	Coal Blending System	11:17	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	11:20		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	11:20	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	11:21	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	11:35	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:35	East of Coal Pile	Y	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	11:36	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	11:43	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	11:42		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	11:43	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	11:44	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	11:44	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	11:46	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	11:52	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	11:54	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:54	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:55	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	12:42	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	5"H20	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

BAD KV FDBK

NO XFMR

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

NO XFMR

BAD KV FDBK

Close Clearance

CC

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

CC

CC

BAD KV FDBK

Air Flow

21
KOPPERS

22
KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	Online
Control Equipment:	ESP / FGD
Operating Mode:	Online

Date:	31 July 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: 11:25 Stop Time: 11:31

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
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8					28					48				
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14					34					54				
15					35					55				
16					36					56				
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18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

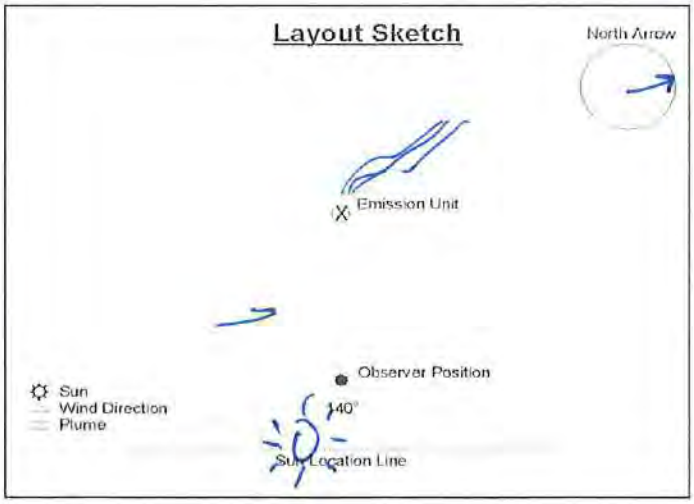
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1050'
Direction From Observer:	W

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	72°F
Wind Speed:	6 mph	Relative Humidity:	61%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	31 July 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
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14					34					54				
15					35					55				
16					36					56				
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18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

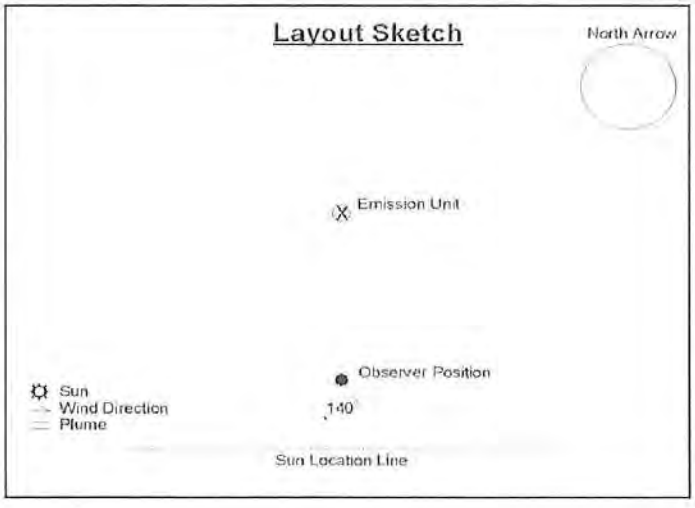
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 6 - U2 Turbine Lube Oil
Operating Mode:	Online
Control Equipment:	Lube Oil Mist Eliminator
Operating Mode:	Online

Date:	31 July 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: 12:00 Stop Time: 12:06

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
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14					34					54				
15					35					55				
16					36					56				
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18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

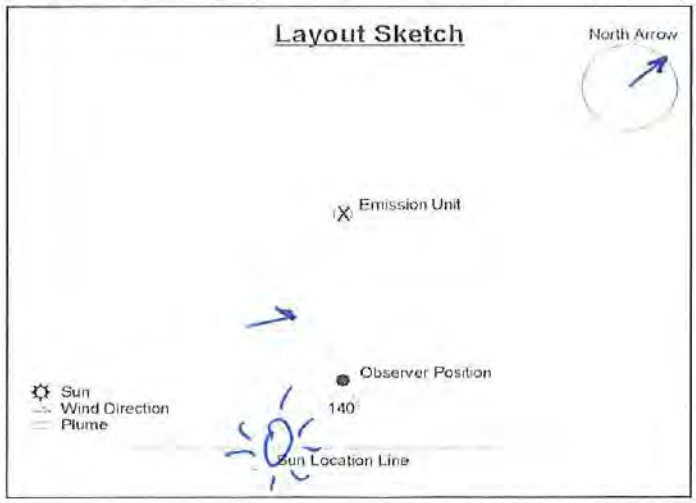
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	15'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	Black

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	73°F
Wind Speed:	5 mph	Relative Humidity:	60%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: August 28,2025 **Weather Conditions:** Overcast, Almost warm, Very little breeze

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Partly foggy, but last work day of month

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	11:02	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	11:06	Southwest of Coal Storage	Y	N		20%	
EU-4	Coal Blending System	11:06	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	11:09		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	11:09	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	11:10	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	11:28	Southeast of Coal Storage	N/A	N		20%	Not running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:28	East of Coal Pile	Y	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	11:29	East side of CUF below Car Unloader	N/A	N		5%	
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	11:37	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	11:37 36		N/A	N		20%	Not Unloading
EU-4	Fly Ash bins vents 11, 12, 13, & 14	11:37	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	11:38	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	11:38	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	11:41	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	11:47	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	11:50	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:50	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:51	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	12:32	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	6" H2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21 KOPPERS

22 KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	Online
Control Equipment:	ESP / FGD
Operating Mode:	Online

Date:	28 August 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: 11:14 Stop Time: 11:20

	Seconds					Seconds					Seconds			
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20					40					60				

Average Opacity:	
Range Of Opacity:	

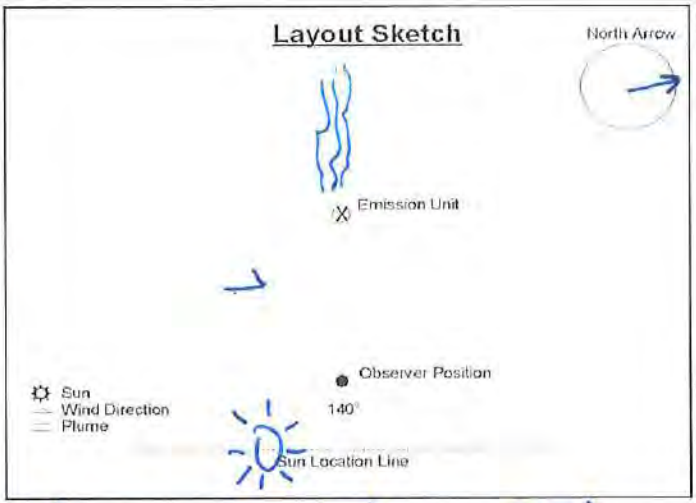
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1050'
Direction From Observer:	W

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Gray

Sky Conditions:	Cloudy	Temperature:	65 °F
Wind Speed:	1-2 mph	Relative Humidity:	85%
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments: Plume rising vertically; not enough wind to affect plume direction

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	28 August 2025
Observer Name (Print):	Sam Bocock
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
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15					35					55				
16					36					56				
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OFF LINE

Average Opacity:
Range Of Opacity:

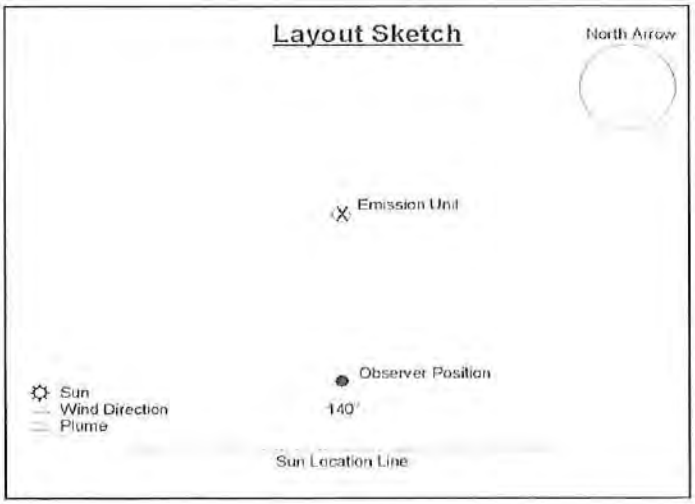
Describe Emission Unit: Auxiliary Boiler
Height Above Ground:
Height Relative To Observer:
Distance From Observer:
Direction From Observer:

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 6 - U2 Turbine Lube Oil
Operating Mode:	Online
Control Equipment:	Lube Oil Mist Eliminator
Operating Mode:	Online

Date:	28 August 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:09 Sep 2025

Start Time: 11:54 Stop Time: 12:00

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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2	0	0	0	0	22					42				
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4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
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20					40					60				

Average Opacity:	
Range Of Opacity:	

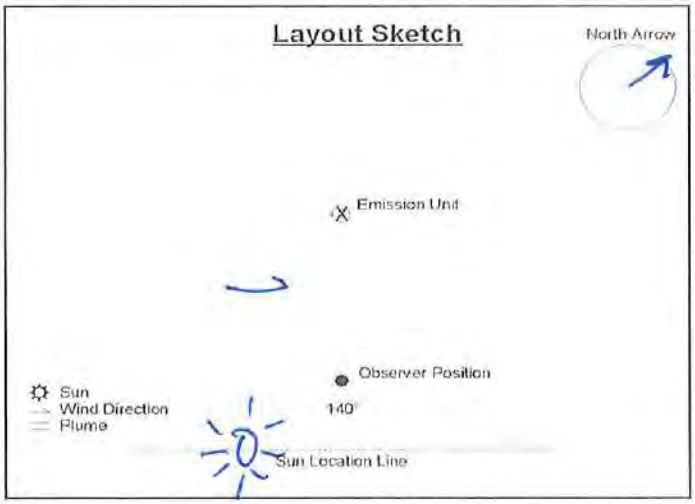
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	15'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	Black

Describe Background:	Sky
Background Color:	Gray + Blue

Sky Conditions:	Clearing	Temperature:	68°F
Wind Speed:	1-2 mph	Relative Humidity:	78%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 25 SEP 25 **Weather Conditions:** Cool, Partly Cloudy, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	11:03	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	11:07	Southwest of Coal Storage	Y	N		20%	Not Running
EU-4	Coal Blending System	11:07	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	11:08		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	11:10	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	11:11	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	11:22	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:24	East of Coal Pile	Y	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	11:24	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	11:37	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	11:34		N/A	N		20%	Not Unloading
EU-4	Fly Ash bins vents 11, 12, 13, & 14	11:35	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	11:36	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	11:36	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	11:39	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	11:44	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	11:47	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:48	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:49	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	12:11	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	5"H2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

BAD KV FDBK

NO XFMR

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

NO XFMR

BAD KV FDBK

Air Flow

Close Clearances

CC

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S					5.3 N	5.3 S			5.4 N		5.4 S	
4.1 N	4.1 S	4.2 N	4.2 S					4.3 N	4.3 S			4.4 N		4.4 S	
3.1 N	3.1 S	3.2 N	3.2 S					3.3 N	3.3 S			3.4 N		3.4 S	
2.1 N	2.1 S	2.2 N	2.2 S					2.3 N	2.3 S			2.4 N		2.4 S	
1.1 N	1.1 S	1.2 N	1.2 S					1.3 N	1.3 S			1.4 N		1.4 S	

PWR OFF

CC

OOS

BAD KV FDBK

CC

21
KOPPERS

22
KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	Online
Control Equipment:	ESP / FGD
Operating Mode:	Online

Date:	25 September 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam. Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:10 Mar 2026

Start Time: 11:14 Stop Time: 11:20

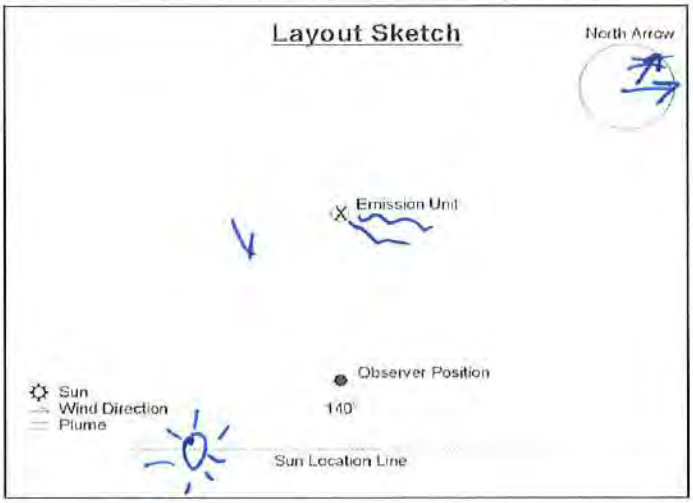
	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	1050'
Direction From Observer:	NW
Describe Emissions:	Attached Steam Plume
Emission Color:	White
Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	61°F
Wind Speed:	6 mph	Relative Humidity:	59%
Wind Direction:	W	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date: 25 September 2025
Observer Name (Print): Sam Bocook
Observer Signature: Sam Bocook
Organization: TransAlta Centralia Generation LLC
Certified by: Northwest Opacity Certification
Certification # NW-F18-007 EXP:10 Mar 2026

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

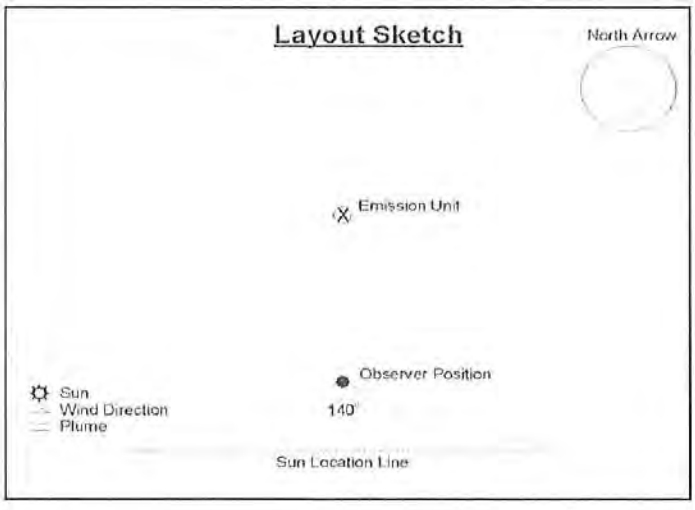
Describe Emission Unit: Auxiliary Boiler
Height Above Ground:
Height Relative To Observer:
Distance From Observer:
Direction From Observer:

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 6 - U2 Turbine Lube Oil
Operating Mode:	Online
Control Equipment:	Lube Oil Mist Eliminator
Operating Mode:	Online

Date:	25 September 2025
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP:10 Mar 2026

Start Time: 11:54 Stop Time: 12:00

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

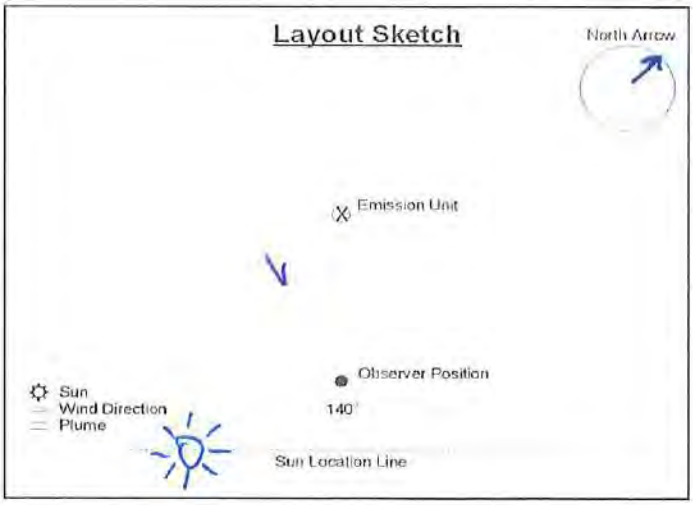
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	15'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	Black

Describe Background:	Cloudy Horizon
Background Color:	white/grey/blue

Sky Conditions:	Partly Cloudy	Temperature:	63°F
Wind Speed:	6 mph	Relative Humidity:	57%
Wind Direction:	W	Wet Bulb Temp.:	

Layout Sketch



Comments:

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	284	8-9-25	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	2962	8-9-25	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	385	8-9-25	Record Engine Hour Meter Reading		

Printed Name: M. Graham

Signature:

ESP Status (Mark all fields that are out of service)

Date: 8-9-25

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

↳ comm error MK 11874202

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS **22 KOPPERS**

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2864	9-6-25	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	285.9	9-6-25	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	387.1	9-6-25	Record Engine Hour Meter Reading		

Printed Name: M. GRAHAM

Signature:

ESP Status (Mark all fields that are out of service)

Date: 9-6-25

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
				NO XFMR	
2-C N	2-C S	2-A N	2-A S	~~2-B N~~	~~2-B S~~
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

NO XFMR

~~1-B N~~	~~1-B S~~	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
~~4-B N~~	~~4-B S~~	4-A N	4-A S	4-C N	4-C S

COMM ERROR

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
				COMM ERROR											
5.1 N	5.1 S	~~5.2 N~~	~~5.2 S~~	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	~~1.2 N~~	~~1.2 S~~	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS COMM ERROR

22 KOPPERS

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: .9 inches of Water Column.

Run Time Meter Reading: 4275.5
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 07/22/25

Observation Time (24 Hr Clock): 10:30

Observer's Signature: Brian W Ford

Observer's Name (print): Brian W Ford

Employee Number: 102959

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

Hydrated Lime Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1 inches of Water Column.

Run Time Meter Reading: 04275.6
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 09/03/25

Observation Time (24 Hr Clock): 11:00

Observer's Signature: Olivia Clifford

Observer's Name (print): OLIVIA CLIFFORD

Employee Number: 108630

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-4

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

a. Specify the period of time covered by the report: **January 1, 2024 – March 31, 2024**

b. Specify the Type or Name of Report:
[ ] Annual Compliance Status Report
[ ] Annual Emissions Inventory Report
[X] Semi-annual Report
[X] Other: Quarterly Report, 1st Quarter 2024. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

_____

_____

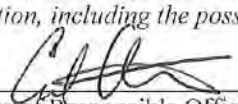
7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

_____

_____

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.



Signature of Responsible Official — 4/30/2024. Date

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l**.

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q1Y24.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
2nd Quarter 2023	142.0	Tons
3rd Quarter 2023	359.9	Tons
4th Quarter 2023	336.5	Tons
1st Quarter 2024	386.6	Tons
12 Month Rolling Total		
January	1,143.8	Tons
February	1,143.1	Tons
March	1,225.1	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

1st Quarter 2024	0.163
Year to date	0.163

Rate for loads of 360 MWG or greater, Unit 2:

1st Quarter 2024	0.161
Year to date	0.161

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q1Y24.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q1Y24.xlsx**

NOTE: There was no use of urea or the SNCR system in Q1 2024.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
January	8,420
February	8,465
March	8,455

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	202,069	62,500	19,907
February	212,366	31,501	14,882
March	141,743	49,896	15,351
April			
May			
June			
July			
August			
September			
October			
November			
December			
Annual Total	**556,178**	**143,897**	**50,140**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q1 2024	234
Calendar Year Average YTD	234

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity

based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 1st quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 1st quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 1st quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time: 1,486.76 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**01/01/24 00:00**	Breaker Closed (Date/Time):		**01/11/24 15:50**
Total Time out of service:	**255**	hours	**51**	Minutes
Reason for outage	**Tube Leak Repairs** (shutdown started in December 2023)			

Unit Shutdown				
Breaker Open (Date/Time):	**02/16/24 12:40**	Breaker Closed (Date/Time):		**02/19/24 19:17**
Total Time out of service:	**78**	hours	**38**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**02/27/24 09:17**	Breaker Closed (Date/Time):		**03/02/24 20:01**
Total Time out of service:	**106**	hours	**45**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**03/19/24 21:30**	Breaker Closed (Date/Time):		
Total Time out of service:	**290**	hours	**30**	Minutes
Reason for outage	**Economic dispatch, carried into Q2**			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_x recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.

SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q1Y24.xlsx

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1

Filterable PM	Quarterly Stack Testing

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 26, 2023
Hg STS RATA	EU2	August 1, 2023
CO_2 RATA	EU2	July 26, 2023
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	September 25, 2023
	EU2 – High Load	September 26, 2023
Particulate Matter Stack Testing	EU2	January 30, 2024

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2 Q1Y24.xlsx, MATS_HG_Excess_Unit2 Q1Y24.xlsx, MATS_SO2_CEMSUM_U2 Q1Y24.xlsx,** and **MATS_SO2_Excess_Unit2 Q1Y24.xlsx**. TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.I)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2 Q1Y24.xlsx** and **MATS_SO2_Downtime_Unit2 Q1Y24.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.

DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
02/05/2024	15:43 – 16:21	39	Lens clean
	Total Mins.	**39**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.

DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
02/05/2024	15:43 – 16:21	39	Lens clean
02/21/2024	13:25 – 14:09	45	Quarterly PM
02/22/2024	06:01 – 10:49	289	Repair and lens clean to correct failed cal
03/03/2024	13:51 – 14:39	49	Lens clean
	Total Mins.	**373**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection.**"

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q1Y24.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q1Y24.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q1Y24.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 15 JAN 2024 **Weather Conditions:** Cold, Mostly Sunny, Light Breeze

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house		South of Journal Shop	N/A			0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression		Southwest of Coal Storage				20%	
EU-4	Coal Blending System		Southwest of Coal Storage	N/A			20%	
EU-4	Coal Storage Pile			N/A			20%	
EU-4	Conveyor 4 & coal transfer		South of Coal Storage	N/A			20%	
EU-4	Stacker-Reclaimer		South of Coal Storage	N/A			20%	
EU-4	Conveyor 3 & coal transfer	10:40	Southeast of Coal Storage	N/A			20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:42	East of Coal Pile	N/A	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	10:42	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:51	East of unloading facility	N/A			20%	
EU-4	6050 Fly Ash Unloader	10:49		N/A	N		20%	NOT RUNNING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:50	Top of Fly Ash Bin	N/A			20%	
EU-23	Fly Ash Bin #11 Baghouse	10:50	Top of Fly Ash Bin 11	N/A			0%	
EU-24	Fly Ash Bin #12 Baghouse	10:50	Top of Fly Ash Bin 12	N/A			0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:52	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:58	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	11:01	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:01	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:02	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	12:37	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On line	A	7" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

NO XFMR

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

NO XFMR

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

OOS

Air Flow

21 KOPPERS

22 KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	15 January 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: 10:31 Stop Time: 10:37

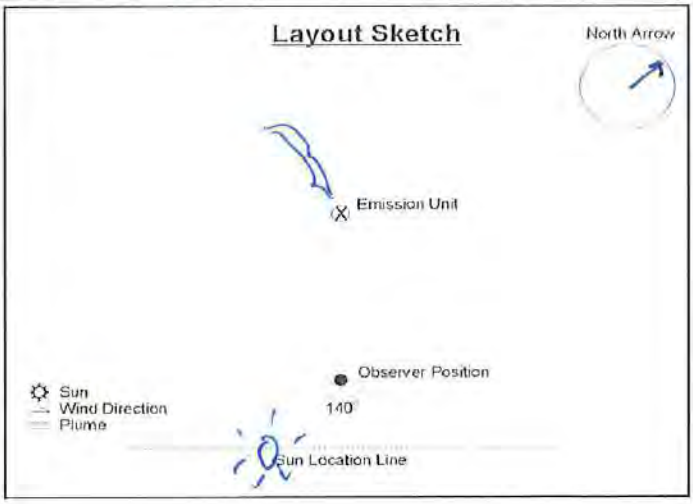
	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1100'
Direction From Observer:	NW NW
Describe Emissions:	Attached Steam Plume
Emission Color:	White
Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Mostly Clear	Temperature:	25°
Wind Speed:	2mph	Relative Humidity:	78%
Wind Direction:	ENE	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	15 January 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

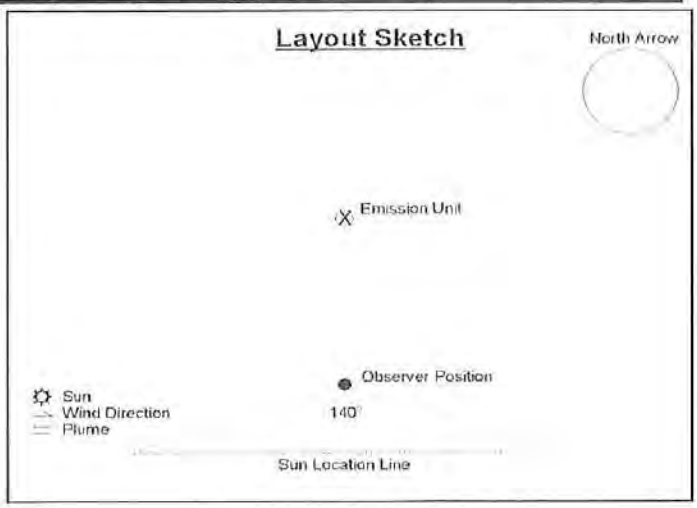
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	15 January 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: 11:04 Stop Time: 11:10

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

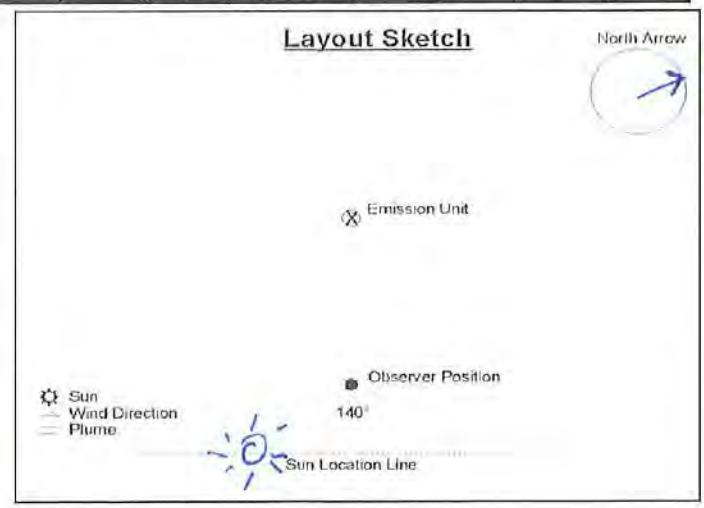
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	20'
Direction From Observer:	V

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky, Sparse Clouds
Background Color:	Blue, Greyish White

Sky Conditions:	Mostly Clear	Temperature:	25°F
Wind Speed:	2-5 mph	Relative Humidity:	78%
Wind Direction:	ENE	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 29 FEB 2024 **Weather Conditions:** Not Warm, Rainy & Overcast

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit is down for tube leak repairs; rain was intermittent during inspection

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:57	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	11:00	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	11:00	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Storage Pile	11:00		N/A	N		20%	~~NOT RUNNING~~
EU-4	Conveyor 4 & coal transfer	11:02	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	11:02	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 3 & coal transfer	11:07	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:09	East of Coal Pile	N/A	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	11:09	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	11:18	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	11:16		N/A	N		20%	NOT UNLOADING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	11:18	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	11:19	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	11:19	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	11:21	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	11:27	Top of 6A & 6B conveyor East side of Power Building				20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	11:30	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:30	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:31	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	11:43	Raw Water Pump Building	N/A	N		5%	

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	Off Line	0	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	Off Line	N/A	N/A	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

~~Off~~ LINE

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21
KOPPERS

22
KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off Line**

Date:	29 February 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

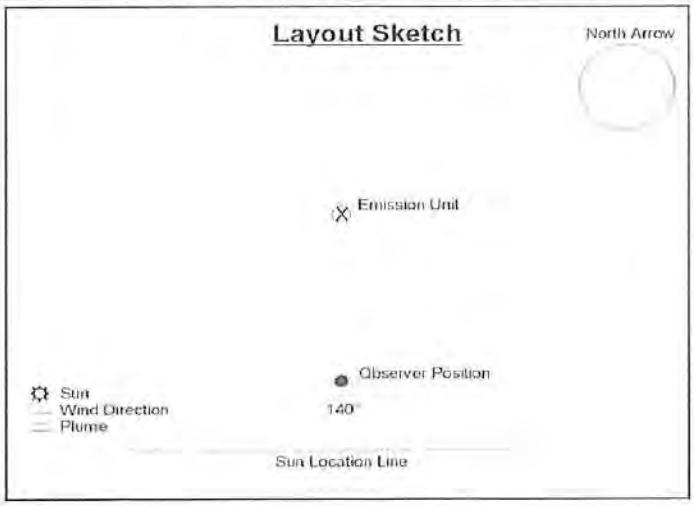
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	29 February 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
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7					27					47				
8					28					48				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

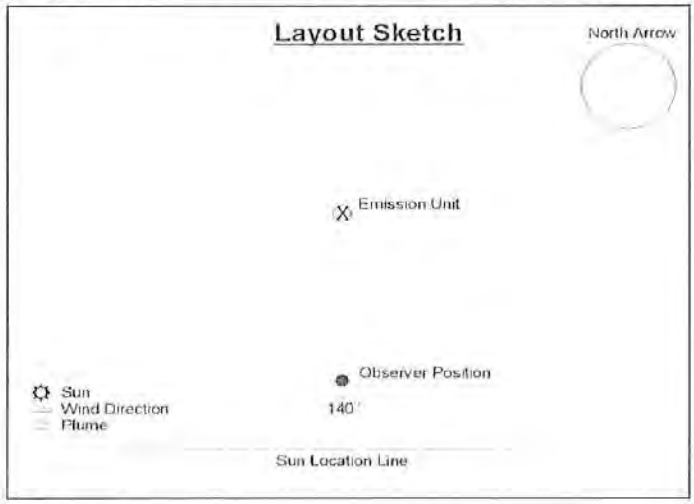
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off Line**

Date:	29 February 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

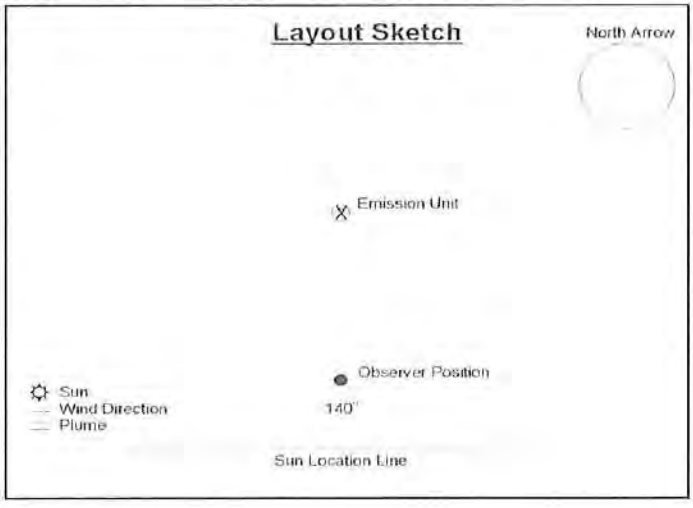
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 28 MAR 2024 **Weather Conditions:** Overcast, Not warm, Intermittent/Light Rain

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

No train deliveries, no conveyors running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:49 ~~10:00~~	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:10	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Blending System	10:10	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Storage Pile	10:12		N/A	N		20%	Not Running
EU-4	Conveyor 4 & coal transfer	10:12	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Stacker-Reclaimer	10:12	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Conveyor 3 & coal transfer	10:15	Southeast of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:15	East of Coal Pile	N/A	N		0%	Not Running
EU-18	CUF Emergency Diesel Sump Pump Engine	10:17	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:24	East of unloading facility	N/A	N		20%	Empty
EU-4	6050 Fly Ash Unloader	10:24		N/A	N		20%	No truck or Railcar
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:24	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:25	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:25	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:30	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:10	Top of 6A & 6B conveyor East side of Power Building	N/A	N		20%	Not Running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:37	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:37	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:38	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	09:15	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF LINE	0	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	—	—	No	

ESP Status:

OFFLINE

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N		5.1 S		5.2 N		5.2 S		5.3 N		5.3 S		5.4 N		5.4 S	
4.1 N		4.1 S		4.2 N		4.2 S		4.3 N		4.3 S		4.4 N		4.4 S	
3.1 N		3.1 S		3.2 N		3.2 S		3.3 N		3.3 S		3.4 N		3.4 S	
2.1 N		2.1 S		2.2 N		2.2 S		2.3 N		2.3 S		2.4 N		2.4 S	
1.1 N		1.1 S		1.2 N		1.2 S		1.3 N		1.3 S		1.4 N		1.4 S	

Air Flow

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off Line**

Date:	28 March 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds				
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
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7					27					47				
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15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

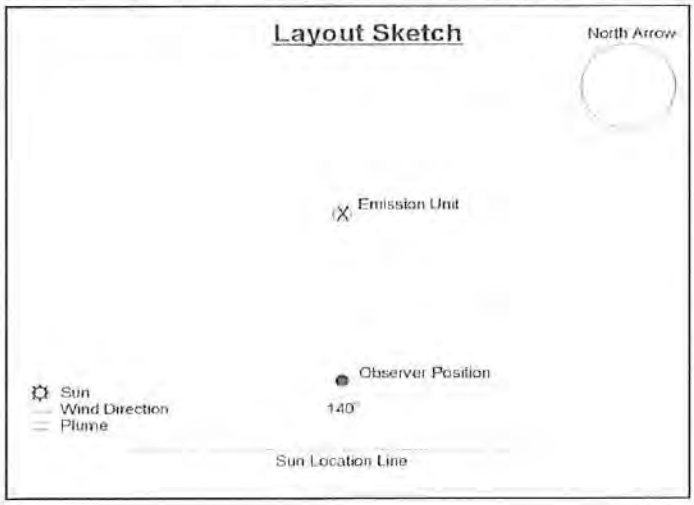
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	28 March 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
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15					35					55				
16					36					56				
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19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

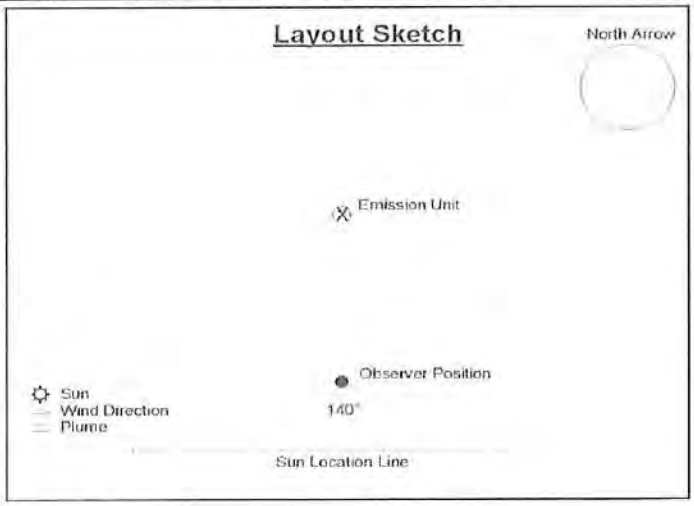
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off Line**

Date:	28 March 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45
1					21					41				
2					22					42				
3					23					43				
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15					35					55				
16					36					56				
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19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

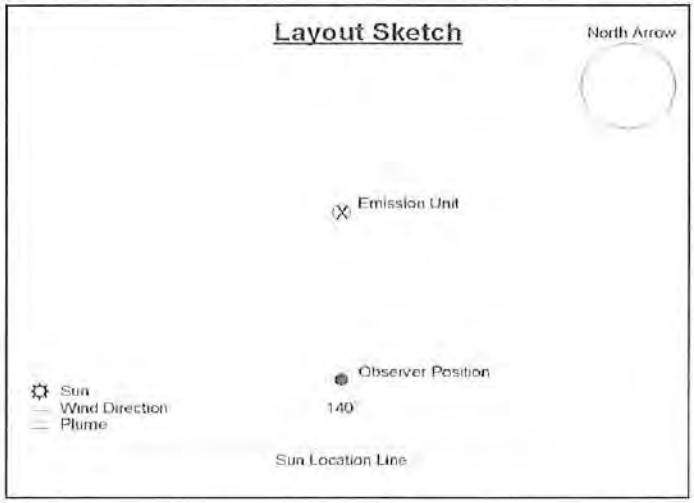
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

ESP Status **(Mark all fields that are out of service)**

Date: 1-05-24

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS

22 KOPPERS

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2830.3	1-05-24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	246.3	1-05-24	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	358.6	1-05-24	Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: Mark Griffith

ESP Status (Mark all fields that are out of service)

Date: 02 FEB 24

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS

22 KOPPERS

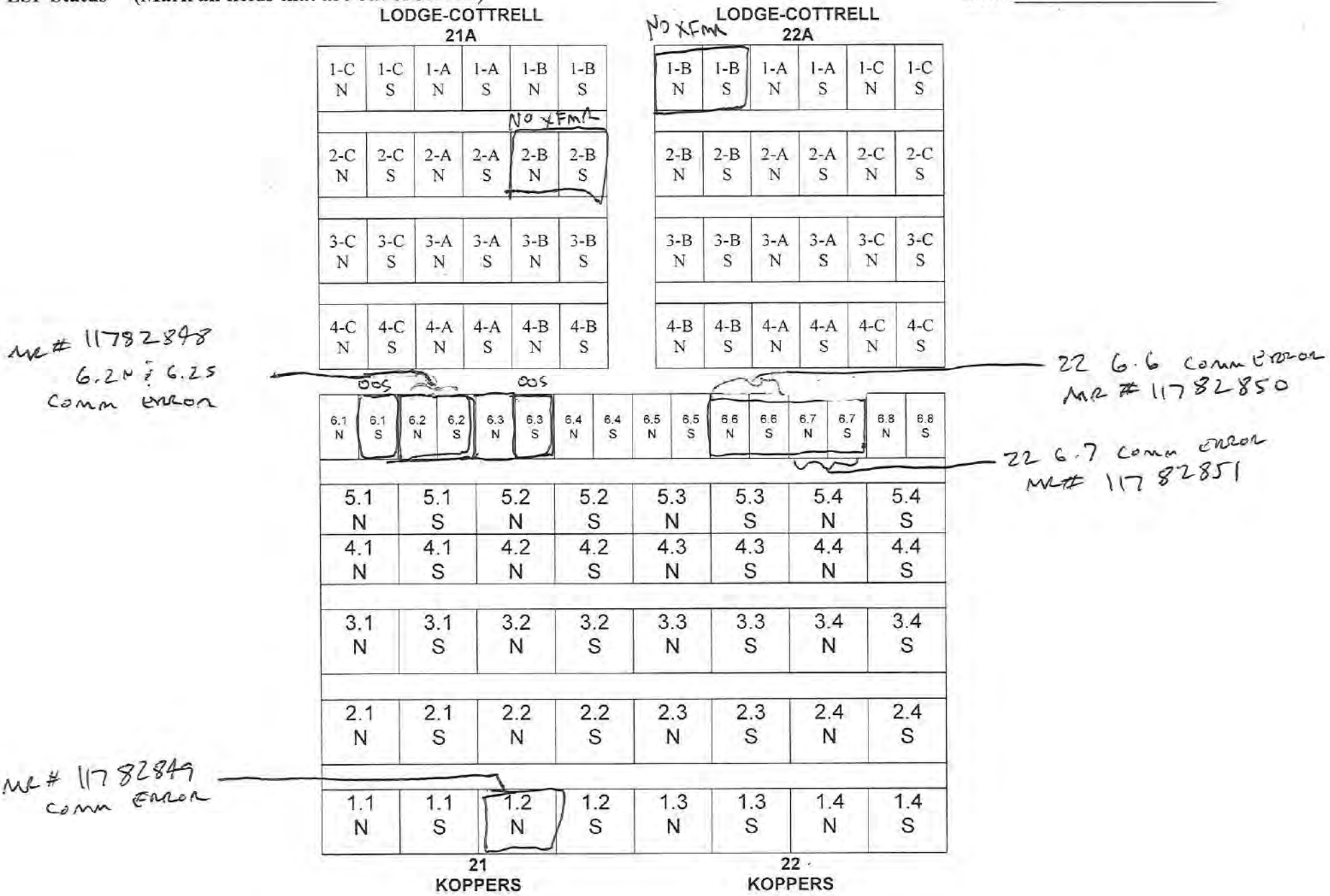
EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2831.2	2-02-24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	247.7	/	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	359.9	/	Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: Mark Griffith

ESP Status (Mark all fields that are out of service)

Date: 3-6-24



EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2834.9	3-5-24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	253.7	3-5-24	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	361.4	3-5-24	Record Engine Hour Meter Reading		

Printed Name: M. Graham

Signature:

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1.0 inches of Water Column.

Run Time Meter Reading: 04265.1
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 01/23/24

Observation Time (24 Hr Clock): 10:00

Observer's Signature: Olivia Clifford

Observer's Name (print): OLIVIA CLIFFORD

Employee Number: 108630

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 6 inches of Water Column.

Run Time Meter Reading: 4265
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 3-1-24

Observation Time (24 Hr Clock): 10:30

Observer's Signature: Chad Mitchell

Observer's Name (print): Chad Mitchell

Employee Number: Chad Mitchell 108455

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-5

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

   a. Specify the period of time covered by the report: **April 1, 2024 – June 30, 2024**

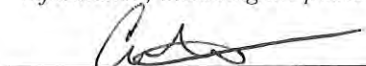
   b. Specify the Type or Name of Report:
   [ ] Annual Compliance Status Report
   [ ] Annual Emissions Inventory Report
   [X] Semi-annual Report
   [X] Other: Quarterly Report, 2nd Quarter 2024. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

   c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:
   _____
   _____

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:
_____
_____

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.



Signature of Responsible Official — 7/25/2024. Date

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l**.

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q1Y24.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
3rd Quarter 2023	359.9	Tons
4th Quarter 2023	336.5	Tons
1st Quarter 2024	386.6	Tons
2nd Quarter 2024	8.8	Tons
12 Month Rolling Total		
April	1,100.5	Tons
May	1,099.1	Tons
June	1,091.9	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

2nd Quarter 2024	0.268
Year to date	0.164

Rate for loads of 360 MWG or greater, Unit 2:

2nd Quarter 2024	0.150
Year to date	0.161

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q2Y24.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q2Y24.xlsx**

NOTE: There was no use of urea or the SNCR system in Q2 2024.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
April	N/A
May	N/A
June	8,455

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	202,069	62,500	19,907
February	212,366	31,501	14,882
March	141,743	49,896	15,351
April	0	0	0
May	0	0	2,337
June	1,282	83,223	26,418
July			
August			
September			
October			
November			
December			
Annual Total	**557,460**	**227,121**	**78,935**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q2 2024	7
Calendar Year Average YTD	231

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity

based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 2nd quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 2nd quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 2nd quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time: 27.95 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**03/19/24 21:30**	Breaker Closed (Date/Time):		**06/25/24 10:06**
Total Time out of service:	**2050**	hours	**07**	Minutes
Reason for outage	**Economic dispatch, tube leak repairs after first startup attempt after annual maintenance outage**			

Unit Shutdown				
Breaker Open (Date/Time):	**06/25/24 16:37**	Breaker Closed (Date/Time):		**In Q3**
Total Time out of service:	**127**	hours	**23**	Minutes
Reason for outage	**Tube Leak Repairs** startup in Q3			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.
SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q2Y24.xlsx
Note: No coal samples were collected due to the operating time in Q2.

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 26, 2023
Hg STS RATA	EU2	August 1, 2023
CO_2 RATA	EU2	July 26, 2023
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	September 25, 2023
	EU2 – High Load	September 26, 2023
Particulate Matter Stack Testing	EU2	January 30, 2024

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2 Q2Y24.xlsx, MATS_HG_Excess_Unit2 Q2Y24.xlsx, MATS_SO2_CEMSUM_U2 Q2Y24.xlsx,** and **MATS_SO2_Excess_Unit2 Q2Y24.xlsx**. TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.I)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is

200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2_Q2Y24.xlsx** and **MATS_SO2_Downtime_Unit2_Q2Y24.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime: No opacity monitor downtime in Q2 2024.

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY

Total Mins.

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY

Total Mins. 373

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q2Y24.xlsx**. Coal analysis was not performed in this reporting period, but the data file has been provided in **Coal_Samples_Report_Q2Y24.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q2Y24.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 30 APRIL 24 **Weather Conditions:** Cool, Partly Cloudy, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Shutdown in March 2024 for economics, carried through April into outage.

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	12:16	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	12:23	Southwest of Coal Storage	N/A	N		20%	Not running
EU-4	Coal Blending System	12:23	Southwest of Coal Storage	N/A	N		20%	Not running
EU-4	Coal Storage Pile	12:23		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	12:25	South of Coal Storage	N/A	N		20%	Not running
EU-4	Stacker-Reclaimer	12:25	South of Coal Storage	N/A	N		20%	Not running
EU-4	Conveyor 3 & coal transfer	12:30	Southeast of Coal Storage	N/A	N		20%	Not running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	12:32	East of Coal Pile	Y	N		0%	
EU-18	CUF Emergency Diesel Sump Pump Engine	12:32	East side of CUF below Car Unloader	N/A	N		5%	Not running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	—	East of unloading facility	N/A	—		20%	Empty
EU-4	6050 Fly Ash Unloader	12:39		N/A	N		20%	No truck/railcar
EU-4	Fly Ash bins vents 11, 12, 13, & 14	12:42	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	12:42	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	12:42	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	12:45	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	12:23	Top of 6A & 6B conveyor East side of Power Building	N/A	N		20%	Not running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	—	10th floor – Center	N/A	N		20%	Empty
EU-4	Coal silos bin vents 21,23,25,27	—	10th floor – Center South	N/A	N		20%	Empty
EU-4	Coal silos bin vents 22,24,26,28	—	10th floor - South	N/A	N		20%	Empty
EU-16	Emergency Diesel Fire Pump Engine	12:57	Raw Water Pump Building	N/A	N		5%	Not running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF LINE	N/A	No	

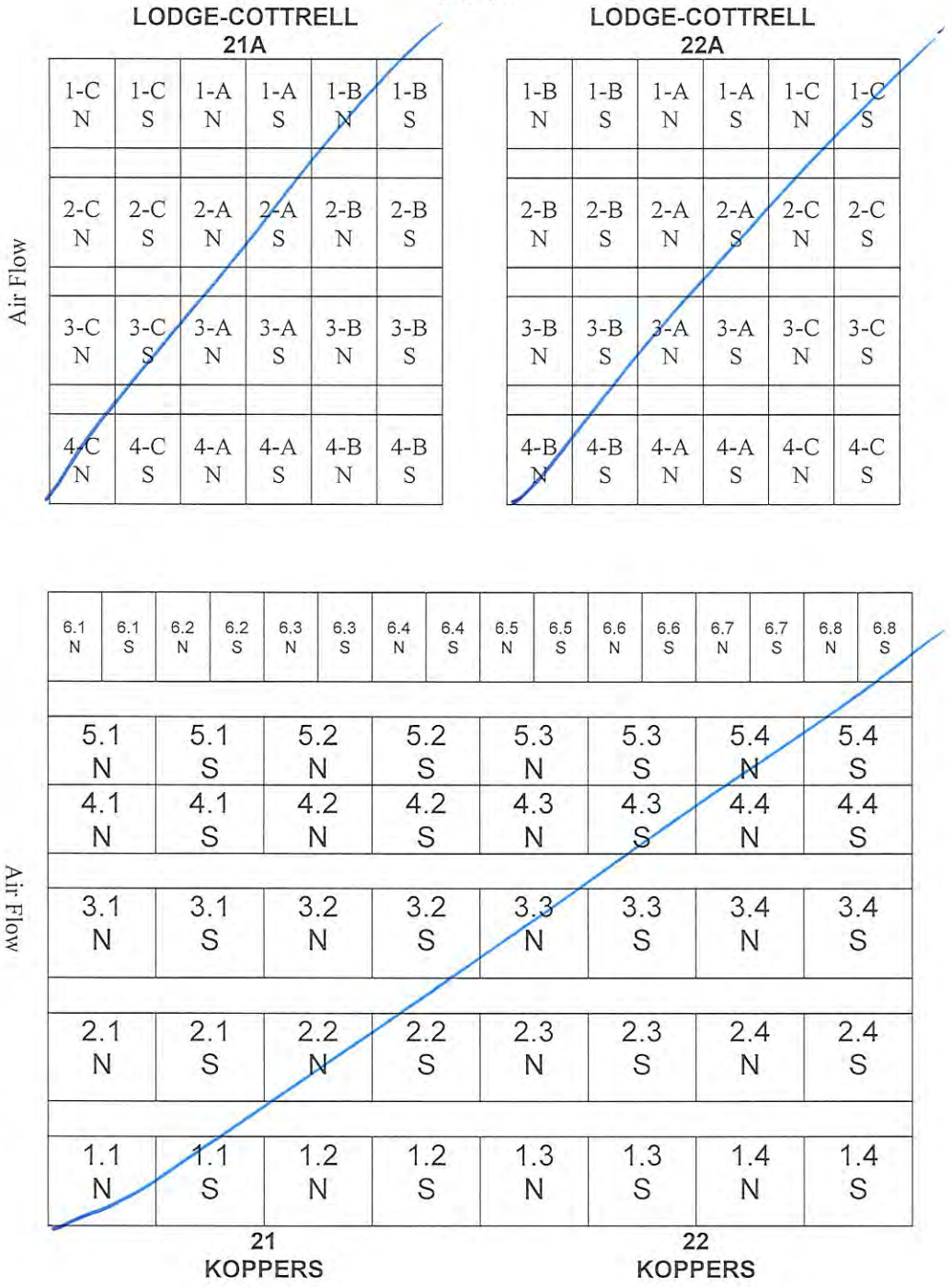
Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF LINE	N/A	N/A	No	

ESP Status:

OFF LINE

Unit #2



VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off Line**

Date:	30 April 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

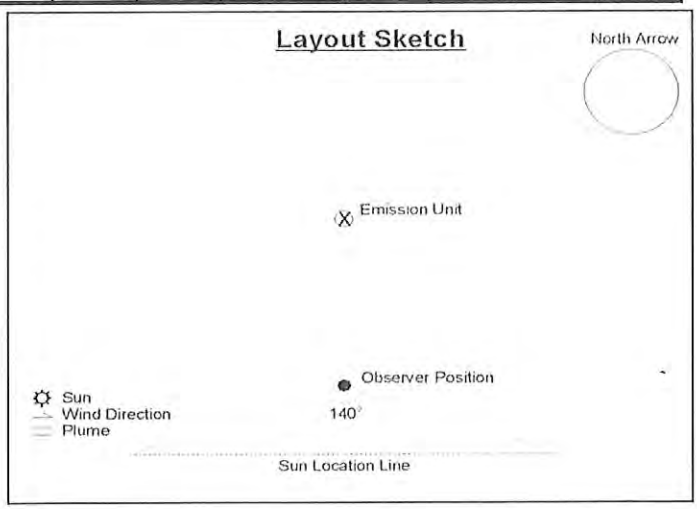
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	30 April 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

Min.	Seconds 0	15	30	45
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OFF LINE

Min.	Seconds 0	15	30	45
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
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Min.	Seconds 0	15	30	45
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Average Opacity:	
Range Of Opacity:	

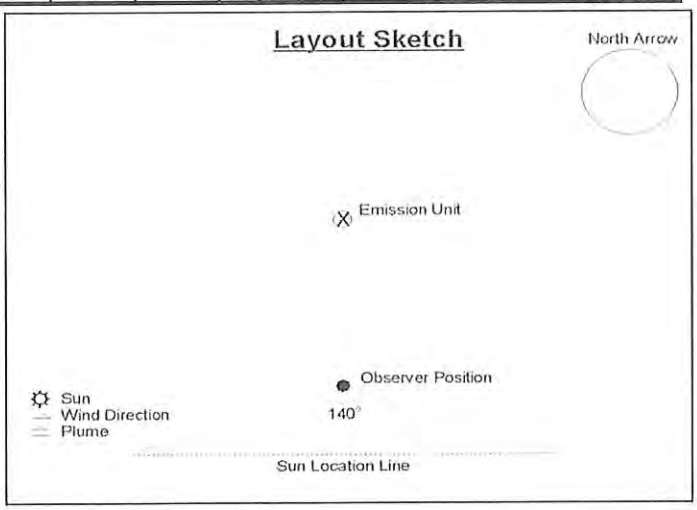
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off Line**

Date:	30 April 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
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16					36					56				
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20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

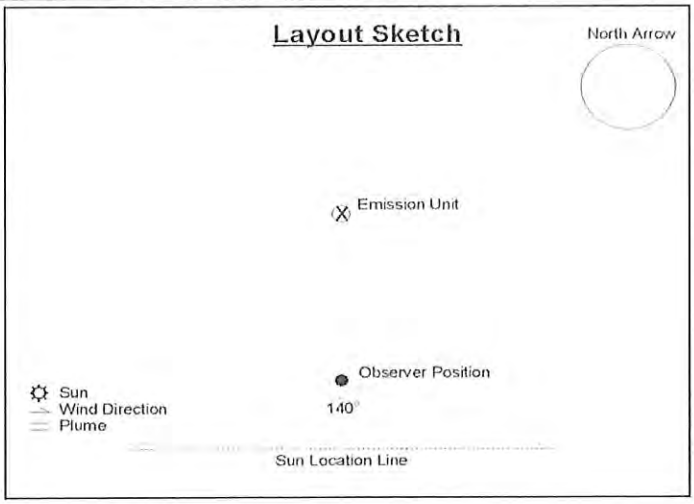
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 30 May 24 **Weather Conditions:** Moderate, Mostly Cloudy, Occasionally Rainy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Shutdown for annual outage

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:33	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:39	Southwest of Coal Storage	N/A	N		20%	Not running
EU-4	Coal Blending System	10:39	Southwest of Coal Storage	N/A	N		20%	Not running
EU-4	Coal Storage Pile	10:39		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:41	South of Coal Storage	N/A	N		20%	Not running
EU-4	Stacker-Reclaimer	10:41	South of Coal Storage	N/A	N		20%	Not running
EU-4	Conveyor 3 & coal transfer	10:46	Southeast of Coal Storage	N/A	N		20%	Not running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:49	East of Coal Pile	N/A	N		0%	No train
EU-18	CUF Emergency Diesel Sump Pump Engine	10:49	East side of CUF below Car Unloader	N/A	N		5%	Not running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:57	East of unloading facility	N/A	N		20%	Empty
EU-4	6050 Fly Ash Unloader	10:55		N/A	N		20%	No truck/rail car
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:57	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:57	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:57	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	11:01	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:39	Top of 6A & 6B conveyor East side of Power Building	N/A	N		20%	Not running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	—	10th floor – Center	N/A	N		20%	Empty
EU-4	Coal silos bin vents 21,23,25,27	—	10th floor – Center South	N/A	N		20%	Empty
EU-4	Coal silos bin vents 22,24,26,28	—	10th floor - South	N/A	N		20%	Empty
EU-16	Emergency Diesel Fire Pump Engine	11:22	Raw Water Pump Building	N/A	N		5%	Not running

Scrubber Status:

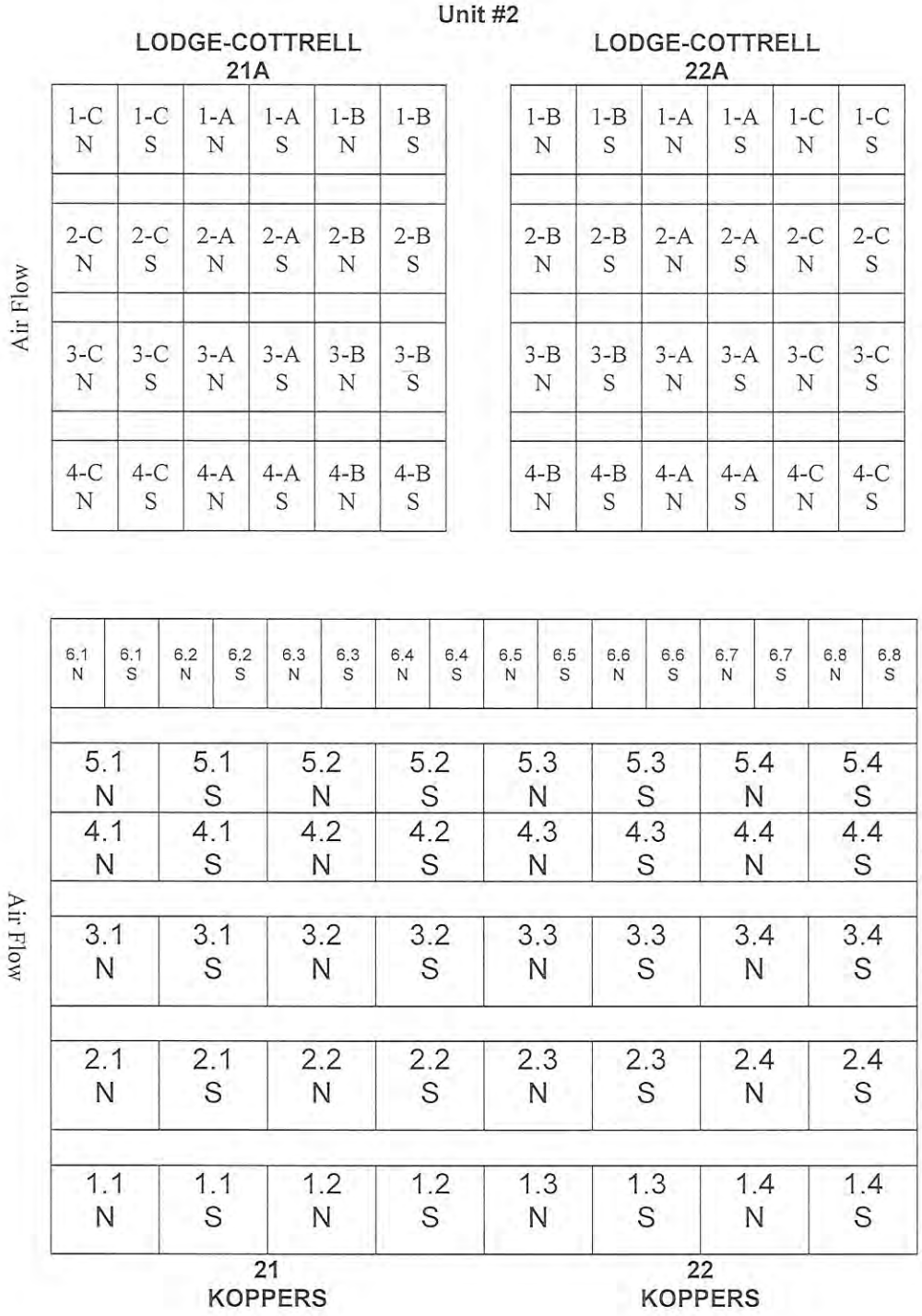
Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF	—	—	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	—	—	—	

ESP Status:

Unit #2



VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off Line**

Date:	30 May 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds				
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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2					22					42				
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20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

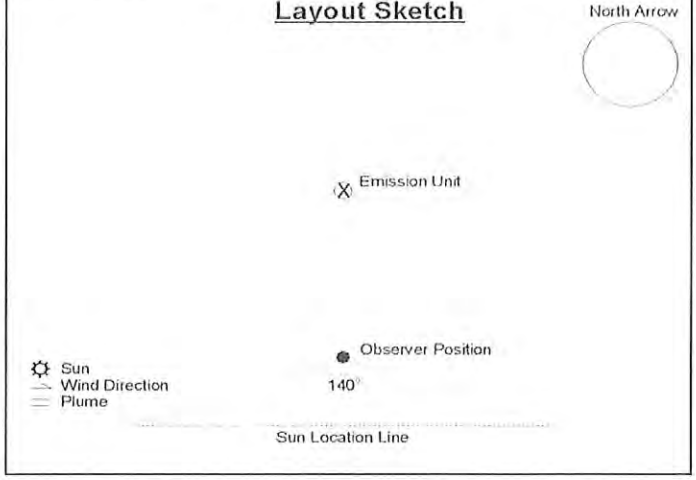
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	30 May 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

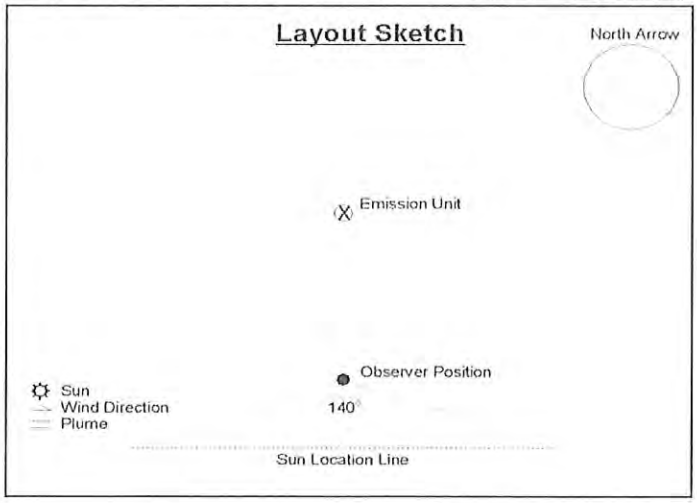
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off Line**

Date:	30 May 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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OFF LINE

Average Opacity:	
Range Of Opacity:	

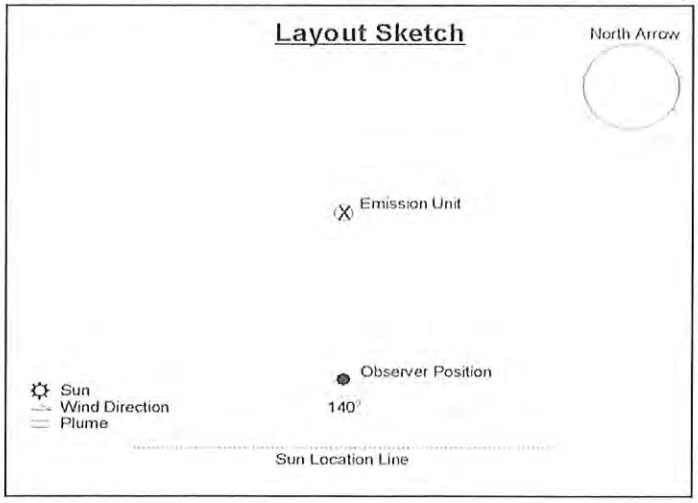
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 28 JUN 2024 **Weather Conditions:** Warm, Partly Cloudy, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:01	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:06	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	10:06	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Storage Pile	10:08		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:08	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	10:08	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 3 & coal transfer	10:10	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:10	East of Coal Pile	N/A	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	10:12	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:21	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:21		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:21	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:21	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:22	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:24	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:06	Top of 6A & 6B conveyor East side of Power Building	N/A	N		20%	NOT RUNNING

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:38	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:38	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:39	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	11:00	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF	ZERO	NO	

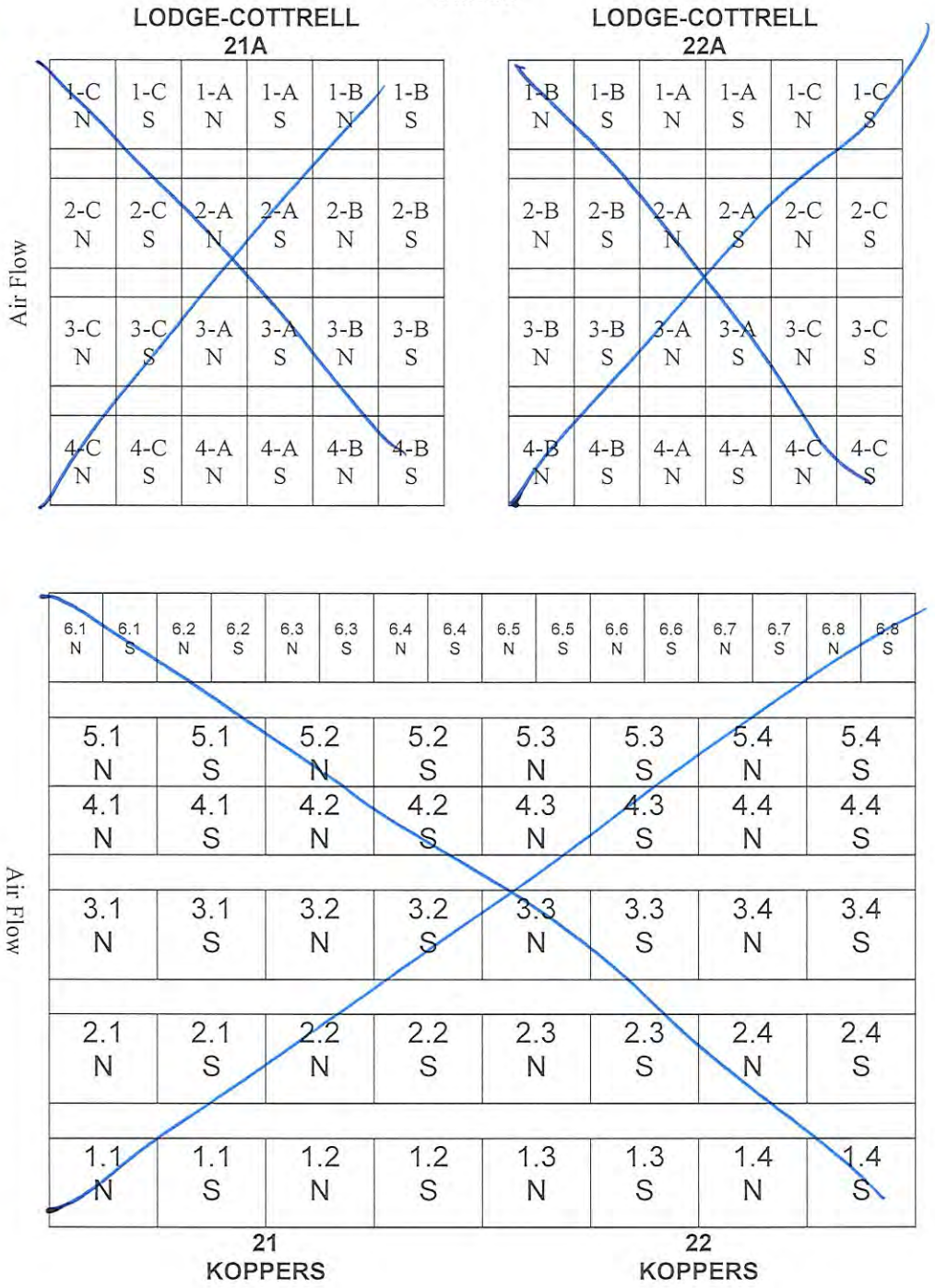
Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	—	—	NO	

ESP Status:

De-energized

Unit #2



VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off Line**

Date:	28 June 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds				
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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2					22					42				
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OFF LINE

Average Opacity:	
Range Of Opacity:	

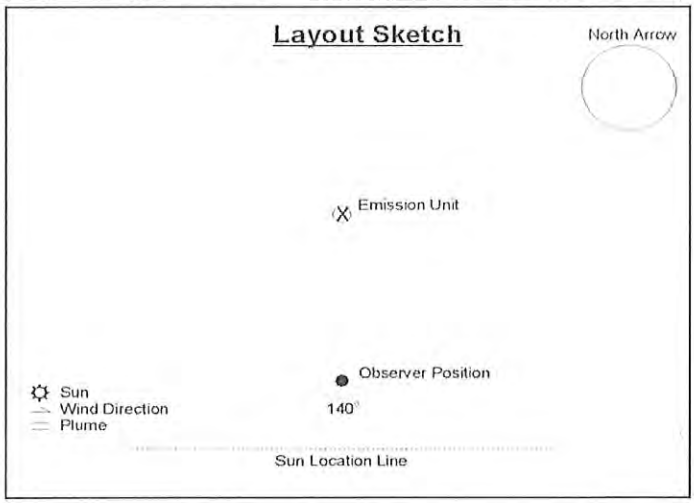
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	28 June 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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OFF LINE

Average Opacity:	
Range Of Opacity:	

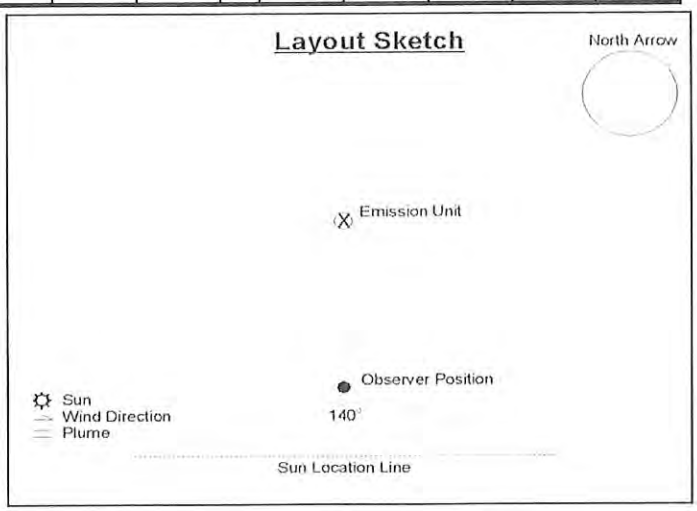
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off Line**

Date:	28 June 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

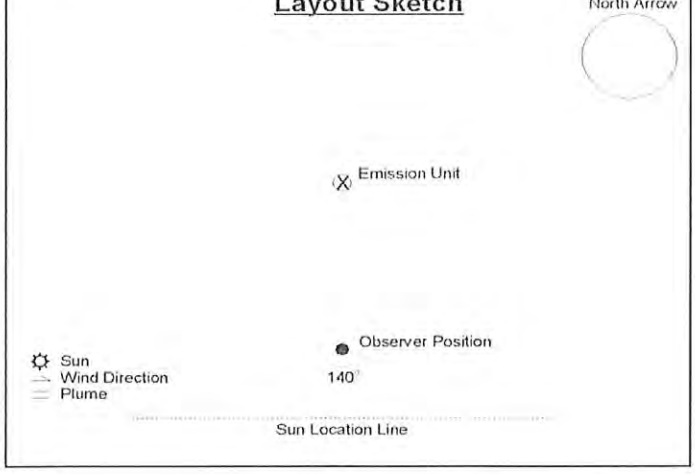
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

ESP Status **(Mark all fields that are out of service)** **Date:**_____

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS **22 KOPPERS**

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	28365	4-30-24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	257.4		Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	363.7		Record Engine Hour Meter Reading		

This is the May Readings sheet, issued & completed a day early.

Printed Name: Mark Griffith

Signature: Mark Griffith

ESP Status **(Mark all fields that are out of service)**

Date: 6-14-24

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Outage

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS

22 KOPPERS

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2840.7	6-14-24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	260.4	6-14-24	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	366.1	6-14-24	Record Engine Hour Meter Reading		

Printed Name: M. Graham

Signature:

EXHIBIT 11-6

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

a. Specify the period of time covered by the report: **July 1, 2024 – September 30, 2024**

b. Specify the Type or Name of Report:
[ ] Annual Compliance Status Report
[ ] Annual Emissions Inventory Report
[X] Semi-annual Report
[X] Other: Quarterly Report, 3rd Quarter 2024. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

_____

_____

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

_____

_____

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Mickey Dreher 10/30/2024

Signature of Responsible Official — Date

Mickey Dreher — **VP, Centralia**

Printed Name — Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l.**

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q3Y24.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
4th Quarter 2023	336.5	Tons
1st Quarter 2024	386.6	Tons
2nd Quarter 2024	8.8	Tons
3rd Quarter 2024	276.2	Tons
12 Month Rolling Total		
July	1064.3	Tons
August	1043.9	Tons
September	1008.1	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

3rd Quarter 2024	0.153
Year to date	0.158

Rate for loads of 360 MWG or greater, Unit 2:

3rd Quarter 2024	0.161
Year to date	0.161

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q3Y24.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q3Y24.xlsx**

NOTE: There was no use of urea or the SNCR system in Q3 2024.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
July	8454
August	8518
September	8492

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	202,069	62,500	19,907
February	212,366	31,501	14,882
March	141,743	49,896	15,351
April	0	0	0
May	0	0	2,337
June	1,282	83,223	26,418
July	237,431	91,029	22,475
August	243,975	15,676	3,140
September	189,815	69,622	23,544
October			
November			
December			
Annual Total			

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q3 2024	65
Calendar Year Average YTD	143

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 3rd quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 3rd quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 3rd quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time: 2,011.26 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**06/25/24 16:37**	Breaker Closed (Date/Time):		**07/01/24 11:02**
Total Time out of service:	**11**	hours	**4**	Minutes
Reason for outage	Tube leak repairs, shutdown in Q2			

Unit Shutdown				
Breaker Open (Date/Time):	**07/02/24 17:30**	Breaker Closed (Date/Time):		**07/04/24 23:04**
Total Time out of service:	**53**	hours	**35**	Minutes
Reason for outage	Tube leak repairs			

Unit Shutdown				
Breaker Open (Date/Time):	**08/15/24 12:31**	Breaker Closed (Date/Time):		**08/15/24 16:51**
Total Time out of service:	**4**	hours	**21**	Minutes
Reason for outage	Tripped offline by BPA activity			

Unit Shutdown				
Breaker Open (Date/Time):	**09/16/24 23:43**	Breaker Closed (Date/Time):		**09/23/24 21:47**
Total Time out of service:	**166**	hours	**5**	Minutes
Reason for outage	Tube leak repairs			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.

SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q3Y24.xlsx
Note: No coal samples were collected due to the operating time in Q2.

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 18, 2024
Hg STS RATA	EU2	July 18, 2024
CO_2 RATA	EU2	July 18, 2024
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	September 25, 2023
	EU2 – High Load	September 26, 2023
Particulate Matter Stack Testing	EU2	July 17-18, 2024

Note: High and Mid load stack flow RATA rescheduled for Oct. 14-15, 2024 due to tube leak outage.

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2 Q3Y24.xlsx, MATS_HG_Excess_Unit2 Q3Y24.xlsx, MATS_SO2_CEMSUM_U2 Q3Y24.xlsx,**

and **MATS_SO2_Excess_Unit2 Q3Y24.xlsx**. TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.I)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2_Q3Y24.xlsx** and **MATS_SO2_Downtime_Unit2_Q3Y24.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime: No opacity monitor downtime in Q2 2024.

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
08/22/24	11:54 – 13:18	85	Lens cleaning
	Total Mins.	**85**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
07/16/2024	14:47 – 15:13	27	Lens cleaning
08/21/2024	11:55 – 12:55	61	Lens cleaning
	Total Mins.	**88**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection.**"

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q3Y24.xlsx**. Coal analysis was not performed in this reporting period, but the data file has been provided in **Coal_Samples_Report_Q3Y24.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q3Y24.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 31 Jul 2024 **Weather Conditions:** Temp Moderate, Mostly Cloudy, Steady breeze

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	08:47	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	08:54	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Blending System	08:55	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	08:57		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	08:58	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	08:58	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Conveyor 3 & coal transfer	09:08	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	09:10	East of Coal Pile	N/A	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	09:10	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	09:36	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	09:35		N/A	N		20%	No Truck or Rail Car
EU-4	Fly Ash bins vents 11, 12, 13, & 14	09:36	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	09:36	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	09:36	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	09:39 ~~09:40~~ S	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	09:40	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	09:45	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	09:45	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	09:45	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	10:17	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	6" H_2O	No	

ESP Status:

On Line

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

NO XFMR

LODGE-COTTRELL 22A

NO XFMR

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S OOS	6.6 N	6.6 S	6.7 N OOS	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S OOS								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

TR Set OOS

Air Flow

21 KOPPERS

22 KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**On Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**On Line**

Date:	31 July 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: 09:00 Stop Time: 09:06

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~ 1100'
Direction From Observer:	NW

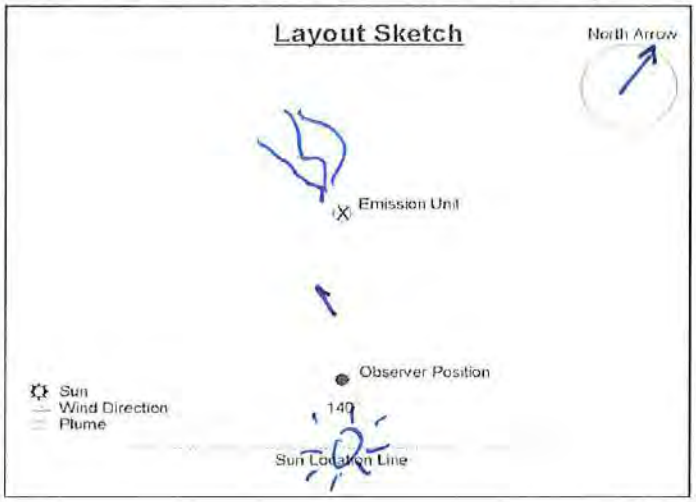
Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Greyish

Sky Conditions:	Cloudy	Temperature:	62°F
Wind Speed:	3 mph	Relative Humidity:	86%
Wind Direction:		Wet Bulb Temp.:	

Comments:

Layout Sketch



transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	31 July 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

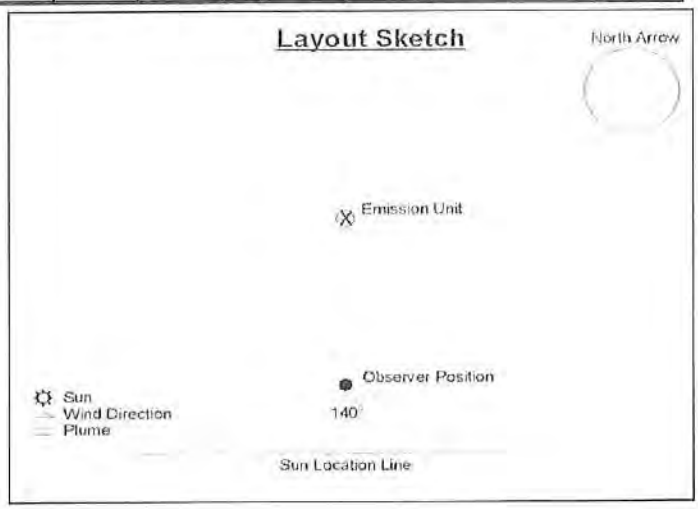
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 6 - U2 Turbine Lube Oil
Operating Mode:	On Line
Control Equipment:	Lube Oil Mist Eliminator
Operating Mode:	On Line

Date:	31 July 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: 09:48 Stop Time: 09:54

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	15'
Direction From Observer:	NW

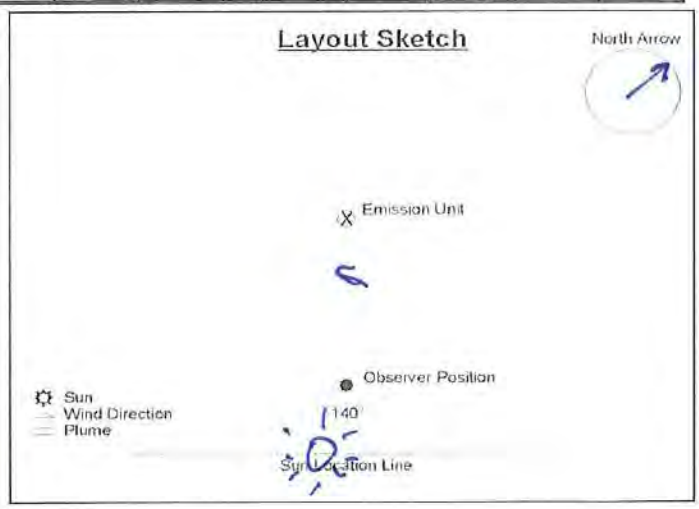
Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Greyish

Sky Conditions:	Cloudy	Temperature:	64°F
Wind Speed:	W	Relative Humidity:	80%
Wind Direction:	5-6 mph	Wet Bulb Temp.:	

Comments:

Layout Sketch



TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 30 AUG 2024 **Weather Conditions:** Warm, Some Clouds, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:23	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	09:25	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Blending System	09:26	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	09:29		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	09:30	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	09:30	South of Coal Storage	N/A	N		20%	Not Running
EU-4	Conveyor 3 & coal transfer	09:49	Southeast of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	09:49	East of Coal Pile	N/A	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	09:52	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:02	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:00		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:02	Top of Fly Ash Bin	N/A			20%	
EU-23	Fly Ash Bin #11 Baghouse	10:03	Top of Fly Ash Bin 11	N/A			0%	
EU-24	Fly Ash Bin #12 Baghouse	10:03	Top of Fly Ash Bin 12	N/A			0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A			20%	
EU-22	Sorbent Silo #2	10:07	South of Power Building	N/A			0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:14	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:17	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:17	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:18	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	10:55	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	6" H_2O	NO	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

No XFMR

No XFMR

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	OOS	6.6 N	6.6 S	OOS	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	OOS								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

TR OOS

Air Flow

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	30 August 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: 09:32 Stop Time: 09:46

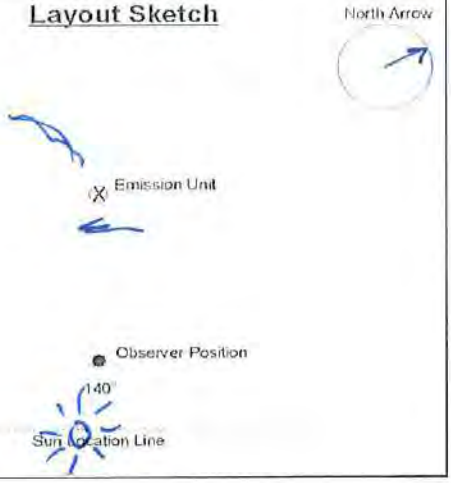
	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1100'
Direction From Observer:	NW
Describe Emissions:	Attached Steam Plume
Emission Color:	White
Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Partly Cloudy	Temperature:	78° F
Wind Speed:	5 mph	Relative Humidity:	52%
Wind Direction:	NE	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date: 30 August 2024
Observer Name (Print): Sam Bocook
Observer Signature: Sam Bocook
Organization: TransAlta Centralia Generation LLC
Certified by: Northwest Opacity Certification
Certification # NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
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12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

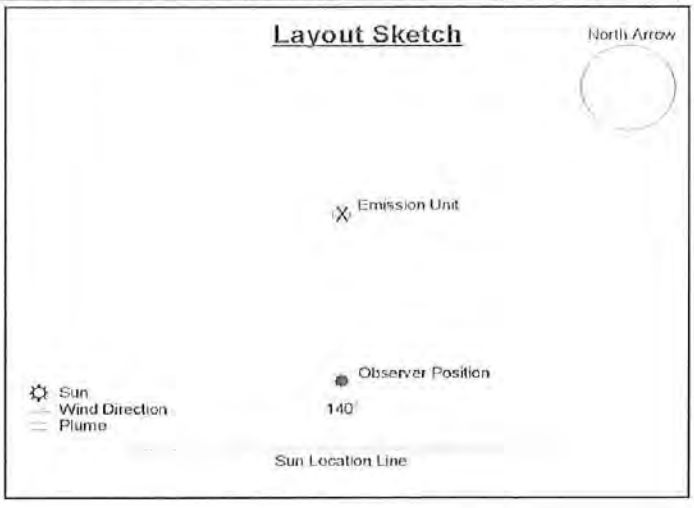
Describe Emission Unit: Auxiliary Boiler
Height Above Ground:
Height Relative To Observer:
Distance From Observer:
Direction From Observer:

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	30 August 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: 10:22 Stop Time: 10:28

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
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5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
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14					34					54				
15					35					55				
16					36					56				
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18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

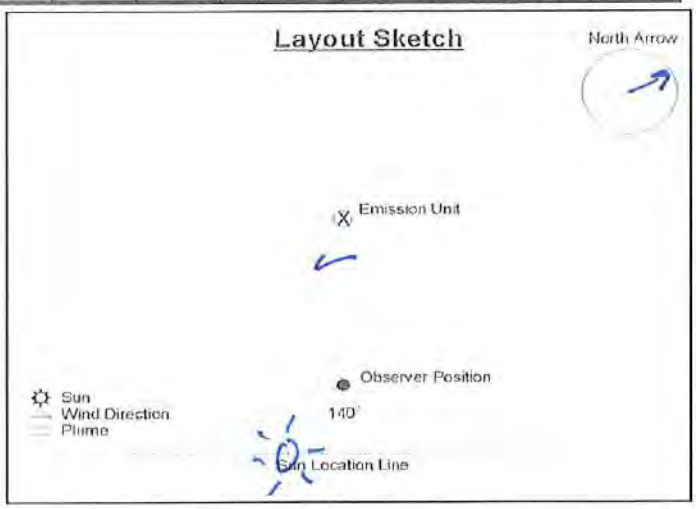
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	~~15'~~ 10'
Distance From Observer:	15'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Mostly Clear	Temperature:	80°F
Wind Speed:	5 mph	Relative Humidity:	52%
Wind Direction:	NE	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 20 SEP 2024 **Weather Conditions:** Warm, Mostly Clear, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:15	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:18	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Blending System	10:18	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Storage Pile	10:20		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:21	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	10:22	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	10:26	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:27	East of Coal Pile	Y	N		0%	
EU-18	CUF Emergency Diesel Sump Pump Engine	10:29	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:40	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:39		N/A	N		20%	No Truck or Rail Car
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:40	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:41	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:41	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:46	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	16:00	Top of 6A & 6B conveyor East side of Power Building	N/A	N		20%	Not Running

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	11:03	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:03	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:04	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	11:15	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF	0	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF	N/A	N/A	NO	

ESP Status:

OFF

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N		5.2 S		5.3 N		5.3 S		5.4 N		5.4 S			
4.1 N	4.1 S	4.2 N		4.2 S		4.3 N		4.3 S		4.4 N		4.4 S			
3.1 N	3.1 S	3.2 N		3.2 S		3.3 N		3.3 S		3.4 N		3.4 S			
2.1 N	2.1 S	2.2 N		2.2 S		2.3 N		2.3 S		2.4 N		2.4 S			
1.1 N	1.1 S	1.2 N		1.2 S		1.3 N		1.3 S		1.4 N		1.4 S			

Air Flow

21
KOPPERS

22
KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off**

Date:	20 September 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

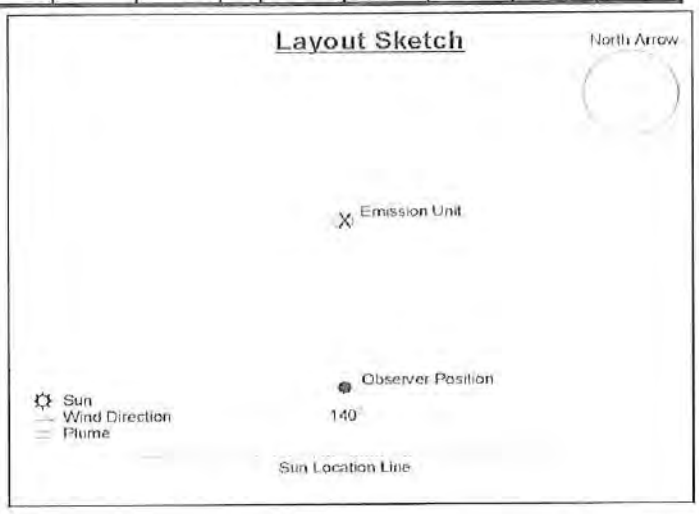
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	20 September 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

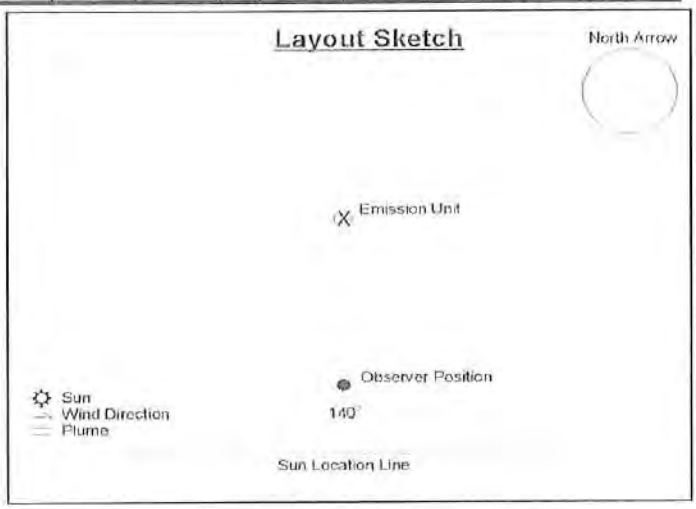
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 6 - U2 Turbine Lube Oil
Operating Mode:	Off
Control Equipment:	Lube Oil Mist Eliminator
Operating Mode:	Off

Date:	20 September 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 SEP 2024

Start Time: Stop Time:

	Seconds			
Min.	0	15	30	45
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

OFF LINE

	Seconds			
Min.	0	15	30	45
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				

	Seconds			
Min.	0	15	30	45
41				
42				
43				
44				
45				
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47				
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55				
56				
57				
58				
59				
60				

Average Opacity:	
Range Of Opacity:	

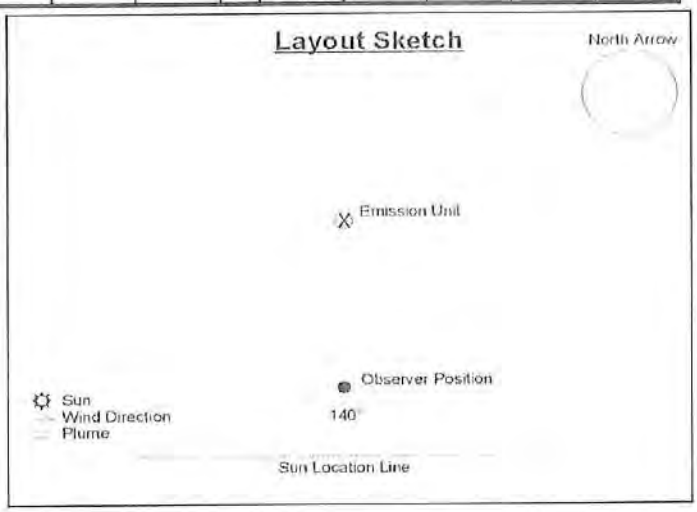
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

ESP Status (Mark all fields that are out of service)

Date: July 13, 2024

No TR set for these in The lodge

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	~~2-B N~~	~~2-B S~~
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

~~1-B N~~	~~1-B S~~	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	~~6.5 S~~	6.6 N	6.6 S	~~6.7 N~~	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	~~5.4 N~~	~~5.4 S~~								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	~~4.4 S~~								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS

22 KOPPERS

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2842.2	7·13·24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	262.0	7·13·24	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	367.3	7·13·24	Record Engine Hour Meter Reading		

Printed Name: Bob Phillips

Signature: Bob Phillips

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:**

07/24/2024

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1866.1	07/24	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	316.1		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.3		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	991.0		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982.3		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	3879.8		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	3746.3		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	7391.9		Record Engine Hour Meter Reading	

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:** [signature] 8-28-2024

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1866.6	8-28-24	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9	" "	Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6	" "	Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	316.1	" "	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5	" "	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.8	" "	Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8	" "	Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.8	" "	Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	991.0	" "	Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982.6	" "	Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	3879.8	" "	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	4386.7	" "	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	7398.7	" "	Record Engine Hour Meter Reading	

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 5 inches of Water Column.

Run Time Meter Reading: 4265
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 7/30/24

Observation Time (24 Hr Clock): 10:30

Observer's Signature: [signature]

Observer's Name (print): Rick Armstrong

Employee Number: 108636

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 0.7 inches of Water Column.

Run Time Meter Reading: ~~4266.5~~ 4266.7
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 9-3-24

Observation Time (24 Hr Clock): 1115

Observer's Signature: [signature]

Observer's Name (print): M. Graham

Employee Number: 102659

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-7

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

   a. Specify the period of time covered by the report: **October 1, 2024 – December 31, 2024**

   b. Specify the Type or Name of Report:
   [ ] Annual Compliance Status Report
   [ ] Annual Emissions Inventory Report
   [X] Semi-annual Report
   [X] Other: Quarterly Report, 4th Quarter 2024. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

   c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

_____ 1/30/2025
Signature of Responsible Official Date

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l.**

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q4Y24.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
1st Quarter 2024	386.6	Tons
2nd Quarter 2024	8.8	Tons
3rd Quarter 2024	276.2	Tons
4th Quarter 2024	268.2	Tons
12 Month Rolling Total		
October	974.1	Tons
November	975.5	Tons
December	86.1	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

4th Quarter 2024	0.150
Year to date	0.155

Rate for loads of 360 MWG or greater, Unit 2:

4th Quarter 2024	0.155
Year to date	0.159

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q4Y24.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q4Y24.xlsx**

NOTE: There was no use of urea or the SNCR system in Q4 2024.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
October	8,489
November	8,576
December	8,576

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	202,069	62,500	19,907
February	212,366	31,501	14,882
March	141,743	49,896	15,351
April	0	0	0
May	0	0	2,337
June	1,282	83,223	26,418
July	237,431	91,029	22,475
August	243,975	15,676	3,140
September	189,815	69,622	23,544
October	265,955	26,257	9,727
November	246,649	651	1,173
December	212,355	57,192	20,221
Annual Total	**1,953,640**	**487,547**	**159,215**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q4 2024	97
Calendar Year Average YTD	126

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity

based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 4th quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 4th quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 4th quarter of 2024. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time: 2,040.71 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**10/22/24 10:27**	Breaker Closed (Date/Time):		**10/25/24 01:01**
Total Time out of service:	**62**	hours	**35**	Minutes
Reason for outage	Tube leak repairs			

Unit Shutdown				
Breaker Open (Date/Time):	**12/04/24 01:44**	Breaker Closed (Date/Time):		**12/09/24 04:04**
Total Time out of service:	**122**	hours	**21**	Minutes
Reason for outage	Tube leak repairs			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_x recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.
SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q4Y24.xlsx
Note: No coal samples were collected due to the operating time in Q2.

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 18, 2024
Hg STS RATA	EU2	July 18, 2024
CO_2 RATA	EU2	July 18, 2024
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	October 15, 2024
	EU2 – High Load	October 14, 2024
Particulate Matter Stack Testing	EU2	Jan 14, 2025

Note: Q4 2024 PM test pushed into Jan 2025 due to tube leak repair outage.

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2_Q4Y24.xlsx, MATS_HG_Excess_Unit2_Q4Y24.xlsx, MATS_SO2_CEMSUM_U2_Q4Y24.xlsx,** and **MATS_SO2_Excess_Unit2_Q4Y24.xlsx.** TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.l)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2_Q4Y24.xlsx** and **MATS_SO2_Downtime_Unit2_Q4Y24.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.

DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
10/17/24	09:16 – 10:35	80	Lens clean
11/21/24	12:58 – 14:14	77	Annual maintenance
11/26/24	10:21 – 11:12	52	Lens clean
	Total Mins.	**209**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.

DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
10/07/24	11:55 – 12:30	36	Lens clean
10/17/24	09:16 – 10:35	80	Lens clean
11/20/24	10:41 – 11:45	65	Annual maintenance
11/26/4	10:21 – 14:16	236	Lens clean and repairs
	Total Mins.	**417**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q4Y24.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q4Y24.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q4Y24.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 31 OCT 2024 **Weather Conditions:** Overcast, Periodic Rain, Breezy to Windy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	11:32	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	11:35	Southwest of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Blending System	11:35	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	11:37		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	11:38	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	11:38	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	11:50	Southeast of Coal Storage	N/A	N		20%	Not Running
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:50	East of Coal Pile	N/A	N		0%	No TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	11:52	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	12:00	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	11:59		N/A	N		20%	No truck/rail car
EU-4	Fly Ash bins vents 11, 12, 13, & 14	12:01	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	12:01	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	12:01	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	12:05	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	12:11	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	12:14	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	12:14	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	12:15	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	13:00	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	2 On line	2	No	3 pumps available

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On line	A	6" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

Close Clearances

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	Online
Control Equipment:	ESP / FGD
Operating Mode:	Online

Date:	31 October 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 11:40 Stop Time: 11:46

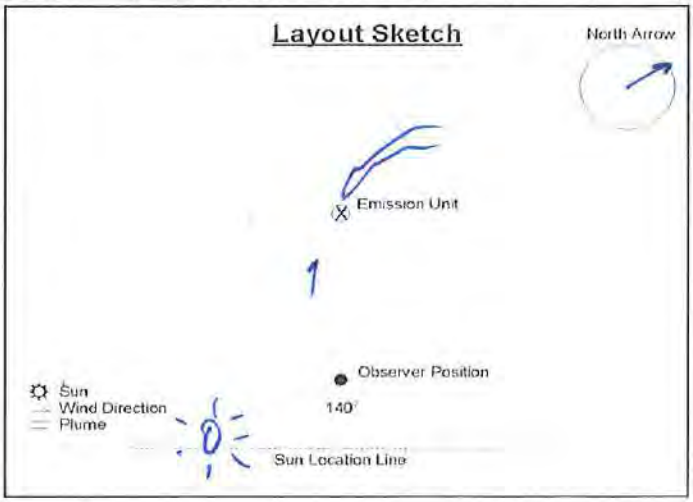
	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	1100'
Direction From Observer:	NW
Describe Emissions:	Attatched Steam Plume
Emission Color:	White
Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Overcast	Temperature:	47°F
Wind Speed:	9 mph	Relative Humidity:	82%
Wind Direction:	SSE	Wet Bulb Temp.:	

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	31 October 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: Stop Time:

Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

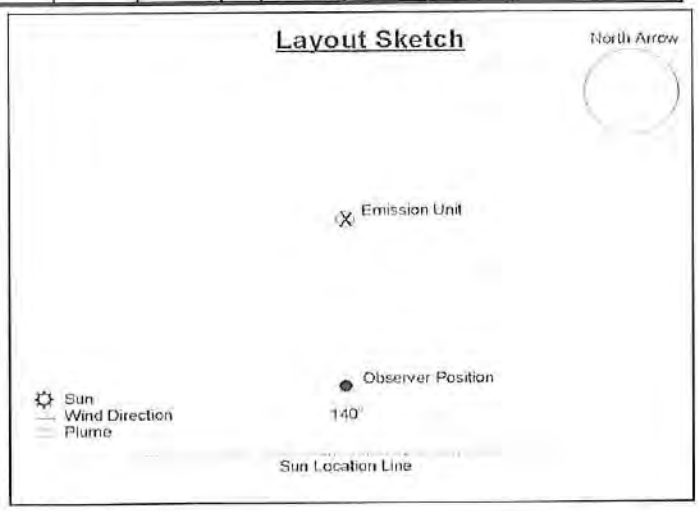
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	Online
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	Online

Date:	31 October 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 10:55 Stop Time: 11:01

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

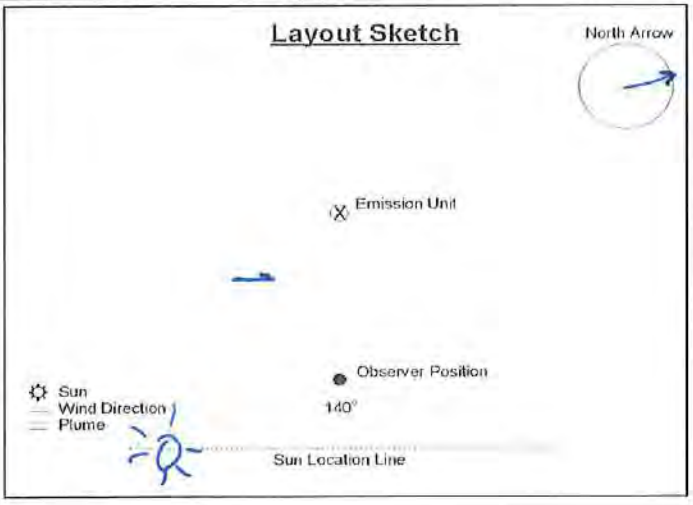
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	15'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	SKY
Background Color:	Grey

Sky Conditions:	Cloudy	Temperature:	47°F
Wind Speed:	6 mph	Relative Humidity:	84%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 25 NOV 2024 **Weather Conditions:** Overcast, Moderate Wind, Intermittent Sprinkling

Inspector's Name: Sam Bocock **Signature:** Sam Bocock

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	11:22	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	11:34	Southwest of Coal Storage	N/A	N		20%	Not Runing
EU-4	Coal Blending System	11:34	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	11:35		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	11:36	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	11:37	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	11:47	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:50	East of Coal Pile	N/A	N		0%	No Train
EU-18	CUF Emergency Diesel Sump Pump Engine	11:50	East side of CUF below Car Unloader	N/A	N		5%	Not Running
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	11:59	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	11:57		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	11:59	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	11:58	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	11:58	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	12:01	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:48	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:49	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:49	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:50	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	12:16	Raw Water Pump Building	N/A	N		5%	Not Running

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On line	A	6" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

BAD KV Feedback

NO XFMR

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

NO XFMR

BAD KV FDBK

OOS

BAD KV

Close Clearances

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S

Pri Current limit

CC

OOS

Pri Current limit

Split Spark

Grounded

Air Flow

5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S

OOS

Split Spark

CC

OOS

CC

CC

Bad KV FDBK

OOS

CC

OOS

21
KOPPERS

22
KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	Online
Control Equipment:	ESP / FGD
Operating Mode:	Online

Date:	25 November 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 11:39 Stop Time: 11:45

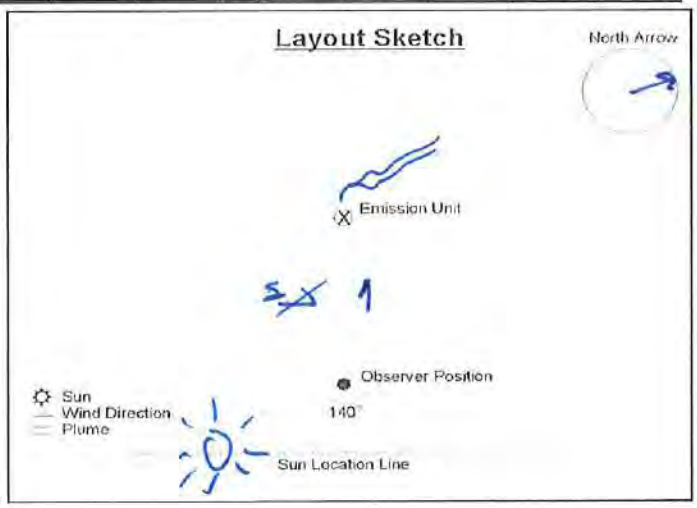
	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	1100'
Direction From Observer:	W
Describe Emissions:	Attached Steam Plume
Emission Color:	White
Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Overcast	Temperature:	47°F
Wind Speed:	6 mph	Relative Humidity:	84%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date: 25 November 2024
Observer Name (Print): Sam Bocook
Observer Signature:
Organization: TransAlta Centralia Generation LLC
Certified by: Smoke School
Certification # NW-F18-007 EXP: 01 APR 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
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7					27					47				
8					28					48				
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12					32					52				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

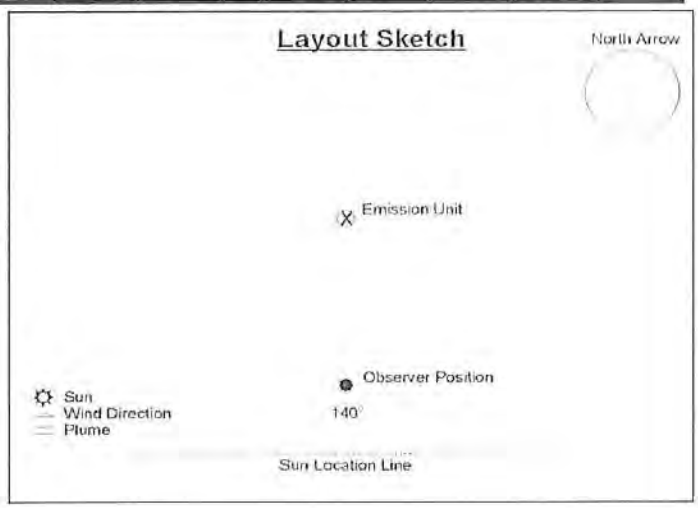
Describe Emission Unit: Auxiliary Boiler
Height Above Ground:
Height Relative To Observer:
Distance From Observer:
Direction From Observer:

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 6 - U2 Turbine Lube Oil
Operating Mode:	Online
Control Equipment:	Lube Oil Mist Eliminator
Operating Mode:	Online

Date:	25 November 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 10:55 Stop Time: 11:01

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

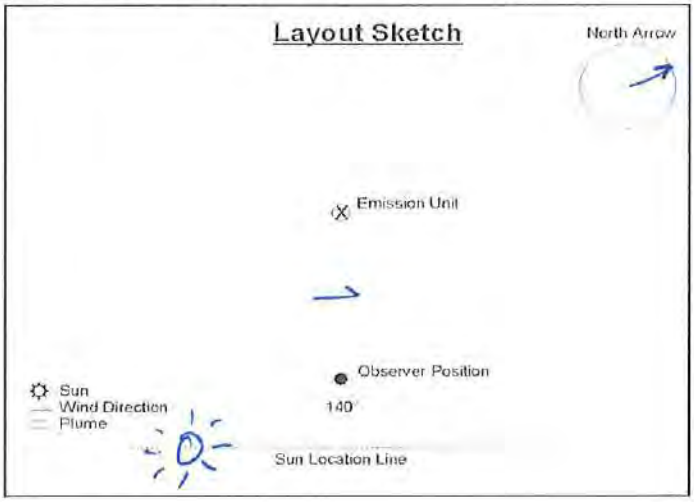
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	15'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Cloudy	Temperature:	47°F
Wind Speed:	6 mph	Relative Humidity:	84%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 31 Dec 2024 **Weather Conditions:** Cold, Slightly Breezy, Mostly Cloudy, with fog

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:03	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	09:06	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	09:06	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	09:08		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	09:09	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	09:09	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	09:20	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	09:20	East of Coal Pile	N/A	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	09:22	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	09:31	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	09:30		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	09:31	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	09:33	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	09:33	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	09:35	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	09:42	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	09:44	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	09:44	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	09:45	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	10:53	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	6" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

Air Flow

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Close Clearances

Ground issue

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21
KOPPERS

22
KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	Online
Control Equipment:	ESP / FGD
Operating Mode:	Online

Date:	31 December 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 09:11 Stop Time: 09:17

	Seconds					Seconds					Seconds				
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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15					35					55				
16					36					56				
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19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

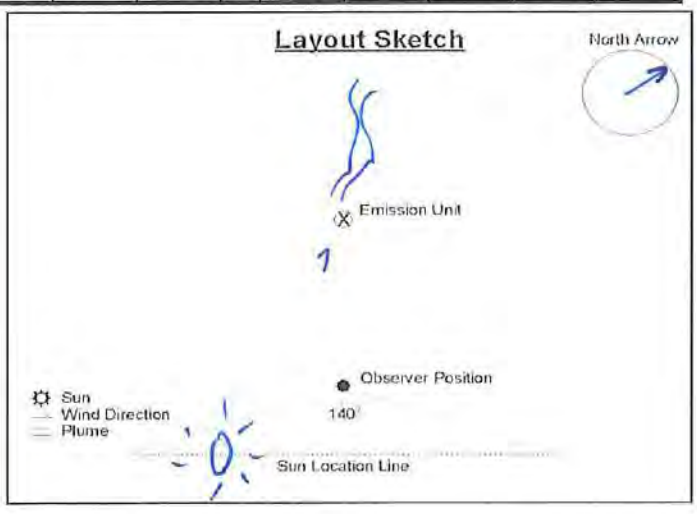
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	1100'
Direction From Observer:	NW

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Partly Cloudy	Temperature:	34° F
Wind Speed:	2 mph	Relative Humidity:	95%
Wind Direction:	ESE	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date: 31 December 2024
Observer Name (Print): Sam Bocook
Observer Signature:
Organization: TransAlta Centralia Generation LLC
Certified by: Smoke School
Certification # NW-F18-007 EXP: 01 APR 2025

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:
Range Of Opacity:

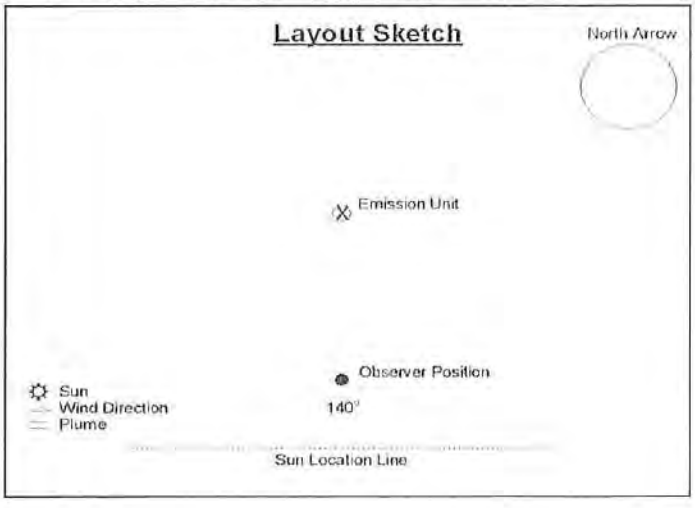
Describe Emission Unit: Auxiliary Boiler
Height Above Ground:
Height Relative To Observer:
Distance From Observer:
Direction From Observer:

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 6 - U2 Turbine Lube Oil
Operating Mode:	Online
Control Equipment:	Lube Oil Mist Eliminator
Operating Mode:	Online

Date:	31 December 2024
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Smoke School
Certification #	NW-F18-007 EXP: 01 APR 2025

Start Time: 09:50 Stop Time: 09:56

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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20					40					60				

Average Opacity:	
Range Of Opacity:	

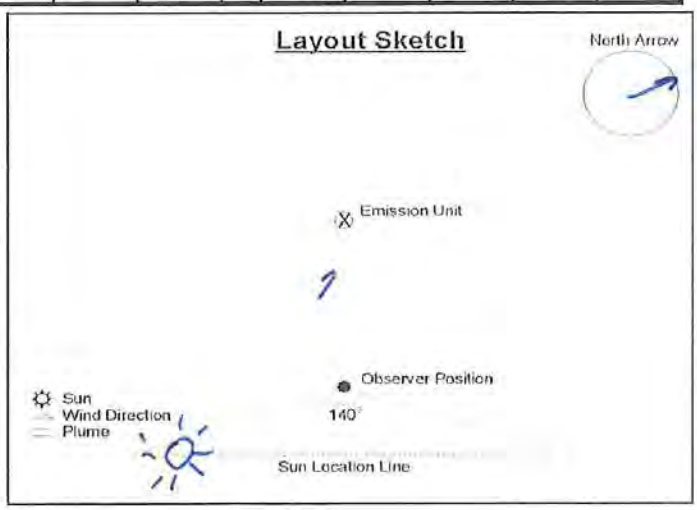
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	20'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Mostly Cloudy	Temperature:	
Wind Speed:	2 mph	Relative Humidity:	
Wind Direction:	ESS	Wet Bulb Temp.:	

Layout Sketch



Comments:

ESP Status (Mark all fields that are out of service)

Date: 10-4-24

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS **22 KOPPERS**

ESP Status (Mark all fields that are out of service)

Date: 11/01/24'

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	~~2-B N~~	~~2-B S~~
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

No TXFMR

LODGE-COTTRELL 22A

NO TXFMR

~~1-B N~~	~~1-B S~~	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
~~4-B N~~	4-B S	4-A N	4-A S	4-C N	4-C S

N. FIELD 005

S. FIELD 005

N & S GRND

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	~~6.5 S~~	6.6 N	6.6 S	~~6.7 N~~	~~6.7 S~~	~~6.8 N~~	~~6.8 S~~
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	~~5.4 N~~	~~5.4 S~~								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	~~4.4 S~~								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	~~2.4 N~~	2.4 S								
1.1 N	1.1 S	1.2 N	~~1.2 S~~	1.3 N	1.3 S	1.4 N	1.4 S								

N & S FIELDS GROUNDED

N & S FIELDS 005 → PWR OFF

→ S. FIELD 005

→ N. FIELD 005

21 KOPPERS

S. FIELD 005

22 KOPPERS

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2047.1	10.4.24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	267.0	"	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	371.4	"	Record Engine Hour Meter Reading		

Printed Name: J. Rossett

Signature: [signature]

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2848.8	11/01/24	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	268.4	11/01/24	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	373.2	11/01/24	Record Engine Hour Meter Reading		

Printed Name: BRIAN CASPERSON

Signature: BTC CASPERSON

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Cross **Signature:**

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1868.6	11-5	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	319.7		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.?		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	992.6		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947) N/A			Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	7430.6		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	5131.3		Record Engine Hour Meter Reading	

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:** 11-28-24

EU	Emissions Unit	Hour Meter Reading	Date of Reading 11-28-24		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1869.0		Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1026.9		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6		Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	320.4		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5		Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773.8		Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	12.8		Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	993.2		Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982.6		Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	NA		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	5134.8		Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	7430.6		Record Engine Hour Meter Reading	

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1.0 inches of Water Column.

Run Time Meter Reading: 4267.9 Truck broke down while unloading only partial Load left
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 10/09/24

Observation Time (24 Hr Clock): 06:16

Observer's Signature: Brian Ford

Observer's Name (print): Brian Ford

Employee Number: 102959

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

Hydrated Lime Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1.0 inches of Water Column.

Run Time Meter Reading: 4269.0
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 11-12-24

Observation Time (24 Hr Clock): 15:30

Observer's Signature: Bryan S. LAMBERT

Observer's Name (print): Bryan LAMBERT

Employee Number: 108364

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-8

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

   a. Specify the period of time covered by the report: **January 1, 2023 – March 31, 2023**

   b. Specify the Type or Name of Report:
   [ ] Annual Compliance Status Report
   [ ] Annual Emissions Inventory Report
   [X] Semi-annual Report
   [X] Other: Quarterly Report, 1st Quarter 2023. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

   c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

David Raastad — 4/20/2023
Signature of Responsible Official — Date

David Raastad — **Manager, Environmental, Health and Safety**
Printed Name — Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l.**

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q1Y23.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter	Unit #2	
2nd Quarter 2022	43.4	Tons
3rd Quarter 2022	570.2	Tons
4th Quarter 2022	352.6	Tons
1st Quarter 2023	322.8	Tons

12 Month Rolling Total	Unit #2	
January	1265	Tons
February	1257	Tons
March	1289	Tons

R3.e Average NO_X emission rate (NO_X lb/MMBtu) by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2:

1st Quarter 2023	0.171
Year to date	0.171

Rate for loads of 360 MWG or greater, Unit 2:

1st Quarter 2023	0.170
Year to date	0.170

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q1Y23.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q1Y23.xlsx**

NOTE: There was no use of urea or the SNCR system in Q1 2023.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
January	8,629
February	8,600
March	8,566

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	299,456	8,586	10,441
February	290,000	688	261
March	284,734	17,396	20,272
April			
May			
June			
July			
August			
September			
October			
November			
December			
Annual Total	**874,190**	**26,670**	**30,974**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q1 2023	187
Calendar Year Average	187

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 1st quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 1st quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 1st quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time 2,054.05 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**01/07/23 22:52**	Breaker Closed (Date/Time):		**01/10/23 00:19**
Total Time out of service:	**49**	hours	**28**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**03/23/23 22:54**	Breaker Closed (Date/Time):		**03/25/23 19:01**
Total Time out of service:	**44**	hours	**8**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**03/26/23 05:24**	Breaker Closed (Date/Time):		**03/27/23 07:02**
Total Time out of service:	**25**	hours	**39**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.
SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m

Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file: **Coal_Samples_Report_Q1Y23.xlsx**

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1

Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 26, 2022
Hg STS RATA	EU2	July 26, 2022
CO_2 RATA	EU2	July 26, 2022
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	September 29, 2022
	EU2 – High Load	September 28, 2022
Particulate Matter Stack Testing	EU2 Q1	February 2, 2023

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2 Q1Y23.xlsx, MATS_HG_Excess_Unit2 Q1Y23.xlsx, MATS_SO2_CEMSUM_U2 Q1Y23.xlsx,** and **MATS_SO2_Excess_Unit2 Q1Y23.xlsx**. TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.I)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2 Q1Y23.xlsx** and **MATS_SO2_Downtime_Unit2 Q1Y23.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
03/06/23	12:53 – 14:05	73	Maintenance items
03/12-13/23	11:40 – 09:37	1318	Corrective maintenance
03/25/23	21:48 – 22:55	68	Repair work
03/28/23	11:47 – 12:42	56	Lens clean
	Total Mins.	**1515**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
01/03/23	07:34 – 08:20	47	Lens clean
02/07/23	07:45 – 12:41	297	Cleaning of lenses, chambers, and lines
02/22/23	12:39 – 15:56	198	Maintenance items
	Total Mins.	**542**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q1Y23.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q1Y23.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q1Y23.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 23 JAN 2023 **Weather Conditions:** Cold, Partly Cloudy, Slight Breeze

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	13:09	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	13:12	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	13:12	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	13:13		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	13:13	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	13:13	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 1A & coal transfer	—	Southeast of Coal Storage	N/A	—		20%	RETIRED
EU-29	Conveyor 2 - Fine Coal Recovery (FCR) & Dust Suppression System	—	Southeast of Coal Storage	—	—		0%	RETIRED
EU-4	Conveyor 3 & coal transfer	13:17	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	13:20	East of Coal Pile	N/A	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	13:20	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	13:30	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	13:28		N/A	N		20%	NOT RUNNING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	13:31	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	13:31	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	13:31	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	13:34	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	13:40	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	
EU-4	Coal surge bin	13:42	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	13:42	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	13:43	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	14:12	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S			5.2 N	5.2 S	5.3 N				5.3 S		5.4 N		5.4 S	
4.1 N	4.1 S			4.2 N	4.2 S	4.3 N				4.3 S		4.4 N		4.4 S	
3.1 N	3.1 S			3.2 N	3.2 S	3.3 N				3.3 S		3.4 N		3.4 S	
2.1 N	2.1 S			2.2 N	2.2 S	2.3 N				2.3 S		2.4 N		2.4 S	
1.1 N	1.1 S			1.2 N	1.2 S	1.3 N				1.3 S		1.4 N		1.4 S	

Air Flow

21 KOPPERS **22 KOPPERS**

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	7"	NO	

TransAlta VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**On Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**On Line**

Date:	23 JAN 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 15 Mar 2023

Start Time: 14:02 Stop Time: 14:08

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

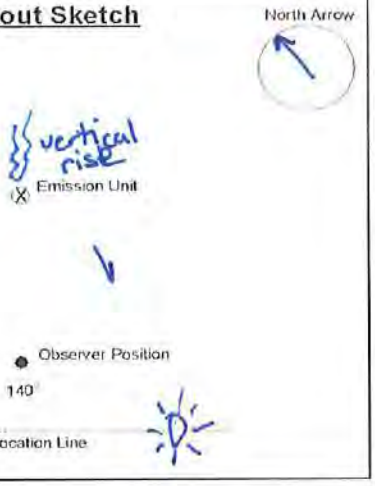
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1400'
Direction From Observer:	NE

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Blue, Grey

Sky Conditions:	Partly Cloudy	Temperature:	45°F
Wind Speed:	~2 mph	Relative Humidity:	79%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments: Observation made from parking lot

TransAlta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	23 JAN 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 15 Mar 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

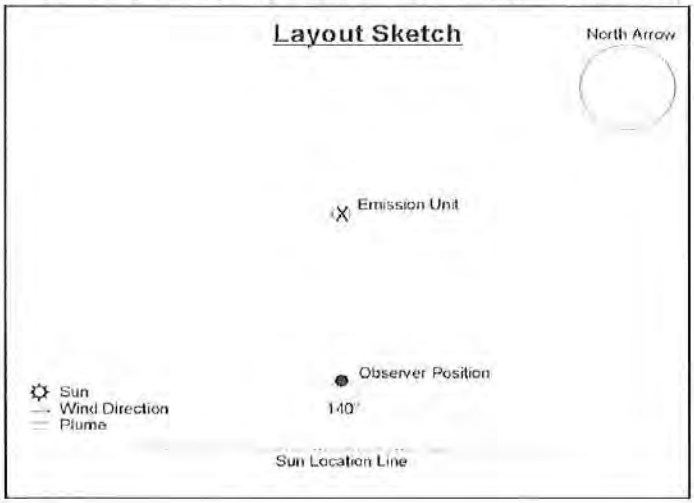
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

TransAlta VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	23 JAN 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification # NW-F18-007	EXP: 15 Mar 2023

Start Time: 13:47 Stop Time: 13:53

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

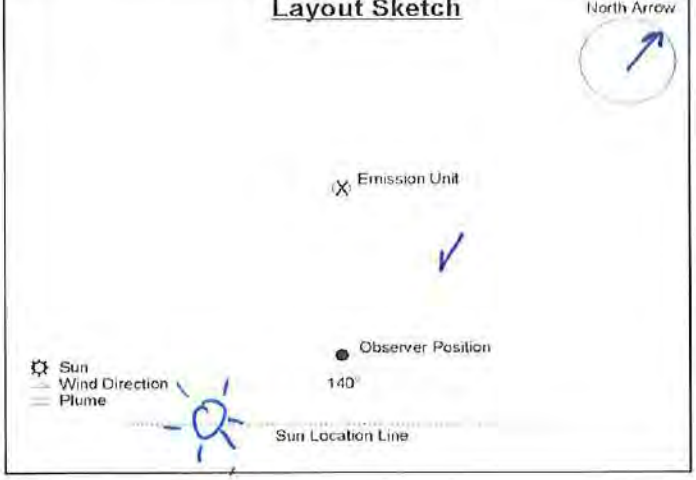
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	25'
Direction From Observer:	N

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Blue, Grey

Sky Conditions:	Partly Cloudy	Temperature:	45°F
Wind Speed:	2 mph	Relative Humidity:	79%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 24 Feb 2023 **Weather Conditions:** Cold, Clear Sky, Breezy

Inspector's Name: Sam Bocock **Signature:** Sam Bocock

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:45	South of Journal Shop	N/A			0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	09:48	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	09:48	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	09:50		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	09:50	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	09:50	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 1A & coal transfer	—	Southeast of Coal Storage	N/A	—		20%	RETIRED
EU-29	Conveyor 2 - Fine Coal Recovery (FCR) & Dust Suppression System	—	Southeast of Coal Storage	—	—		0%	RETIRED
EU-4	Conveyor 3 & coal transfer	10:01	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:02	East of Coal Pile	N/A	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	10:02	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:18	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:16		N/A	N		20%	
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:18	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:18	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:18	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:22	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	11:04	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	
EU-4	Coal surge bin	11:06	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	11:06	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	11:07	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	10:24	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21 KOPPERS

22 KOPPERS

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	7" H_2O	No	

TransAlta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	24 February 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 15 Mar 2023

Start Time: 09:53 Stop Time: 09:59

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

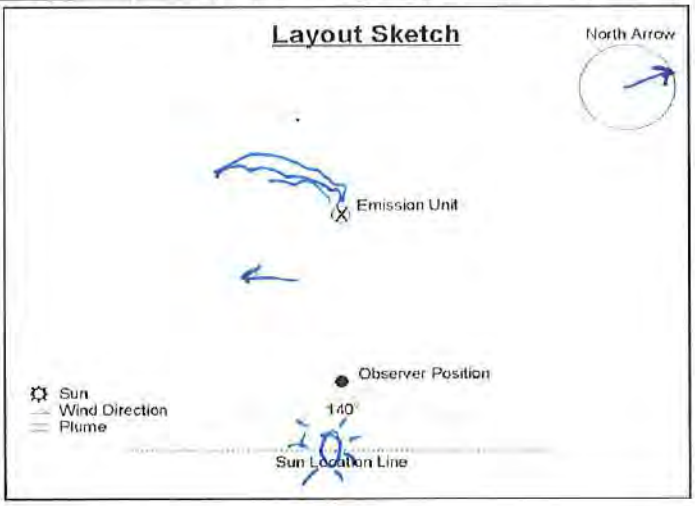
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470
Distance From Observer:	
Direction From Observer:	NW

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	28°F
Wind Speed:	5 mph	Relative Humidity:	51%
Wind Direction:	SSW	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	24 February 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 15 Mar 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

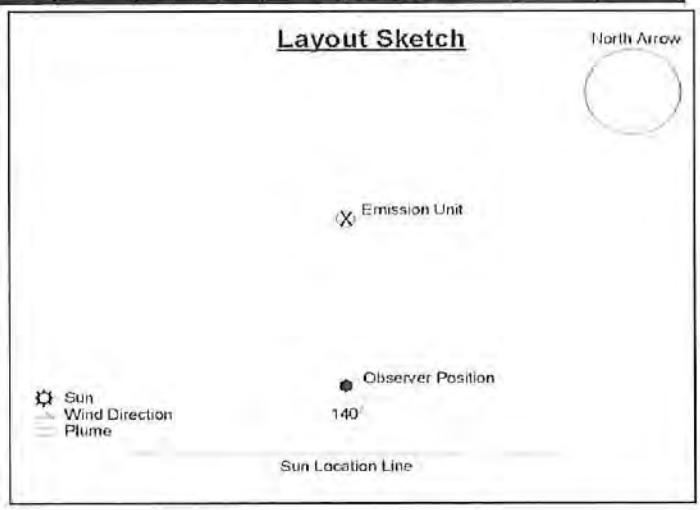
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

TransAlta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	24 February 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 15 Mar 2023

Start Time: 11:15 Stop Time: 11:21

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
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14					34					54				
15					35					55				
16					36					56				
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18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

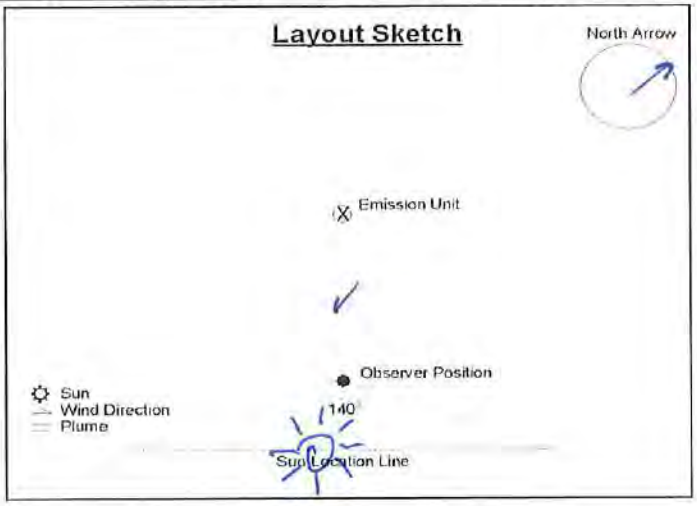
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	~10'
Distance From Observer:	~20'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Blue, slight haze

Sky Conditions:	Clear	Temperature:	33°F
Wind Speed:	6 mph	Relative Humidity:	46%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 22 MAR 2023 **Weather Conditions:** COLD, CLOUDY, PARTLY FOGGY

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:04	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:07	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	10:07	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	10:07		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:09	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	10:09	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 1A & coal transfer	—	Southeast of Coal Storage	N/A	—		20%	RETIRED
EU-29	Conveyor 2 - Fine Coal Recovery (FCR) & Dust Suppression System	—	Southeast of Coal Storage	—	—		0%	RETIRED
EU-4	Conveyor 3 & coal transfer	10:14	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:15	East of Coal Pile	Y	N		0%	
EU-18	CUF Emergency Diesel Sump Pump Engine	10:17	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:26	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:24		N/A	N		20%	NOT RUNNING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:26	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:27	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:27	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:41	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:46	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	
EU-4	Coal surge bin	10:48	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:48	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:49	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	12:20	Raw Water Pump Building	N/A	N		5%	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N		5.3 S		5.4 N		5.4 S					
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N		4.3 S		4.4 N		4.4 S					
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N		3.3 S		3.4 N		3.4 S					
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N		2.3 S		2.4 N		2.4 S					
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N		1.3 S		1.4 N		1.4 S					

Air Flow

21 KOPPERS

22 KOPPERS

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	7" H_2O	No	

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**On Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**On Line**

Date:	22 March 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification # NW-F18-007	EXP: 15 Mar 2023

Start Time: 10:31 Stop Time: 10:37

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

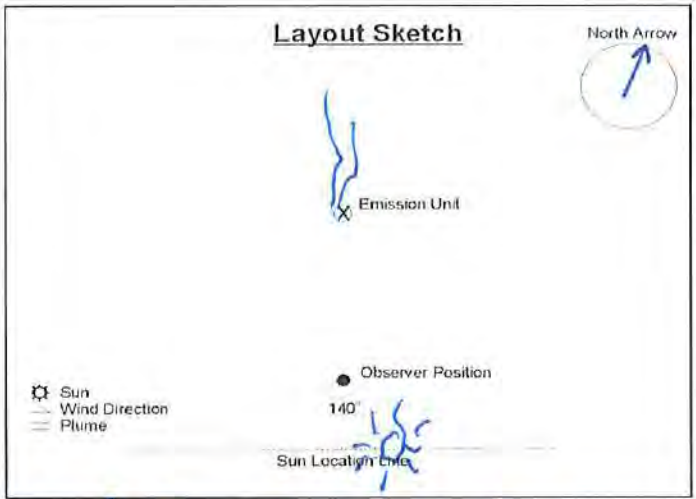
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	390'
Distance From Observer:	~ 300'
Direction From Observer:	N

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Cloudy	Temperature:	45°F
Wind Speed:	2 mph	Relative Humidity:	75%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments: Plume is rising vertically. Observed from top of 12 FA Bin.

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	22 March 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification # NW-F18-007	EXP: 15 Mar 2023

Start Time: Stop Time:

	Seconds			
Min.	0	15	30	45
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

	Seconds			
Min.	0	15	30	45
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				

	Seconds			
Min.	0	15	30	45
41				
42				
43				
44				
45				
46				
47				
48				
49				
50				
51				
52				
53				
54				
55				
56				
57				
58				
59				
60				

OFF
LINE

Average Opacity:	
Range Of Opacity:	

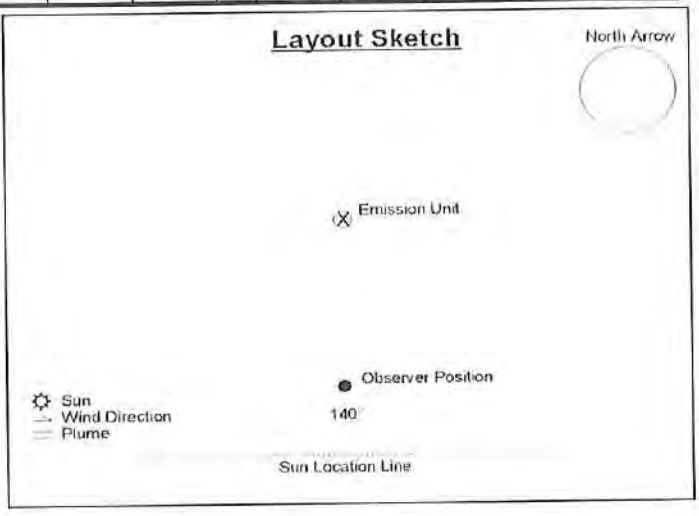
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	22 March 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 15 Mar 2023

Start Time: 1055 Stop Time: 1101

	Seconds			
Min.	0	15	30	45
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

	Seconds			
Min.	0	15	30	45
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				
35				
36				
37				
38				
39				
40				

	Seconds			
Min.	0	15	30	45
41				
42				
43				
44				
45				
46				
47				
48				
49				
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59				
60				

Average Opacity:	5%
Range Of Opacity:	

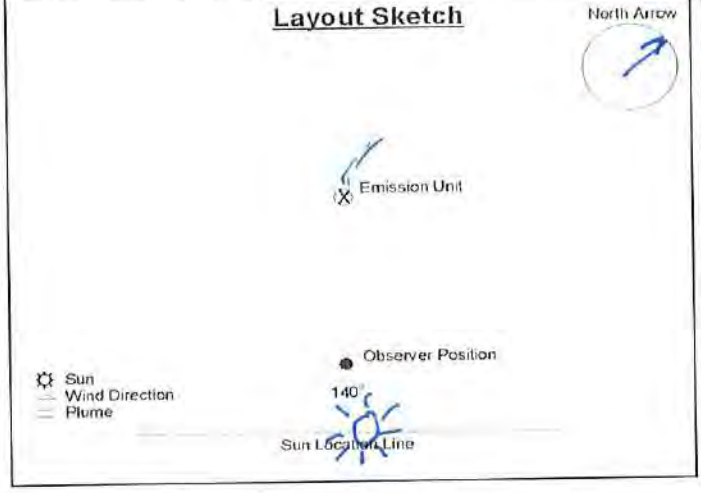
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	18'
Direction From Observer:	NW

Describe Emissions:	Detached Plume
Emission Color:	Black

Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Mostly Cloudy	Temperature:	49°F
Wind Speed:	3 mph	Relative Humidity:	72%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

ESP Status **(Mark all fields that are out of service)**

Date: 1-7-23

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

21
KOPPERS

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S

22
KOPPERS

6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.5 N	5.5 S	5.6 N	5.6 S	5.7 N	5.7 S	5.8 N	5.8 S
4.5 N	4.5 S	4.6 N	4.6 S	4.7 N	4.7 S	4.8 N	4.8 S
3.5 N	3.5 S	3.6 N	3.6 S	3.7 N	3.7 S	3.8 N	3.8 S
2.5 N	2.5 S	2.6 N	2.6 S	2.7 N	2.7 S	2.8 N	2.8 S
1.5 N	1.5 S	1.6 N	1.6 S	1.7 N	1.7 S	1.8 N	1.8 S

ESP Status **(Mark all fields that are out of service)**

Date: 2-3-23

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS

22 KOPPERS

ESP Status **(Mark all fields that are out of service)**

Date: 3-3-23

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
				OOS	
2-C N	2-C S	2-A N	2-A S	2-B N ✓	2-B S ✓
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N ✓	1-B S ✓	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N ✓	2-A S ✓	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N ✓	4-C S ✓ — Halted

				OOS				OOS				OOS			
6.1 N	6.1 S	6.2 N	6.2 S	6.3 N ✓	6.3 S ✓	6.4 N	6.4 S	6.5 N ✓	6.5 S ✓	6.6 N	6.6 S	6.7 N	6.7 S ✓	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N ✓	5.4 S ✓ → Halted								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS **22 KOPPERS**

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2906.4	1-07-23	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	222.3	1-07-23	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	342.7	1-07-23	Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: Mark Griffith

EU	Emissions Unit	Hour Meter Reading	Date 2/3/23		Comments	
EU4	Unit 1 Emergency Diesel Generator	2808.5		Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	224.8		Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	343.8		Record Engine Hour Meter Reading		

Printed Name: Mark Griffith

Signature: Mark Griffith

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2810	3-3-23	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	2266	3-3-23	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	345.3	3-3-23	Record Engine Hour Meter Reading		

Printed Name: Troy Hoke

Signature: Troy Hoke

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: BRETT FOSTER **Signature:** Brett Foster

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments	
EU4	CUF Emergency Diesel sump pump (PMP-06)	1852	03-27-23	Record Engine Hour Meter Reading		
EU4	Portable Generator TA-01 (GEN-01)	1026	03-27-23	Record Engine Hour Meter Reading	NOT GOING TO RUN ANYMORE.	
EU4	Portable Air Compressor (CMP-02)	1985	03-27-23	Record Engine Hour Meter Reading		
EU4	Portable Air Compressor (5872)	311	03-27-23	Record Engine Hour Meter Reading		
EU4	Portable Flood Light (TA-03)	3205	03-27-23	Record Engine Hour Meter Reading		
EU4	Portable Flood Light (TA-04)	3773	03-27-23	Record Engine Hour Meter Reading		
EU4	Portable Flood Light – Skid (TA-06)	4578	03-27-23	Record Engine Hour Meter Reading		
EU4	Pressure Washer Skid (PRW-01)	N/A	03-27-23	Record Engine Hour Meter Reading	[redacted]	
EU4	Pressure Washer Trailer (PRW-02)	976	03-27-23	Record Engine Hour Meter Reading		
EU4	Portable Welder Miller Big 40 (WLD-19)	9823	03-27-23	Record Engine Hour Meter Reading		
EU4	Diesel Welder (5938)	11688	03-27-23	Record Engine Hour Meter Reading		
EU4	Diesel Welder (5947)	3874	03-27-23	Record Engine Hour Meter Reading		
EU4	Godwin Pump (PMP-05)	3208	03-27-23	Record Engine Hour Meter Reading		
EU4	Godwin Pump (PMP-07)	6424	03-27-23	Record Engine Hour Meter Reading		

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1.7 inches of Water Column.

Run Time Meter Reading: 02768.8
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 01/23/23

Observation Time (24 Hr Clock): 11:30

Observer's Signature: Brian W Ford

Observer's Name (print): Brian W Ford

Employee Number: 102959

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1.0 inches of Water Column.

Run Time Meter Reading: 02769.6
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 03/09/23

Observation Time (24 Hr Clock): 1203

Observer's Signature: Steve Merzoian

Observer's Name (print): Steve Merzoian

Employee Number: 102468

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-9

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

a. Specify the period of time covered by the report: **April 1, 2023 – June 30, 2023**

b. Specify the Type or Name of Report:
[ ] Annual Compliance Status Report
[ ] Annual Emissions Inventory Report
[X] Semi-annual Report
[X] Other: Quarterly Report, 2nd Quarter 2023. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

_____

_____

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

_____

_____

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

David Raastad 7/25/2023
Signature of Responsible Official Date

David Raastad **Manager, Environmental, Health and Safety**
Printed Name Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l**.

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q2Y23.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter	Unit #2	
3rd Quarter 2022	570.2	Tons
4th Quarter 2022	352.6	Tons
1st Quarter 2023	322.8	Tons
2nd Quarter 2023	142.0	Tons

12 Month Rolling Total	Unit #2	
April	1370.2	Tons
May	1371.6	Tons
June	1387.6	Tons

R3.e Average NO_X emission rate (NO_X lb/MMBtu) by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2:

2nd Quarter 2023	0.155
Year to date	0.165

Rate for loads of 360 MWG or greater, Unit 2:

2nd Quarter 2023	0.158
Year to date	0.166

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q2Y23.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q2Y23.xlsx**

NOTE: There was no use of urea or the SNCR system in Q2 2023.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
April	8,682
May	8,314
June	8,360

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	299,456	8,586	10,441
February	290,000	688	261
March	284,734	17,396	20,272
April	302,457	3,946	455
May	14,802	9,382	3,207
June	104,983	8,360	52,868
July			
August			
September			
October			
November			
December			
Annual Total	**1,296,432**	**92,865**	**48,548**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q2 2023	113
Calendar Year Average	163

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)

There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)

No excess opacity observed during the 2nd quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)

No excess opacity observed during the 2nd quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)

Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)

No excess opacity observed during the 2nd quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time 1,279.74 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**05/03/23 18:22**	Breaker Closed (Date/Time):		**06/10/23 22:03**
Total Time out of service:	**915**	hours	**42**	Minutes
Reason for outage	**Annual Maintenance Outage**			

Unit Shutdown				
Breaker Open (Date/Time):	**6/30/23 21:01**	Breaker Closed (Date/Time):		
Total Time out of service:	**2**	hours	**59**	Minutes
Reason for outage	**Feed Pump Repairs (startup was in Q3)**			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.
SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q2Y23.xlsx

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by

Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 26, 2022
Hg STS RATA	EU2	July 26, 2022
CO_2 RATA	EU2	July 26, 2022
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	September 29, 2022
	EU2 – High Load	September 28, 2022
Particulate Matter Stack Testing	EU2 Q2	April 18, 2023

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2 Q2Y23.xlsx, MATS_HG_Excess_Unit2 Q2Y23.xlsx, MATS_SO2_CEMSUM_U2 Q2Y23.xlsx,** and **MATS_SO2_Excess_Unit2 Q2Y23.xlsx**. TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.l)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2 Q2Y23.xlsx** and **MATS_SO2_Downtime_Unit2 Q2Y23.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
04/28/23	02:49 – 04:57	128	Analog 4-20 mV signal problem
05/02/23	02:50 – 10:33	420	Repairs including tightening wire connections
	Total Mins.	**548**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
	Total Mins.	**0**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q2Y23.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q2Y23.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q2Y23.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 12 APR 2023 **Weather Conditions:** COOL, Slight Breeze, Overcast

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:11	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	10:15	Southwest of Coal Storage	OFF	N		20%	NOT RUNNING
EU-4	Coal Blending System	10:15	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	10:16		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	10:16	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	10:16	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 3 & coal transfer	10:31	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:34	East of Coal Pile	OFF	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	10:34	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:46	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:41		N/A	N		20%	NO TRUCK
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:46	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:45	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:45	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:48	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:53	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:55	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:56	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:56	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	11:43	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	7" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

NO XFMR

LODGE-COTTRELL 22A

NO XFMR

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

Imbal Trip

Pri UV Trip

Pri UV Trip

Pri UV Trip

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**On Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**On Line**

Date:	12 April 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 10:23 Stop Time: 10:29

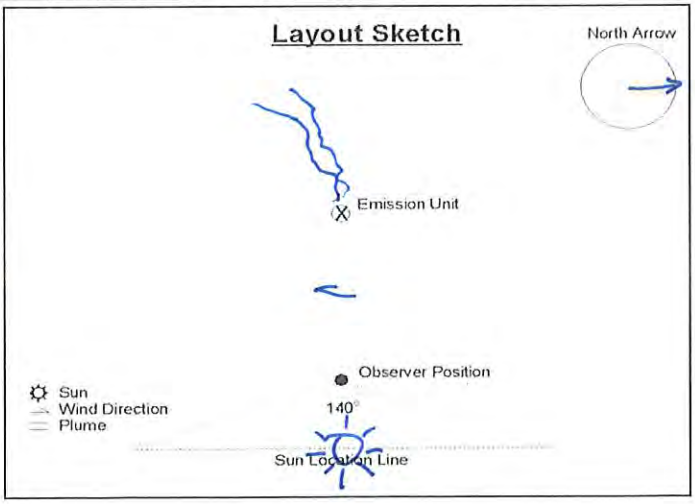
	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1050'
Direction From Observer:	NW
Describe Emissions:	Attached Steam Plume
Emission Color:	White
Describe Background:	Cloudy Sky
Background Color:	Blue or Gray

Sky Conditions:	Partly Cloudy	Temperature:	42°F
Wind Speed:	2 mph	Relative Humidity:	77%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	12 April 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

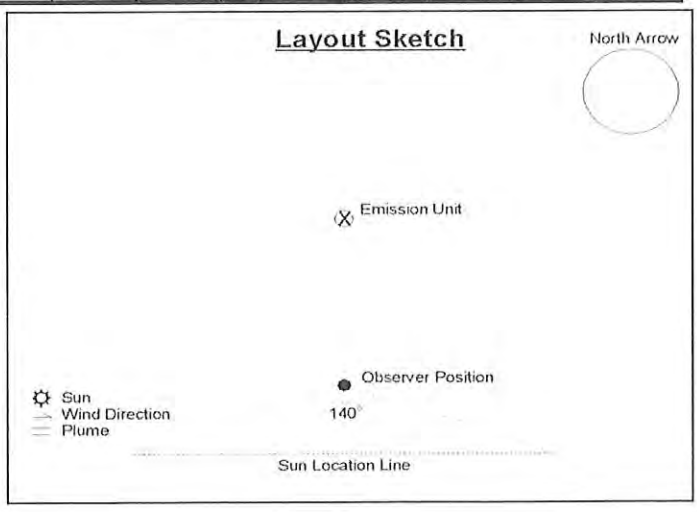
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	12 April 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 11:02 Stop Time: 11:08

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	5	0	0	21					41				
2	5	5	0	0	22					42				
3	0	0	0	0	23					43				
4	0	5	5	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	5	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	< 5%
Range Of Opacity:	0 - 5%

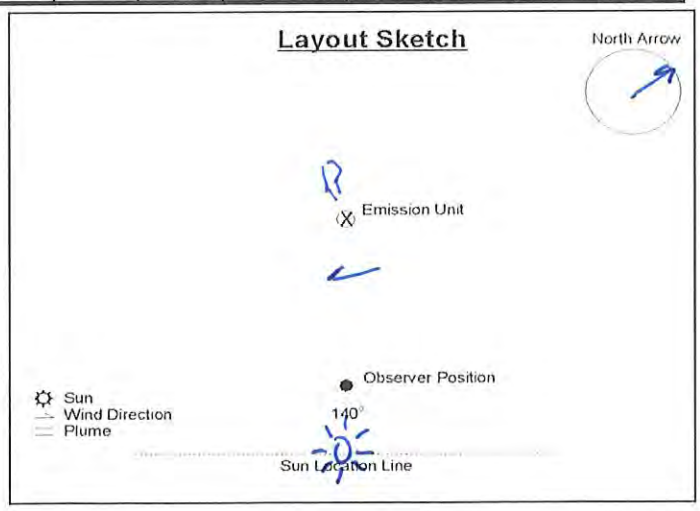
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	~ 10'
Distance From Observer:	~ 15'
Direction From Observer:	NW

Describe Emissions:	Occasional Puff
Emission Color:	& Black

Describe Background:	Clouds
Background Color:	White & Gray

Sky Conditions:	Overcast	Temperature:	44°F
Wind Speed:	3 mph	Relative Humidity:	71%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 16 MAY 2023 **Weather Conditions:** Mostly Cloudy, low-mid 60s °F, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

The plant has been shutdown since May 3rd, and no conveyors were running during this month's inspection. All ash dewatering bins, coal silos, and the coal surge bin are empty.

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:03	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression		Southwest of Coal Storage				20%	NOT RUNNING
EU-4	Coal Blending System		Southwest of Coal Storage	N/A			20%	NOT RUNNING
EU-4	Coal Storage Pile	10:07		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer		South of Coal Storage	N/A			20%	NOT RUNNING
EU-4	Stacker-Reclaimer		South of Coal Storage	N/A			20%	NOT RUNNING
EU-4	Conveyor 3 & coal transfer		Southeast of Coal Storage	N/A			20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression		East of Coal Pile				0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	10:22	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:40	East of unloading facility	N/A	N		20%	ALL BINS EMPTY
EU-4	6050 Fly Ash Unloader	10:34		N/A	N		20%	NOT RUNNING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:38	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:38	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:37	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:42	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system		Top of 6A & 6B conveyor East side of Power Building				20%	NOT RUNNING

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin		10th floor – Center	N/A			20%	EMPTY
EU-4	Coal silos bin vents 21,23,25,27		10th floor – Center South	N/A			20%	EMPTY
EU-4	Coal silos bin vents 22,24,26,28		10th floor - South	N/A			20%	EMPTY
EU-16	Emergency Diesel Fire Pump Engine	11:13	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

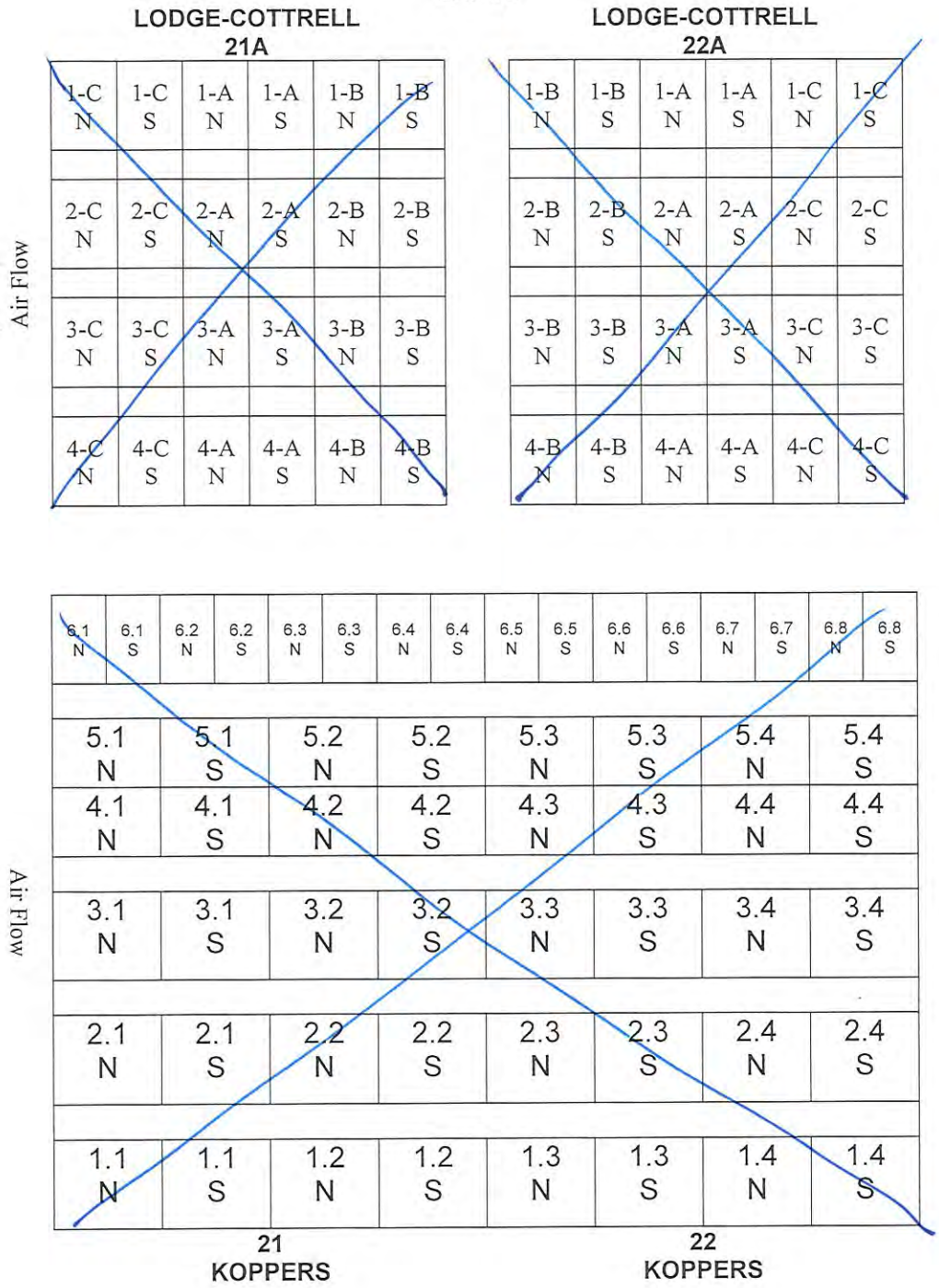
Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF LINE	0	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF LINE	N/A	—	No	

ESP Status:

Unit #2



Not in operation

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**Off Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**Off Line**

Date:	16 May 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: Stop Time:

Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

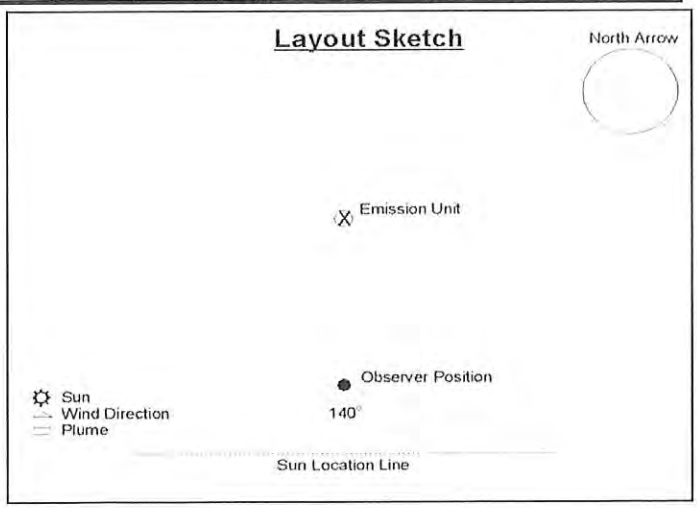
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	16 May 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

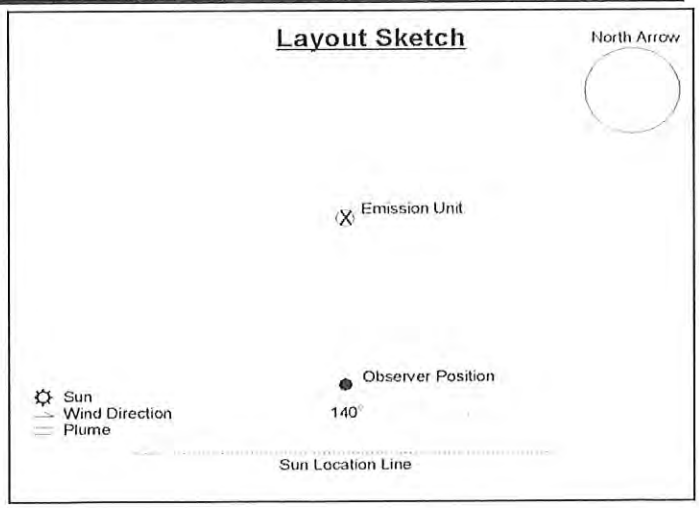
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off Line**

Date:	16 May 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
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12					32					52				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

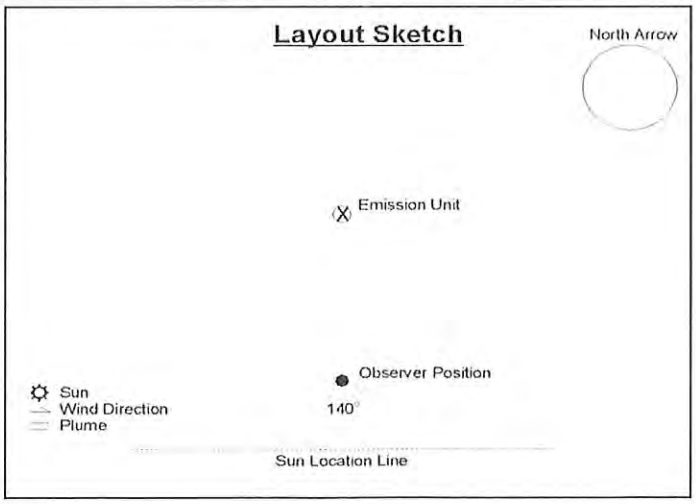
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 22 JUN 23 **Weather Conditions:** Warm, Clear

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	10:00	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	13:40	Southwest of Coal Storage	—	N		20%	NOT RUNNING
EU-4	Coal Blending System	13:40	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	13:41		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	13:41	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	13:41	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	13:45	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	13:50	East of Coal Pile	—	N		0%	NOT RUNNING
EU-18	CUF Emergency Diesel Sump Pump Engine	13:50	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	13:31	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	13:30		N/A	N		20%	NO TRUCK
EU-4	Fly Ash bins vents 11, 12, 13, & 14	13:31	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	13:31	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	13:31	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	13:28	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	13:11	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	13:13	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	13:13	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	13:14	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	12:52	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	ON LINE	2	NO	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	ON LINE	A	8" H_2O	NO	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

NO XFMR

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

NO XFMR

Trip Sec Overcurrent

Air Flow

6.1 N	6.1 S OOS	6.2 N	6.2 S	6.3 N	6.3 S OOS	6.4 N	6.4 S	6.5 N	6.5 S OOS	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21 KOPPERS

22 KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 2 - Unit 2**
Operating Mode:	**On Line**
Control Equipment:	**ESP / FGD**
Operating Mode:	**On Line**

Date:	22 June 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 13:00 Stop Time: 13:06

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
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15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

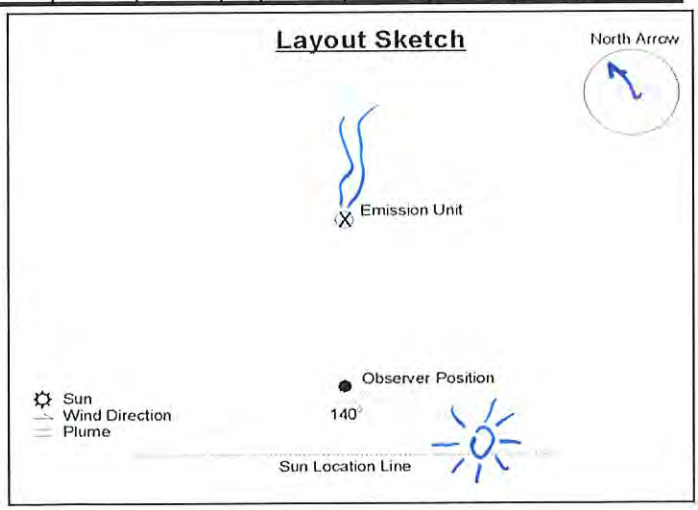
Describe Emission Unit:	**Unit 2 Boiler**
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1400'
Direction From Observer:	NE

Describe Emissions:	~~Attatch~~ Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	76°F
Wind Speed:	7 mph	Relative Humidity:	43%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	22 June 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

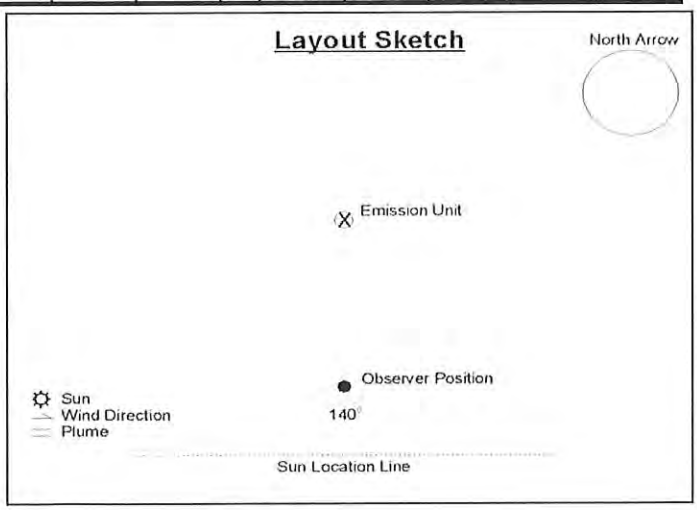
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	22 June 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 13:17 Stop Time: 13:23

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
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7					27					47				
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15					35					55				
16					36					56				
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18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

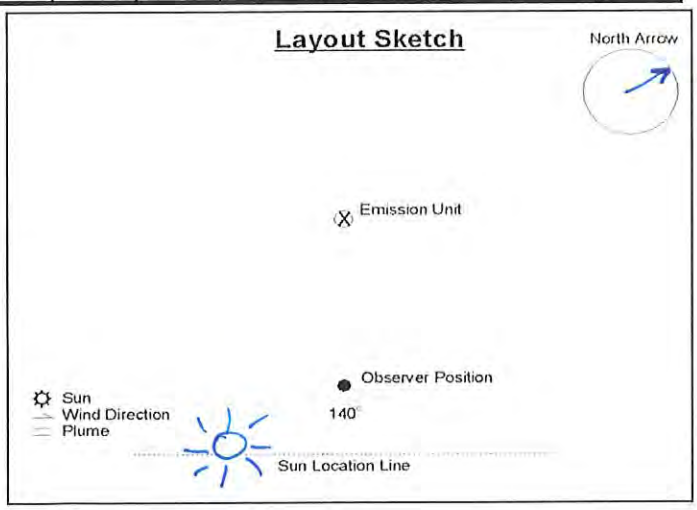
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	25'
Direction From Observer:	N

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	76 °F
Wind Speed:	7 mph	Relative Humidity:	43%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

ESP Status **(Mark all fields that are out of service)**

Date: 3.31-23

This is the April inspection. SB

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

No RSMC

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
				OOS				OOS				COMM ERROR			
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

21 KOPPERS **22 KOPPERS**

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2815.1	3-31-23	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	228.6	3-31-23	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	346.7	3-31-23	Record Engine Hour Meter Reading		

This is the April Recording. SB

Printed Name: M. Graham

Signature: [signature]

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Skeeter Stanley **Signature:** Skeeter Stanley

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments	
EU4	CUF Emergency Diesel sump pump (PMP-06)	1852	5-4-23	Record Engine Hour Meter Reading		
EU4	Portable Generator TA-01 (GEN-01)	Sold		Record Engine Hour Meter Reading	Take off List	
EU4	Portable Air Compressor (CMP-02)	1985	5-4-23	Record Engine Hour Meter Reading		
EU4	Portable Air Compressor (5872)	310	5-4-23	Record Engine Hour Meter Reading		
EU4	Portable Flood Light (TA-03)	3205	5-4-23	Record Engine Hour Meter Reading		
EU4	Portable Flood Light (TA-04)	3773	5-4-23	Record Engine Hour Meter Reading		
EU4	Portable Flood Light – Skid (TA-06)	4578	5-4-23	Record Engine Hour Meter Reading		
EU4	Pressure Washer Skid (PRW-01)	003	5-4-23	Record Engine Hour Meter Reading		
EU4	Pressure Washer Trailer (PRW-02)	10185?	5-4-23	Record Engine Hour Meter Reading		
EU4	Portable Welder Miller Big 40 (WLD-19)	982	5-4-23	Record Engine Hour Meter Reading		
EU4	Diesel Welder (5938) Sold	~~3871~~	~~5-4-23~~	Record Engine Hour Meter Reading	SOLD	
EU4	Diesel Welder (5947)	3874	5-4-23	Record Engine Hour Meter Reading		
EU4	Godwin Pump (PMP-05)	3108	5-4-23	Record Engine Hour Meter Reading		
EU4	Godwin Pump (PMP-07)	6424	5-4-23	Record Engine Hour Meter Reading		

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: ~~Jeff~~ A Campbell **Signature:** J. Campbell 102962

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1853	6/27/23	Record Engine Hour Meter Reading	Delete / NO Longer in use
EU4	Portable Generator TA-01 (GEN-01)	N/A		Record Engine Hour Meter Reading	Delete This item N/A
EU4	Portable Air Compressor (CMP-02)	1986	6/27/23	Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	3147	6/27/23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205	6/27/23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773	6/27/23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578	6/27/23	Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	0003	6/27/23	Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	981	6/27/23	Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	0982	6/27/23	Record Engine Hour Meter Reading	
EU4	Diesel Welder (5947)	3874	6/27/23	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	3108	6/27/23	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	6424	6/27/23	Record Engine Hour Meter Reading	

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

Hydrated Lime Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 2.5 inches of Water Column.

Run Time Meter Reading: 2771.5
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 06-09-2023

Observation Time (24 Hr Clock): 11:30

Observer's Signature: Brian w Ford

Observer's Name (print): Brian w Ford

Employee Number: 102959

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-10

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

   a. Specify the period of time covered by the report: **July 1, 2023 – September 30, 2023**

   b. Specify the Type or Name of Report:
   [ ] Annual Compliance Status Report
   [ ] Annual Emissions Inventory Report
   [X] Semi-annual Report
   [X] Other: Quarterly Report, 3rd Quarter 2023. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

   c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature of Responsible Official — Date: 10/26/2023

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l.**

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q3Y23.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
4th Quarter 2022	352.6	Tons
1st Quarter 2023	322.8	Tons
2nd Quarter 2023	142.0	Tons
3rd Quarter 2023	359.6	Tons

12 Month Rolling Total		
July	1403.4	Tons
August	1258.8	Tons
September	1177.0	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

3rd Quarter 2023	0.166
Year to date	0.165

Rate for loads of 360 MWG or greater, Unit 2:

3rd Quarter 2023	0.168
Year to date	0.167

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q3Y23.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q3Y23.xlsx**

NOTE: There was no use of urea or the SNCR system in Q3 2023.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
July	8,667
August	8,653
September	8,662

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	299,456	8,586	10,441
February	290,000	688	261
March	284,734	17,396	20,272
April	302,457	3,946	455
May	14,802	9,382	3,207
June	104,983	8,360	52,868
July	222,649	42,212	17,134
August	300,600	519	956
September	188,286	30,663	13,170
October			
November			
December			
Annual Total	**2,007,967**	**166,259**	**79,808**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q3 2023	178
Calendar Year Average	168

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)

There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)

No excess opacity observed during the 3rd quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)

No excess opacity observed during the 3rd quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)

Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)

No excess opacity observed during the 3rd quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time 1969.0 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**07/01/23 00:00**	Breaker Closed (Date/Time):		**07/08/23 06:11**
Total Time out of service:	**174**	hours	**12**	Minutes
Reason for outage	**Feed Pump Repairs (shutdown began in Q2)**			

Unit Shutdown				
Breaker Open (Date/Time):	**09/21/23 12:30**	Breaker Closed (Date/Time):		**09/25/23 02:01**
Total Time out of service:	**85**	hours	**32**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.

SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q3Y23.xlsx

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by

Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 26, 2023
Hg STS RATA	EU2	August 1, 2023
CO_2 RATA	EU2	July 26, 2023
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	September 25, 2023
	EU2 – High Load	September 26, 2023
Particulate Matter Stack Testing	EU2 Q3	July 26-27, 2023

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2 Q3Y23.xlsx, MATS_HG_Excess_Unit2 Q3Y23.xlsx, MATS_SO2_CEMSUM_U2 Q3Y23.xlsx,** and **MATS_SO2_Excess_Unit2 Q3Y23.xlsx**. TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.l)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2 Q3Y23.xlsx** and **MATS_SO2_Downtime_Unit2 Q3Y23.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
07/17/2023	10:21 – 15:06	286	Repaired communication board
07/31/2023	06:01 – 07:02	62	Daily Cal Failure
	Total Mins.	**348**	

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
07/20/2023	12:23 – 12:42	20	Lens Clean
07/31/2023	06:01 – 07:02	62	Daily Cal Failure
	Total Mins.	**82**	

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q3Y23.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q3Y23.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q3Y23.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 31 Jul 2023 **Weather Conditions:** Warm, Clear

Inspector's Name: Sam Bacook **Signature:** Sam Bacook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	11:31	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	11:36	Southwest of Coal Storage	Y	N		20%	
EU-4	Coal Blending System	11:36	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	11:38		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	11:38	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	11:38	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	11:52	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	11:52	East of Coal Pile	Y	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	11:55	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	12:05	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	12:04		N/A	N		20%	NO TRUCK/RAIL CAR
EU-4	Fly Ash bins vents 11, 12, 13, & 14	12:06	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	12:06	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	12:06	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	12:09	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	12:17	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	12:19	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	12:19	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	12:20	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine		Raw Water Pump Building	N/A			5%	

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	NO	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	6" H_2O	NO	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

Air Flow

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

NO XFMR

LODGE-COTTRELL 22A

NO XFMR

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

DOS

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N		5.1 S		5.2 N		5.2 S		5.3 N		5.3 S		5.4 N		5.4 S	
4.1 N		4.1 S		4.2 N		4.2 S		4.3 N		4.3 S		4.4 N		4.4 S	
3.1 N		3.1 S		3.2 N		3.2 S		3.3 N		3.3 S		3.4 N		3.4 S	
2.1 N		2.1 S		2.2 N		2.2 S		2.3 N		2.3 S		2.4 N		2.4 S	
1.1 N		1.1 S		1.2 N		1.2 S		1.3 N		1.3 S		1.4 N		1.4 S	

Air Flow

21 KOPPERS

22 KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	31 July 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 11:44 Stop Time: 11:50

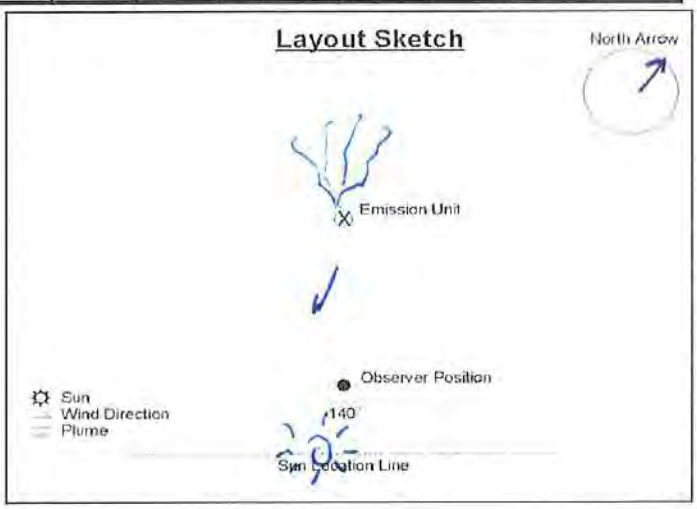
	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1050'
Direction From Observer:	NW
Describe Emissions:	Attached Steam Plume
Emission Color:	White
Describe Background:	Sky
Background Color:	Blue

Sky Conditions:	Clear	Temperature:	70 °F
Wind Speed:	3 mph	Relative Humidity:	56 %
Wind Direction:	SSE	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	31 July 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds				
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

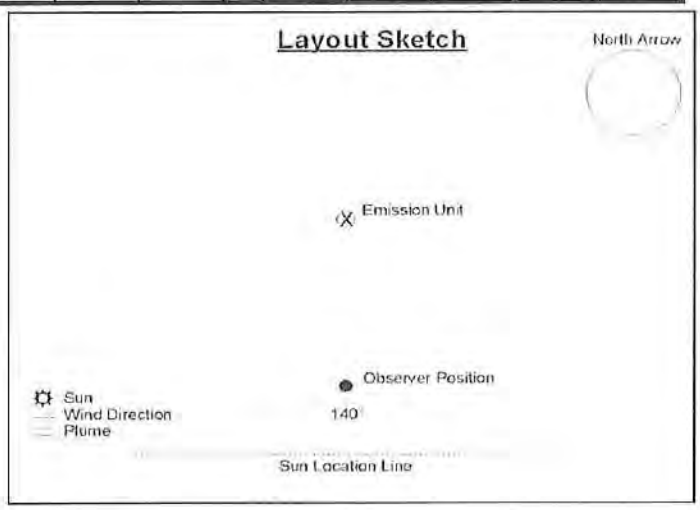
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	31 July 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 12:25 Stop Time: 12:31

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

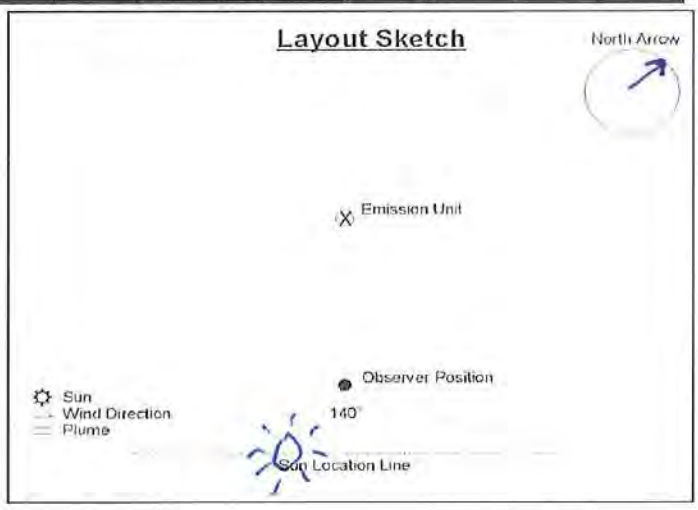
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	15'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky & Clouds
Background Color:	Blue/White

Sky Conditions:	Mostly Clear	Temperature:	73°F
Wind Speed:	4 mph	Relative Humidity:	48%
Wind Direction:	SSE	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 31 AUG 2023 **Weather Conditions:** Cool to Almost Warm, Overcast & Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:42	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	09:45	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	09:45	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	09:47		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	09:47	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	09:47	South of Coal Storage	N/A	N		20%	
EU-4	Conveyor 3 & coal transfer	10:02	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:02	East of Coal Pile	N/A	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	10:05	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:15	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:11		N/A	N		20%	NOT RUNNING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:15	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:15	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:16	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:18	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:22	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed – Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:24	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:25	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:25	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	10:48	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	6"H2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

NO XFMR

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

NO XFMR

DOS

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S			5.2 N	5.2 S			5.3 N	5.3 S			5.4 N	5.4 S		
4.1 N	4.1 S			4.2 N	4.2 S			4.3 N	4.3 S			4.4 N	4.4 S		
3.1 N	3.1 S			3.2 N	3.2 S			3.3 N	3.3 S			3.4 N	3.4 S		
2.1 N	2.1 S			2.2 N	2.2 S			2.3 N	2.3 S			2.4 N	2.4 S		
1.1 N	1.1 S			1.2 N	1.2 S			1.3 N	1.3 S			1.4 N	1.4 S		

DOS

Air Flow

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	31 August 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 09:54 Stop Time: 10:00

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
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13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

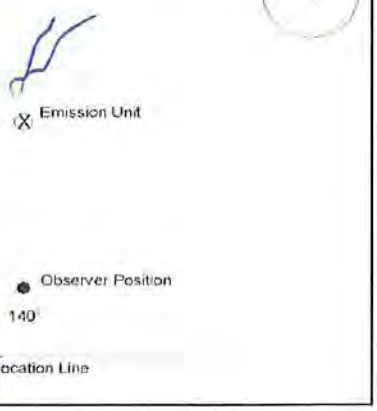
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1050'
Direction From Observer:	W

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Overcast	Temperature:	62 °F
Wind Speed:	3 mph	Relative Humidity:	86 %
Wind Direction:	toward W	Wet Bulb Temp.:	

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	31 August 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
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8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

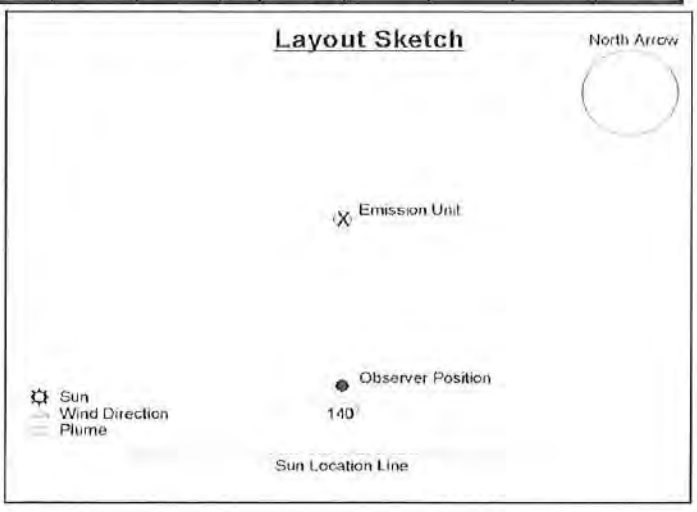
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	31 August 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 28 SEP 2023

Start Time: 10:29 Stop Time: 10:35

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
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14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

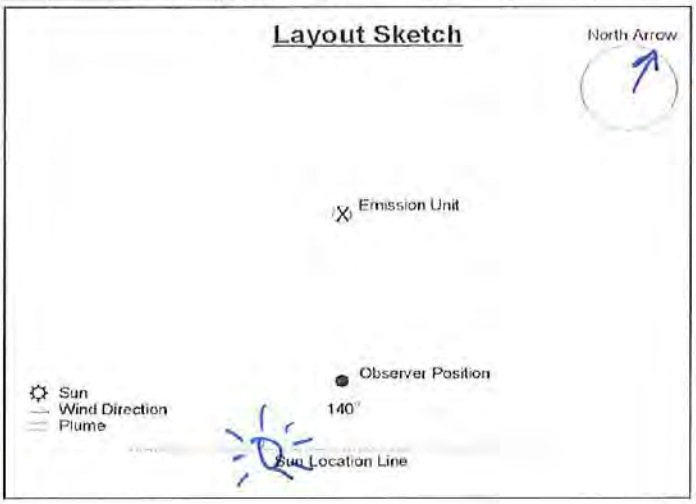
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	~10'
Distance From Observer:	~20'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Grey

Sky Conditions:	Overcast	Temperature:	62 °F
Wind Speed:	3 mph	Relative Humidity:	86%
Wind Direction:	W	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 29 SEP 2023 **Weather Conditions:** Partly Cloudy, Fair Breeze, Not Warm

Inspector's Name: Sam Bocock **Signature:** Sam Bocock

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:53	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	09:56	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	09:56	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	09:56		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	09:58	South of Coal Storage	N/A	N		20%	
EU-4	Stacker-Reclaimer	09:58	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 3 & coal transfer	10:08	Southeast of Coal Storage	N/A	N		20%	
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:10	East of Coal Pile	N/A	N		0%	NOT NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	10:10	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:18	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:16		N/A	N		20%	NOT RUNNING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:18	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:18	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:18	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:20	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:25	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:27	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:27	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:28	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	11:00	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	8" H_2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21 KOPPERS

22 KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	29 September 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: 10:00 Stop Time: 10:06

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

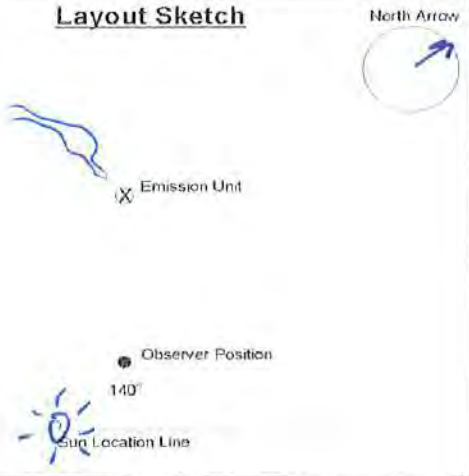
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~1100
Direction From Observer:	NW

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Grey/White, Blue

Sky Conditions:	Partly Cloudy	Temperature:	52°F
Wind Speed:	8 mph	Relative Humidity:	79%
Wind Direction:	S	Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off Line**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	29 September 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

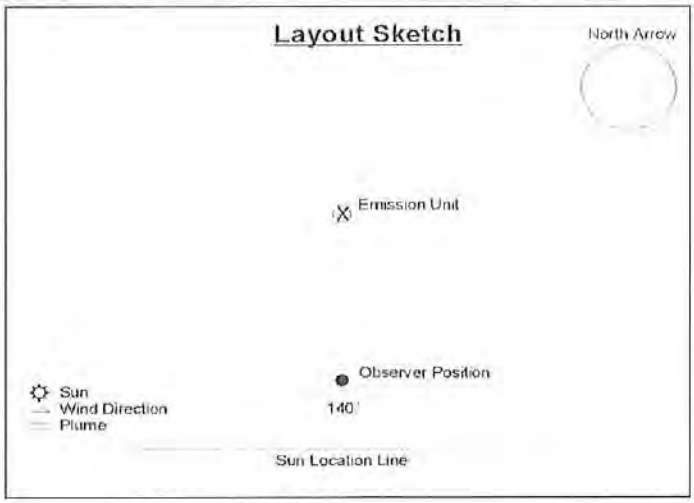
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	29 September 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: 10:33 Stop Time: 10:39

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

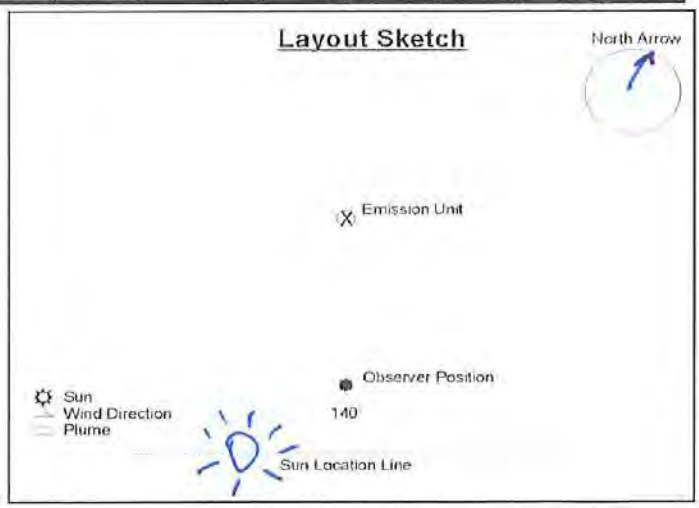
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	~10'
Distance From Observer:	15'
Direction From Observer:	N

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Sky
Background Color:	Blue, White/Gray

Sky Conditions:	Partly Cloudy	Temperature:	53°F
Wind Speed:	9 mph	Relative Humidity:	78%
Wind Direction:	S	Wet Bulb Temp.:	

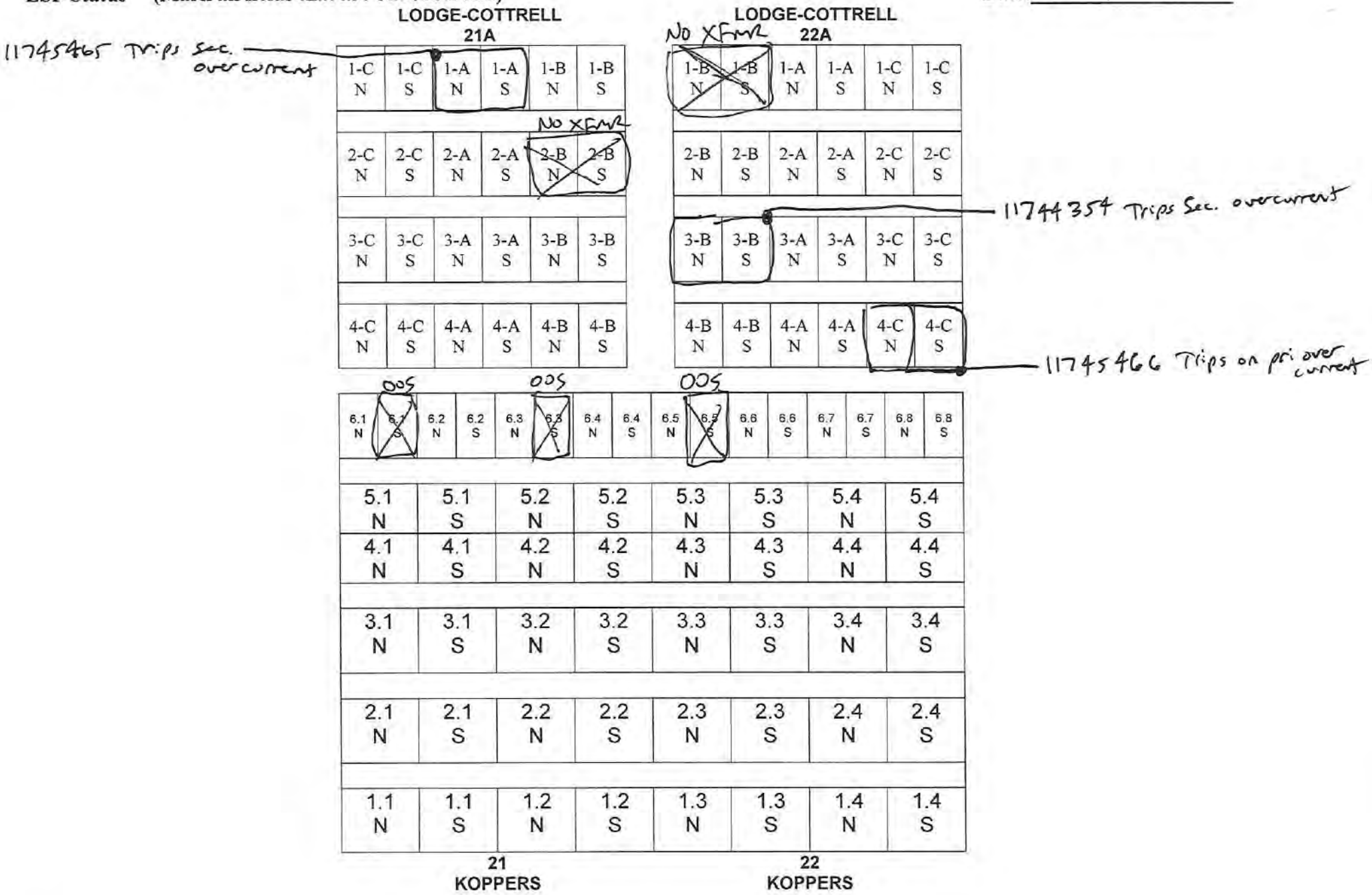
Layout Sketch



Comments:

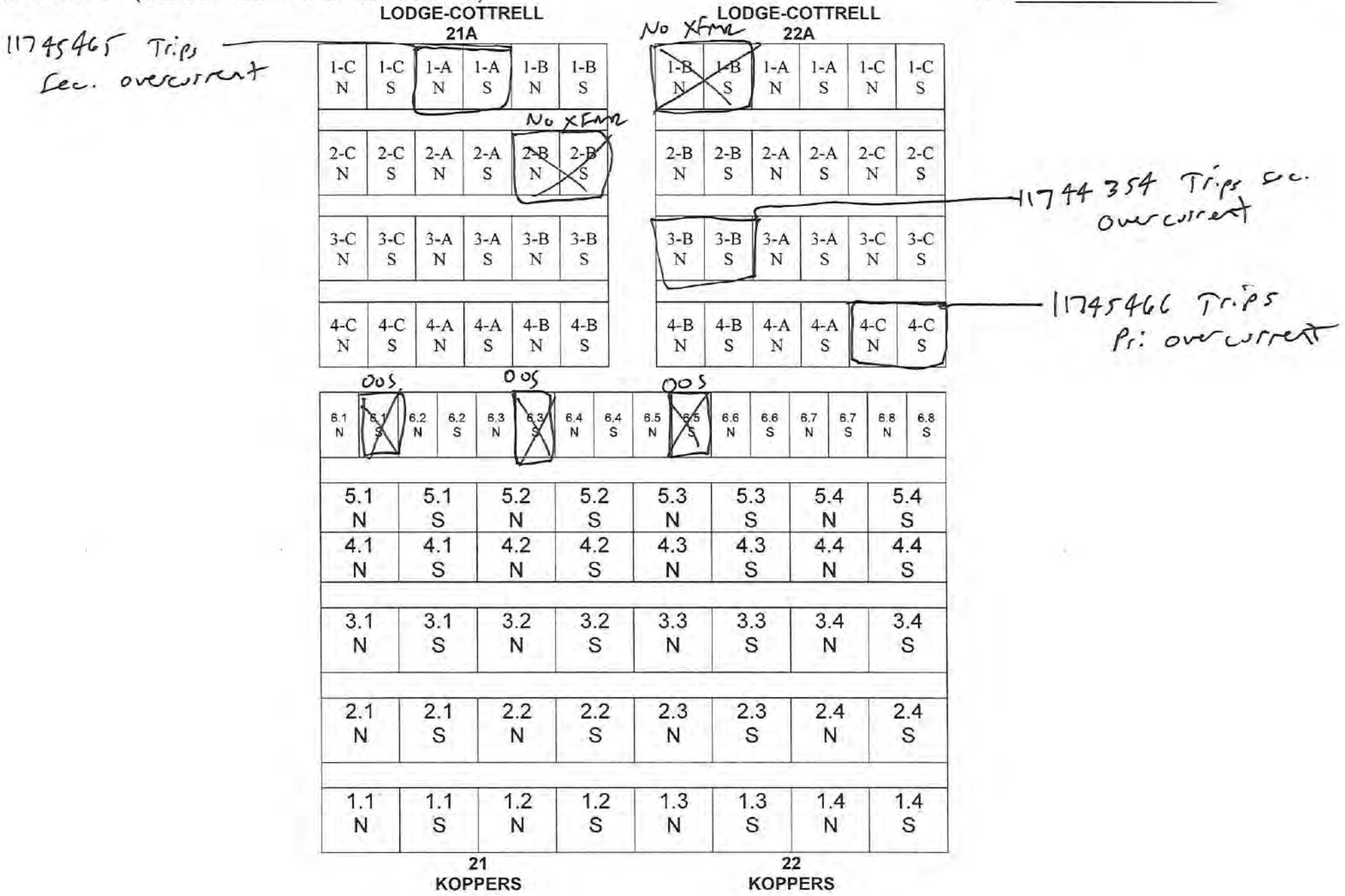
ESP Status (Mark all fields that are out of service)

Date: 7-14-23



ESP Status **(Mark all fields that are out of service)**

Date: 8-12-23



1174546 Trips Sec. overcurrent

1174354 Trips Sec. overcurrent

1174546 Trips Pri: overcurrent

ESP Status (Mark all fields that are out of service)

Date: 9-8-23

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
				No Xfmr	
2-C N	2-C S	2-A N	2-A S	2-B N ~~X~~	2-B S ~~X~~
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

No Xfmr

1-B N ~~X~~	1-B S ~~X~~	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N ~~X~~	4-B S	4-A N	4-A S	4-C N	4-C S

005

6.1 N	6.1 S ~~X~~	6.2 N ~~X~~	6.2 S	6.3 N	6.3 S ~~X~~	6.4 N	6.4 S	6.5 N	6.5 S ~~X~~	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
005		004			001				003						
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S ~~X~~	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

005

21 KOPPERS

22 KOPPERS

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2819.6	7-14-23	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	234.7	7-14-23	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	350.6	7.14.23	Record Engine Hour Meter Reading		

Printed Name: M. GRAHAM

Signature:

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2821.9	8-12-23	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	237.2	8-12-23	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	351.8	8-12-23	Record Engine Hour Meter Reading		

Printed Name: M. GRAHAM

Signature:

EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2823.7	9-8-23	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	238.8	9-8-23	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	353.3	9-8-23	Record Engine Hour Meter Reading		

Printed Name: M. GRAHAM

Signature:

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Skeeter Stanley **Signature:** Skeeter Stanley

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1853 ~~4578~~	9-4-23	Record Engine Hour Meter Reading	This is the wrong reading. Biweekly inspection form notes 1853 hours on the meter. S
EU4	Portable Generator TA-01 (GEN-01)	1020	9-4-23	Record Engine Hour Meter Reading	Scrap
EU4	Portable Air Compressor (CMP-02)	1985	9-4-23	Record Engine Hour Meter Reading	out of Service
EU4	Portable Air Compressor (5872)	3147	9-4-23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205	9-4-23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773	9-4-23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	4578		Record Engine Hour Meter Reading	Reading corrected above matches records for this portable flood light.
EU4	Pressure Washer Skid (PRW-01)	00003	9-4-23	Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	982	9-4-23	Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982	9-4-23	Record Engine Hour Meter Reading	
EU4	Diesel Welder (5938)	~~3859~~	~~9-4-23~~	Record Engine Hour Meter Reading	Johnson has it at Home
EU4	Diesel Welder (5947)	3879	9-4-23	Record Engine Hour Meter Reading	~~Parts~~ Johnson has it at home
EU4	Godwin Pump (PMP-05)	3218	9-4-23	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	6972	9-4-23	Record Engine Hour Meter Reading	

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

Hydrated Lime Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 1.0 inches of Water Column.

Run Time Meter Reading: 02774.8
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 07/31/23

Observation Time (24 Hr Clock): 10:00

Observer's Signature: Olivia Clifford

Observer's Name (print): Olivia Clifford

Employee Number: 108630

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-11

SWCAA **TITLE V REPORT CERTIFICATION FORM**

1. Facility/Source Name: **TransAlta Centralia Generation, LLC SW98-8-R5A**

2. Facility Location: **913 Big Hanaford Rd**
Centralia, WA 98531

3. Company Name (if different): _____

4. Unified Business Identification Number: **601-985-591**

5. Environmental Contact for this submittal:

Sam Bocook	**Environmental Specialist**	**360-330-2306**
Name	Title	Phone #

6. Report Covered by this Certification:

   a. Specify the period of time covered by the report: **October 1, 2023 – December 31, 2023**

   b. Specify the Type or Name of Report:
   [ ] Annual Compliance Status Report
   [ ] Annual Emissions Inventory Report
   [X] Semi-annual Report
   [X] Other: Quarterly Report, 4th Quarter 2023. All Startup, Shutdown, Unit Upset and Exceedance reports are submitted to SWCAA via e-mail during the specified reporting period. All Compliance and RATA test reports are submitted during the specified reporting period.

   c. Please specify by page number any sections of the report not covered by this certification which are provided as background information and are not necessary to support the statements and information which are certified:

7. Noted deviations from requirements of Title5 Air Permit SW98-8-R5A not specifically referenced in this report:

8. Certification:
I certify that all monitoring required under the current Title 5 Air Operating Permit SW98-8-R-5A have been conducted in accordance with that document except as noted above. I certify that the statements contained in the documents referenced in Section 6 above are true accurate and complete based on information and belief formed after reasonable inquiry.

I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature of Responsible Official	1/24/2024 Date

Conrad Wieclaw	**Engineering and Environmental Manager**
Printed Name	Title

R1.a - Deviations from Permit Conditions: Coal Fired Facility Opacity

There were no deviations from opacity permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.k.**

R1.b - Deviations from Permit Conditions: Coal Fired Facility SO_2 & NO_X

There were no deviations from SO_2 or NO_X permit conditions that occurred at the coal fired plant facility during the reporting period. Had deviations occurred, they would have been documented in section **R3.l**.

R2 – Complaint Reports

No complaints pertaining to the Title 5 permit were received during the reporting period.

R3 – Quarterly Reports

Coal Plant: Unit #1 and Unit #2 (EU1 and EU2)

R3.a Records of monthly inspection as described in conditions M2 through M5.

See attached inspection sheets: Titled "TransAlta Centralia Generation - Monthly Title V Air Permit Inspection."

R3.b Sulfur content of the fuel oil used to fuel the auxiliary boiler (EU3) and for startup or shutdown of EU2 was ultra-low sulfur diesel fuel oil #2 with a sulfur content of less than 15 ppm.

R3.c Hourly SO_2 standard concentration and hourly O_2 data as described in M9(e); is contained in the attached electronic file: **MainPlant_Emissions_Q4Y23.xlsx**

R3.d Tons SO_2 emitted by quarter and 12 month rolling totals for Unit #2:

Quarter		
1st Quarter 2023	322.8	Tons
2nd Quarter 2023	142.0	Tons
3rd Quarter 2023	359.9	Tons
4th Quarter 2023	336.5	Tons
12 Month Rolling Total		
October	1,142.7	Tons
November	1,143.7	Tons
December	1,161.3	Tons

R3.e Average NO_X emission rate by quarter and cumulative NO_X emission rate for the calendar year:

Rate for all loads, Unit 2 (lb/MMBtu)

4th Quarter 2023	0.173
Year to date	0.167

Rate for loads of 360 MWG or greater, Unit 2:

4th Quarter 2023	0.173
Year to date	0.168

R3.f The 30-day NOx rolling emissions and NOx Tons emitted for the calendar year as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q4Y23.xlsx**

R3.g Urea injection and estimated ammonia emissions data as required by the BART Order 6426 are provided in the attached electronic file: **MainPlant_Emissions_Q4Y23.xlsx**

NOTE: There was no use of urea or the SNCR system in Q4 2023.

With the second revision of BART Order 6426, TransAlta maintains the SNCR system in a standby mode. The Combustion Control Neural Network on Unit 2 continues to operate effectively to maintain NOx emission rates below 0.18 lb/MMBtu on a rolling 30 operating day average.

R3.h Estimated monthly average heating values (Btu/lb) for coal burned in EU2 boiler:

Month	Btu/lb
October	8,585
November	8,569
December	8,480

R3.i Fuel consumption (coal and oil) in EU2 and EU3:

Month	Coal in Tons - EU2	Fuel Oil, Gal - EU2	Fuel Oil, Gal - EU3
January	299,456	8,586	10,441
February	290,000	688	261
March	284,734	17,396	20,272
April	302,457	3,946	455
May	14,802	9,382	3,207
June	104,983	8,360	52,868
July	222,649	42,212	17,134
August	300,600	519	956
September	188,286	30,663	13,170
October	306,326	128	353
November	178,566	30,674	29,059
December	253,999	53,931	3,834
Annual Total	**2,746,858**	**250,992**	**113,054**

R3.j Quarterly average CO ppm concentration corrected to 7% O_2 for EU2 boiler, excluding startups and shutdowns:

Q4 2023	170
Calendar Year Average	169

R3.k EU1 - OPACITY (Unit #1 Boiler)
EU1 was retired on December 31, 2020.

R3.k EU2 - OPACITY (Unit #2 Boiler)
There were no unexcused periods under the standards of requirement 15 of the Title V permit: "Permittee shall not cause or permit any emission which exceeds 20% opacity

based on a 6-minute average, except for one 6-minute period/hour not to exceed 27% opacity. Permittee shall not allow visible emissions to exceed 20% opacity for more than three minutes, in any one hour." There were no periods of opacity exceeding that limit other than those associated with unit startup and therefore excused.

R3.k EU3 – OPACITY (Auxiliary Boiler)
No excess opacity observed during the 4th quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU4 – OPACITY (Coal and Ash Handling)
No excess opacity observed during the 4th quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.k EU5 – OPACITY (Unit #1 Turbine Lube Oil Mist Eliminator)
Unit retired on December 31, 2020.

R3.k EU6 - OPACITY (Unit #2 Turbine Lube Oil Mist Eliminator)
No excess opacity observed during the 4th quarter of 2023. See monthly inspection reports included in response to **R3.a.**

R3.l Deviation from permit operating conditions is described in Section R1.a

Unit 1 Operating Time 0.0 hours

Unit #1 retired on December 31, 2020.

Unit 2 Operating Time: 1,842.8 hours

Unit #2 was in continuous service during the reporting period until the following:				
Unit Shutdown				
Breaker Open (Date/Time):	**11/11/23 22:32**	Breaker Closed (Date/Time):		**11/15/23 07:06**
Total Time out of service:	**80**	hours	**35**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**11/23/23 06:55**	Breaker Closed (Date/Time):		**12/01/23 13:05**
Total Time out of service:	**198**	hours	**11**	Minutes
Reason for outage	**Tube Leak Repairs**			

Unit Shutdown				
Breaker Open (Date/Time):	**12/27/23 13:48**	Breaker Closed (Date/Time):		**12/31/23 23:59**
Total Time out of service:	**106**	hours	**12**	Minutes
Reason for outage	**Tube Leak Repairs** (startup in January 2024)			

Unit #2-There were no periods of SO_2 recorded in excess of permit limits during this quarter.

Unit #2-There were no periods of NO_X recorded in excess of permit limits during this quarter.

All information required by 40 CFR 75.

SWCAA receives information required by 40 CFR 75 via ECMPS. The results of these EPA reports are mailed under a separate cover letter.

R3.m Coal sampling data as required by the second revision of BART Order 6429 are provided in the attached electronic file:
Coal_Samples_Report_Q4Y23.xlsx

Information required to be submitted electronically to Clean Air Markets Division will be submitted as required to the US EPA's ECMPS database. SWCAA will receive this data in hard copy form (compact disk).

Black Stop Diesel Generator Engine:

R3.o The hours of operation of the black stop diesel generator engine.

The black stop diesel generator has been removed from service with the retirement of EU1 on December 31, 2020.

R4 – Semi-Annual Report (Current Quarter)

Hazardous Pollutants Monitored	Sulfur dioxide (SO_2) as surrogate for Hydrogen chloride (HCl)
	Mercury (Hg)
	Filterable Particulate Matter

Hazardous Pollutant Monitored	Emission Limit
Sulfur Dioxide (SO_2) as surrogate for Hydrogen Chloride (HCl)	0.20 lb/MMBtu, 30-boiler operating day rolling average
Mercury (Hg)	1.2 lb/TBtu, 30-boiler operating day rolling average
Filterable Particulate Matter (PM) as surrogate for non-Hg HAP	0.030 lb/MMBtu, 30-boiler operating day rolling average

Monitoring Equipment in Use:

Analyte	Manufacturer	Model No
SO_2	Thermo-Fisher Scientific	43IHL
CO_2 (diluent)	Thermo-Fisher Scientific	410I
SO_2/CO_2 (common probe)	Thermo-Fisher Scientific	PRO3000HP
Mercury	M&C Products Sorbent Trap System	
Stack Gas Flow (EU1)	Sick	FLSE UHD 20SST1-A
Stack Gas Flow (EU2)	Sick	FLSE 100-H 20SST1
Data Collection	Cemtek-KVB-Enertec	NetDAHS Edge Ver. 9.2.1
Filterable PM	Quarterly Stack Testing	

Description of Operating Units:

The Centralia coal plant generates electric energy from steam-driven turbines. Pulverized coal is combusted in the boilers of the two units to create heat that generates pressurized steam used in the turbines. The two coal-fired boilers (Emissions Units - EU1 and EU2) were manufactured by Combustion Engineering and are both coal-fired steam generators, equipped with superheat and reheat tube sections, that combust pulverized coal in a divided furnace with tangential injection of pulverized coal and combustion air. The eight corners (four in each half of the split-furnace configuration) of each boiler are supplied with fuel and air by eight levels of burners, with each level supplied by one of the eight coal pulverizers. EU1 commenced commercial operation in September 1971, and EU2 in September 1972.
EU1 ceased commercial operation December 31, 2020.

Performance of CEMS Certification/Audit:

The SO_2 CMS compliance demonstration certification occurred on August 19, 2015, for both units. The Hg Sorbent Trap Systems (STS) certifications were completed on August 27, 2017 (EU1), and August 28, 2017 (EU2). Filterable Particulate Matter compliance is maintained through operational practices (less than 30% opacity with precipitators and FGDS in service) and verified through quarterly stack testing.

The most recent Relative Accuracy Test Audit (RATA) or PM stack test dates are:

SO_2 RATA	EU2	July 26, 2023
Hg STS RATA	EU2	August 1, 2023
CO_2 RATA	EU2	July 26, 2023
Stack Flow RATA	EU2 – Low Load	August 6, 2020
	EU2 – Mid Load	September 25, 2023
	EU2 – High Load	September 26, 2023
Particulate Matter Stack Testing	EU2	December 7, 2023

The CMS and emission data summaries are included in the files **MATS_Hg_CEMSUM_U2 Q4Y23.xlsx, MATS_HG_Excess_Unit2 Q4Y23.xlsx, MATS_SO2_CEMSUM_U2 Q4Y23.xlsx,** and **MATS_SO2_Excess_Unit2 Q4Y23.xlsx**. TransAlta did not have any emissions in excess of the limits stated above.

TransAlta certifies that no changes were made to the CEMS, processes, or controls in the reporting period.

TransAlta certifies that there were no out of control periods during this reporting period.

Unit Operating Time:

The unit operating times are noted above before each unit shutdown description **(Section R3.I)**.

Fuel Usage:

During normal operations, TransAlta burns subbituminous coal from the Powder River Basin region. For unit startups, TransAlta burns #2 Fuel Oil. The maximum storage capacity is 200,000 gallons, provided by two 100,000 gallon storage tanks. The maximum hourly heat input rate, based on the maximum fueling capacity, is 554.3 MMBtu/hr. The usage is noted above in section **R3.i**. TransAlta did not burn a new fuel in this reporting period.

Boiler Tuning (40 CFR 63 DDDDD):

In 2022, GE Steam Power and Taber International were contracted to conduct extensive boiler and pulverizer testing and tuning for both units. The 2022 outage included inspection of all EU2 burner tips, nozzles, pins, and Surface Over-Fire Air (SOFA) and Close-Coupled Over-Fire Air (CCOFA) registers, with repairs or replacement as necessary. The firebox was visually inspected during operation and included tuning of the neural network combustion control system and damper operations. The full report was submitted to the SWCAA in October 2022 and is available upon request.

Deviation from Work Practice Standards:

Any deviations from normal work practice standards are noted in this report or in the included downtime summary files, **MATS_HG_Downtime_Unit2 Q4Y23.xlsx** and **MATS_SO2_Downtime_Unit2 Q4Y23.xlsx**.

Deviations from Permit Conditions:

Please refer to Section R1 of this report.

Opacity Monitor Downtime:

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 21** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
10/09/23	12:31 – 13:21	51	Quarterly PM
	Total Mins.		

Records of emissions evaluated during periods of unit operation throughout the reporting period by the **Unit #2, Duct 22** opacity monitoring system are available except as noted below.			
DATE	TIME OUT-OF-SERVICE	Mins.	ACTIVITY
10/09/23	09:21 – 10:23	63	Quarterly PM
	Total Mins.		

EPA Method 9 Monitoring:

All method 9 monitoring reports and Method 9 certifications are included in the attached inspection sheets: Titled "**TransAlta Centralia Generation Monthly Title 5 Air Permit Inspection**."

Other Reports:

Data records to report compliance with the BART Emissions Limitations per Order No. 6426 have been incorporated into **MainPlant_Emissions_Q4Y23.xlsx**. Coal analysis data has been provided in **Coal_Samples_Report_Q4Y23.xlsx**. Silo ventilation run time readings for the hydrated lime and activated carbon are provided in **Silo Readings Q4Y23.xlsx.**

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 10/19/2023 **Weather Conditions:** Partly cloudy

Inspector's Name: Jennifer Hilzer **Signature:** [signature]

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	9:29	South of Journal Shop	N/A	N	0	0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	9:36	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	9:36	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	9:39		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	9:40	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	9:40	South of Coal Storage	N/A	N		20%	" "
EU-4	Conveyor 3 & coal transfer	10:00	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:04	East of Coal Pile		N		0%	NOT RUNNING
EU-18	CUF Emergency Diesel Sump Pump Engine	10:06	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:23	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:19		N/A	N		20%	NO VEHICLES
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:27	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:30	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:30	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site	10:37		N/A	N		20%	
EU-22	Sorbent Silo #2	10:37	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	10:44	Top of 6A & 6B conveyor East side of Power Building		N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	10:47	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	10:49	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	10:50	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	11:24	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / (No)	Comments
Unit #2	ON LINE	2	N	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: (A) / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	ON LINE	A	~~8.5~~ 6" H2O	No	

ESP Status:

Unit #2

LODGE-COTTRELL
21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
				NO XFMR	
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

NO XFMR

LODGE-COTTRELL
22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

OOS

Air Flow

6.25 is O.K.

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

OOS

21
KOPPERS

22
KOPPERS

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	10/19/2023
Observer Name (Print):	JENNIFER HELZER
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F23-024 EXP: 14 MAR 2024

Start Time: 9:51 Stop Time: 9:58

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

Average Opacity:	0
Range Of Opacity:	0

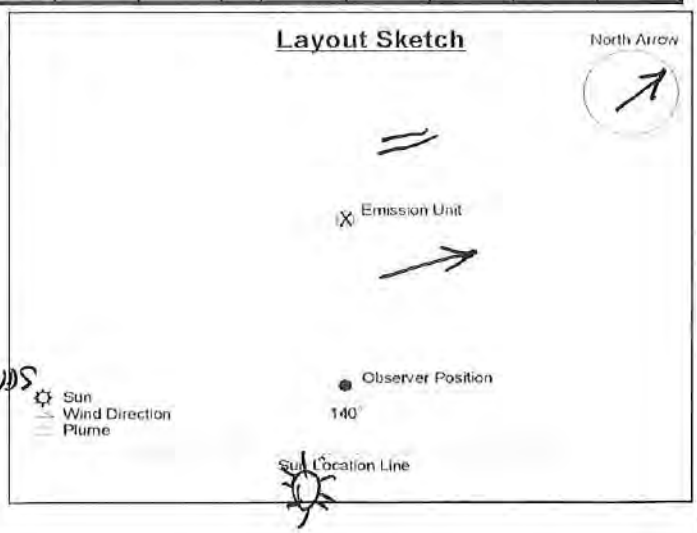
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	ATOP
Distance From Observer:	1050' W
Direction From Observer:	NW

Describe Emissions:	ATTACHED STEAM PLUME
Emission Color:	WHITE

Describe Background:	SKY
Background Color:	OVERCAST BLUE W/WHITE GREY CLOUDS

Sky Conditions:	OVERCAST	Temperature:	52 F
Wind Speed:	3 m/hr	Relative Humidity:	92°
Wind Direction:	N	Wet Bulb Temp.:	

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off Line
Control Equipment:	None
Operating Mode:	N/A

Date:	10/19/2023
Observer Name (Print):	JENNIFER HILLER
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F23-02 EXP: 14 MAR 2024

Start Time: Stop Time:

Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45	Min.	Seconds 0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
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14					34					54				
15					35					55				
16					36					56				
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18					38					58				
19					39					59				
20					40					60				

Average Opacity:	
Range Of Opacity:	

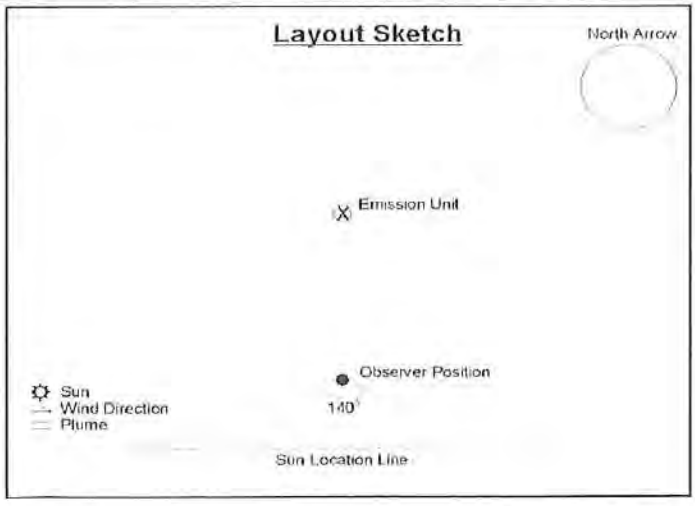
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	10/19/2023
Observer Name (Print):	JENNIFER Hilzer
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-FZB-024 EXP: 14 MAR 2024

Start Time: 11:00 Stop Time: 11:06

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1	0	0	0	0	21					41				
2	0	0	0	0	22					42				
3	0	0	0	0	23					43				
4	0	0	0	0	24					44				
5	0	0	0	0	25					45				
6	0	0	0	0	26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
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14					34					54				
15					35					55				
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18					38					58				
19					39					59				
20					40					60				

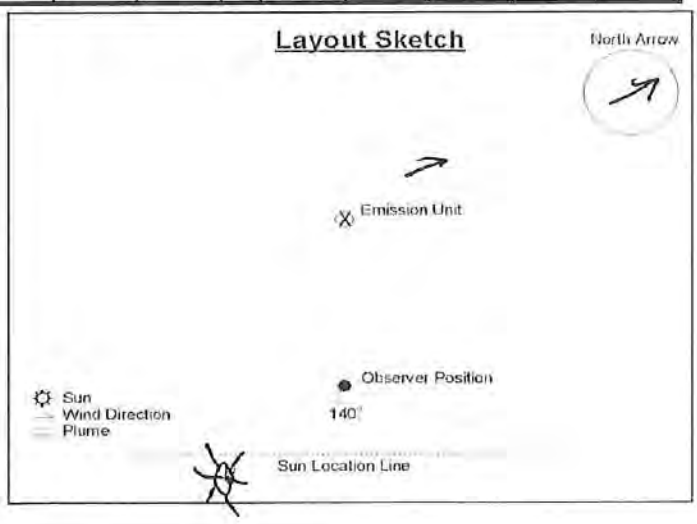
Average Opacity:	0
Range Of Opacity:	0

Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	25'
Direction From Observer:	NW

Describe Emissions:	NONE VISIBLE
Emission Color:	N/A
Describe Background:	BLUE/GREY
Background Color:	PARTLY CLOUDY

Sky Conditions:	PARTLY CLOUDY	Temperature:	58°F
Wind Speed:	4 mi/hr	Relative Humidity:	84%
Wind Direction:	N	Wet Bulb Temp.:	

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 28 Nov 2023 **Weather Conditions:** Very Cold, Mostly Sunny, Breezy

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	12:53	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	12:56	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Blending System	12:56	Southwest of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Storage Pile	12:57		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	12:57	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	12:57	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 3 & coal transfer	13:01	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	13:03	East of Coal Pile	Y	N		0%	
EU-18	CUF Emergency Diesel Sump Pump Engine	13:05	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	13:13	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	13:12		N/A	N		20%	NO TRUCK/Railcar
EU-4	Fly Ash bins vents 11, 12, 13, & 14	13:13	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	13:13	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	13:13	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	13:17	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	12:56	Top of 6A & 6B conveyor East side of Power Building	N/A	N		20%	NOT RUNNING

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	13:28	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	13:28	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	13:28	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	13:40	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	OFF LINE	0	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	OFF LINE	—	—	No	

ESP Status:
Deenergized

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N		5.1 S		5.2 N		5.2 S		5.3 N		5.3 S		5.4 N		5.4 S	
4.1 N		4.1 S		4.2 N		4.2 S		4.3 N		4.3 S		4.4 N		4.4 S	
3.1 N		3.1 S		3.2 N		3.2 S		3.3 N		3.3 S		3.4 N		3.4 S	
2.1 N		2.1 S		2.2 N		2.2 S		2.3 N		2.3 S		2.4 N		2.4 S	
1.1 N		1.1 S		1.2 N		1.2 S		1.3 N		1.3 S		1.4 N		1.4 S	

Air Flow

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	Off
Control Equipment:	ESP / FGD
Operating Mode:	Off

Date:	28 November 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
10					30					50				
11					31					51				
12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

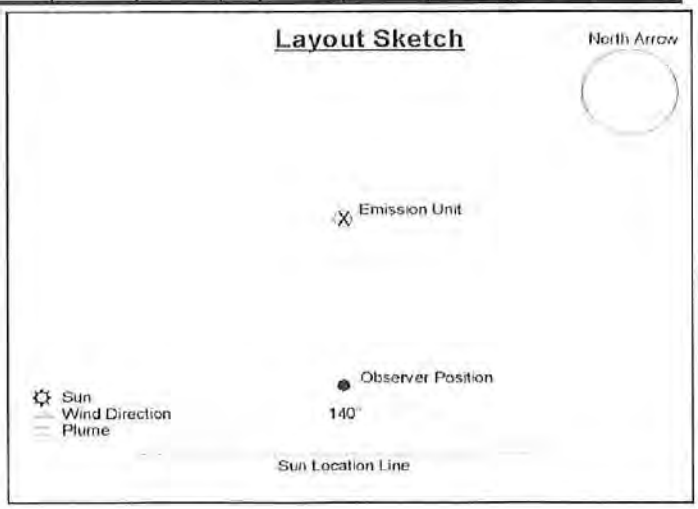
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

transalta

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 3 - Aux Boiler**
Operating Mode:	**Off**
Control Equipment:	**None**
Operating Mode:	**N/A**

Date:	28 November 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
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13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

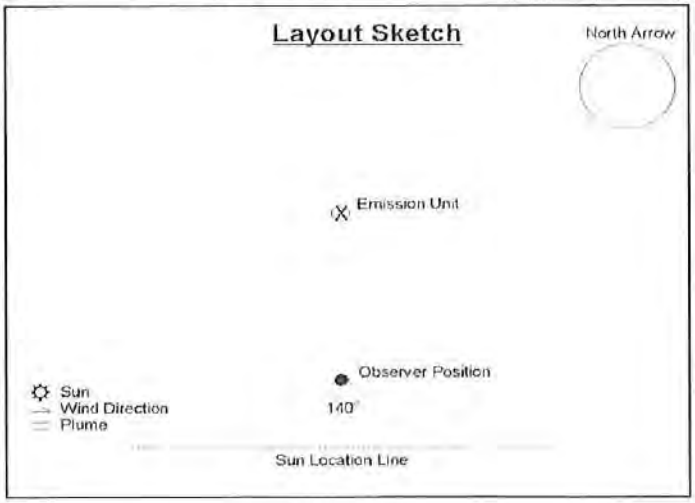
Describe Emission Unit:	**Auxiliary Boiler**
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**Off**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**Off**

Date:	28 November 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
4					24					44				
5					25					45				
6					26					46				
7					27					47				
8					28					48				
9					29					49				
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12					32					52				
13					33					53				
14					34					54				
15					35					55				
16					36					56				
17					37					57				
18					38					58				
19					39					59				
20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

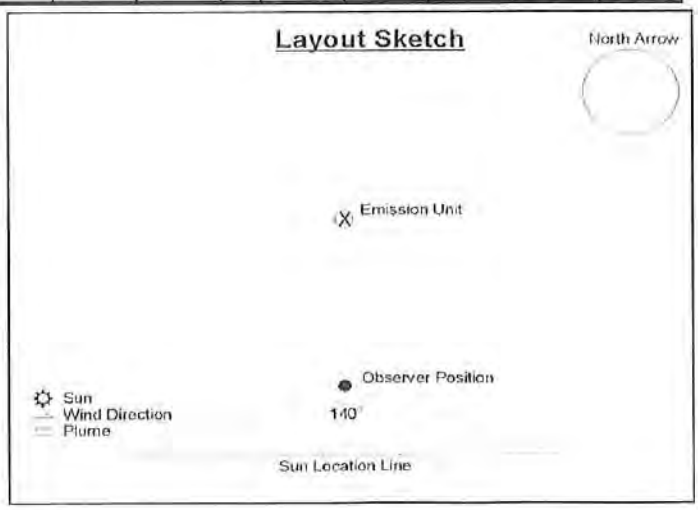
Describe Emission Unit:	**Unit 2 Turbine Lube Oil**
Height Above Ground:	90'
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:
Emission Color:

Describe Background:
Background Color:

Sky Conditions:	Temperature:
Wind Speed:	Relative Humidity:
Wind Direction:	Wet Bulb Temp.:

Layout Sketch



Comments:

TransAlta Centralia Generation - Monthly Title V Air Permit Inspection

Date: 21 DEC 2023 **Weather Conditions:** Cold, Some Fog, Occassional Wind

Inspector's Name: Sam Bocook **Signature:** Sam Bocook

Completion of Monthly Checklist required for Air Operating Permit SW98-8; Monitoring Requirements M1, M2, M3, M5

Inspect the equipment to confirm that it is operating according to manufacture specifications and/or good maintenance practices. Except where a six-minute Method 9 observation is indicated, observe each unit for emissions at intervals of 15 seconds for 1 minute. Record whether emissions are visible in the provided column. If emissions were visible record the average of the 4 observations at 15-scond intervals. Whenever visible emissions, including fugitive emissions, in excess of the opacity limit are observed, corrective action shall be initiated within 2 hours. Confirm all associated equipment and pollution control devices are operating properly. Assure limitation of fugitive emissions by assuring reasonable precautions and good work practices are being employed to minimize them. These practices include; applying water sprays and/or dust suppressants to coal transfer points; applying water sprays to dusting roads and traffic areas; shielding spills of dusty material from wind and/or applying water sprays. In most cases, the emission unit is itself a pollution control device or the control device is integral to the emission unit's operation. In cases where the emission unit could be operated without these controls and dust suppression system must be verified, indicate whether the control device is operating properly.

When emissions are in excess of the limit specified or pollution control devices are found to be not-operating/malfunctioning, a comment must be entered along with taking corrective action. If the anomaly was caused by failed/malfunctioning equipment, enter the work order number utilized for the repair. For other cases or entering additional information, add a note reference number and note per the examples below.
Example: "See Note 1" to the "**W.O. No. and/or Comments**" block.
Example: "1. Contacted Yard Crew, Water truck dispatched to reduce road dust" to "**Notes**" below

Notes (if additional room required, reference and use back of page):

Not ideal conditions for M9 observations, but it is my last working day of the year. Did the best I could.

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. and/or Comments
EU-13	Journal Shop Bag-house	09:33	South of Journal Shop	N/A	N		0%	
EU-4	Conveyor 5, reclaim coal transfer and dust suppression	09:53	Southwest of Coal Storage	OFF	N		20%	NOT RUNNING
EU-4	Coal Blending System	09:53	Southwest of Coal Storage	N/A	N		20%	
EU-4	Coal Storage Pile	09:52		N/A	N		20%	
EU-4	Conveyor 4 & coal transfer	09:55	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Stacker-Reclaimer	09:55	South of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Conveyor 3 & coal transfer	10:07	Southeast of Coal Storage	N/A	N		20%	NOT RUNNING
EU-4	Coal Unloading Facility (CUF) transfers and dust suppression	10:07	East of Coal Pile	OFF	N		0%	NO TRAIN
EU-18	CUF Emergency Diesel Sump Pump Engine	10:08	East side of CUF below Car Unloader	N/A	N		5%	NOT RUNNING
EU-4	Bottom Ash De-watering Bins 11, 12, 21, 22	10:18	East of unloading facility	N/A	N		20%	
EU-4	6050 Fly Ash Unloader	10:16		N/A	N		20%	NOT UNLOADING
EU-4	Fly Ash bins vents 11, 12, 13, & 14	10:18	Top of Fly Ash Bin	N/A	N		20%	
EU-23	Fly Ash Bin #11 Baghouse	10:19	Top of Fly Ash Bin 11	N/A	N		0%	
EU-24	Fly Ash Bin #12 Baghouse	10:19	Top of Fly Ash Bin 12	N/A	N		0%	
EU-25	Fly Ash Bin #14 Baghouse	—	Top of Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-26	Fly Ash Bin #14 Air Slide to Bin #11 Air Slide	—	South of Fly Ash Bins	N/A	—		0%	NOT IN SERVICE
EU-27	Fly Ash Bin #14 to Weigh Hopper Air Slide	—	Below Fly Ash Bin 14	N/A	—		0%	NOT IN SERVICE
EU-4	Roadways on plant site			N/A	N		20%	
EU-22	Sorbent Silo #2	10:23	South of Power Building	N/A	N		0%	
EU-4	Conveyor 6A/6B & dust suppression system	09:08	Top of 6A & 6B conveyor East side of Power Building	Y	N		20%	

Unit	Description	Time	Location	Pollution control equipment operating properly?	Visible Emissions (Y/N)	If Emissions Observed - Percent Visible Emissions	Maximum Visible Emissions Limit	W.O. No. & Comments
EU-4	Coal surge bin	09:10	10th floor – Center	N/A	N		20%	
EU-4	Coal silos bin vents 21,23,25,27	09:10	10th floor – Center South	N/A	N		20%	
EU-4	Coal silos bin vents 22,24,26,28	09:11	10th floor - South	N/A	N		20%	
EU-16	Emergency Diesel Fire Pump Engine	10:33	Raw Water Pump Building	N/A	N		5%	NOT RUNNING

Scrubber Status:

Unit	Scrubber Status: On Line / Off Line	Number of Recycle Pumps in Service	Malfunctions? Yes / No	Comments
Unit #2	On Line	2	No	

Turbine Lube Oil Mist Eliminator System:

Unit	Unit Status: On Line / Off Line	Fan in Service: A / B	Vacuum Gage Readings:	Malfunctions? Yes / No	Comments
Unit #2	On Line	A	7" H_2O	NO	

ESP Status:

Unit #2

LODGE-COTTRELL 21A

1-C N	1-C S	1-A N	1-A S	1-B N	1-B S
2-C N	2-C S	2-A N	2-A S	2-B N	2-B S
				NO XFMR	
3-C N	3-C S	3-A N	3-A S	3-B N	3-B S
4-C N	4-C S	4-A N	4-A S	4-B N	4-B S

LODGE-COTTRELL 22A

1-B N	1-B S	1-A N	1-A S	1-C N	1-C S
NO XFMR					
2-B N	2-B S	2-A N	2-A S	2-C N	2-C S
3-B N	3-B S	3-A N	3-A S	3-C N	3-C S
4-B N	4-B S	4-A N	4-A S	4-C N	4-C S

Air Flow

6.1 N	6.1 S	6.2 N	6.2 S	6.3 N	6.3 S	6.4 N	6.4 S	6.5 N	6.5 S	6.6 N	6.6 S	6.7 N	6.7 S	6.8 N	6.8 S
5.1 N	5.1 S	5.2 N	5.2 S	5.3 N	5.3 S	5.4 N	5.4 S								
4.1 N	4.1 S	4.2 N	4.2 S	4.3 N	4.3 S	4.4 N	4.4 S								
3.1 N	3.1 S	3.2 N	3.2 S	3.3 N	3.3 S	3.4 N	3.4 S								
2.1 N	2.1 S	2.2 N	2.2 S	2.3 N	2.3 S	2.4 N	2.4 S								
1.1 N	1.1 S	1.2 N	1.2 S	1.3 N	1.3 S	1.4 N	1.4 S								

Air Flow

21 KOPPERS

22 KOPPERS

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 2 - Unit 2
Operating Mode:	On Line
Control Equipment:	ESP / FGD
Operating Mode:	On Line

Date:	21 December 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	Sam Bocook
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: 09:59 Stop Time: 10:05

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
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2	0	0	0	0	22					42				
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20					40					60				

Average Opacity:	
Range Of Opacity:	

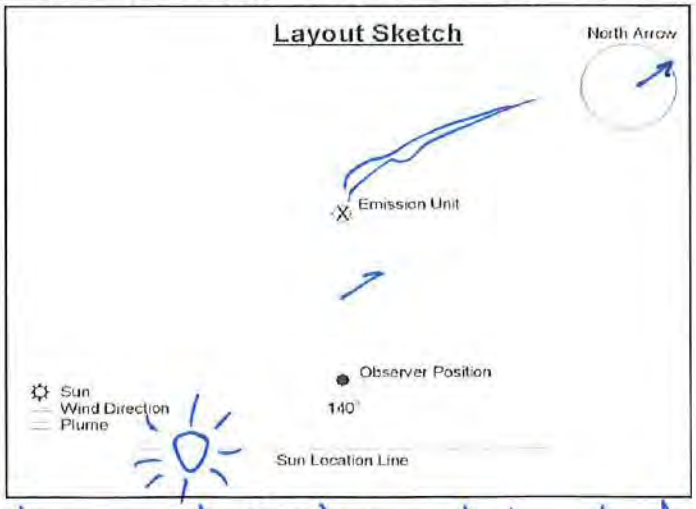
Describe Emission Unit:	Unit 2 Boiler
Height Above Ground:	470'
Height Relative To Observer:	470'
Distance From Observer:	~600'
Direction From Observer:	NW

Describe Emissions:	Attached Steam Plume
Emission Color:	White

Describe Background:	Sky
Background Color:	Hazy Blue

Sky Conditions:	Partly Cloudy	Temperature:	42°F
Wind Speed:	3 mph	Relative Humidity:	98%
Wind Direction:	N	Wet Bulb Temp.:	

Layout Sketch



Comments: Due to foggy conditions at ground level, I had to stand significantly closer than normal to make observations. Would have delayed, but this is the last working day in 2023 for me.

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	EU 3 - Aux Boiler
Operating Mode:	Off
Control Equipment:	None
Operating Mode:	N/A

Date:	21 December 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: Stop Time:

	Seconds					Seconds					Seconds			
Min.	0	15	30	45	Min.	0	15	30	45	Min.	0	15	30	45
1					21					41				
2					22					42				
3					23					43				
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15					35					55				
16					36					56				
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20					40					60				

OFF LINE

Average Opacity:	
Range Of Opacity:	

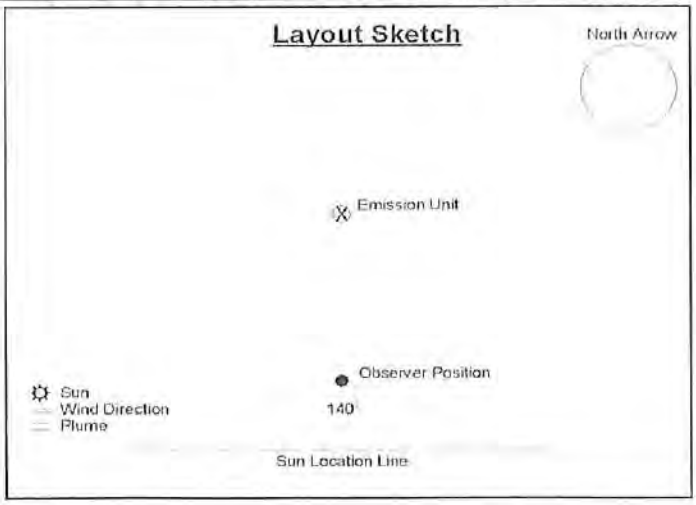
Describe Emission Unit:	Auxiliary Boiler
Height Above Ground:	
Height Relative To Observer:	
Distance From Observer:	
Direction From Observer:	

Describe Emissions:	
Emission Color:	

Describe Background:	
Background Color:	

Sky Conditions:		Temperature:	
Wind Speed:		Relative Humidity:	
Wind Direction:		Wet Bulb Temp.:	

Layout Sketch



Comments:

VISIBLE EMISSION OBSERVATION FORM

Plant Name:	TransAlta Centralia Generation LLC
Plant Location:	Centralia, Washington
Emission Unit:	**EU 6 - U2 Turbine Lube Oil**
Operating Mode:	**On Line**
Control Equipment:	**Lube Oil Mist Eliminator**
Operating Mode:	**On Line**

Date:	21 December 2023
Observer Name (Print):	Sam Bocook
Observer Signature:	
Organization:	TransAlta Centralia Generation LLC
Certified by:	Northwest Opacity Certification
Certification #	NW-F18-007 EXP: 14 MAR 2024

Start Time: 09:18 Stop Time: 09:24

	Seconds					Seconds					Seconds			
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20					40					60				

Average Opacity:	
Range Of Opacity:	

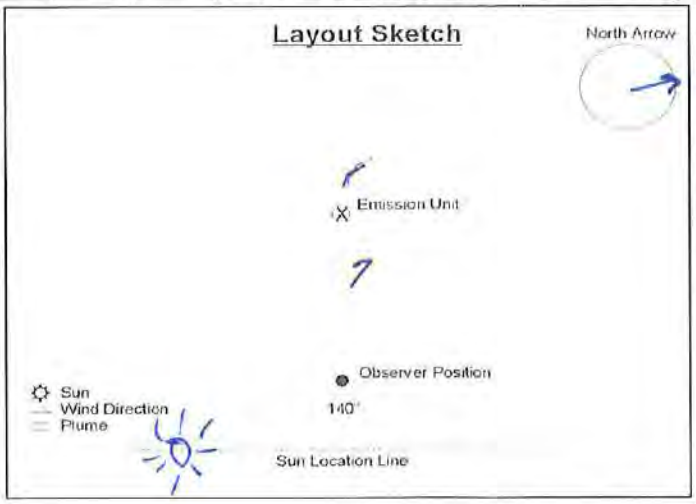
Describe Emission Unit:	Unit 2 Turbine Lube Oil
Height Above Ground:	90'
Height Relative To Observer:	10'
Distance From Observer:	20'
Direction From Observer:	NW

Describe Emissions:	None Visible
Emission Color:	N/A

Describe Background:	Clouds
Background Color:	Grey

Sky Conditions:	Cloudy	Temperature:	40°F
Wind Speed:	3 mph	Relative Humidity:	98%
Wind Direction:	N	Wet Bulb Temp.:	

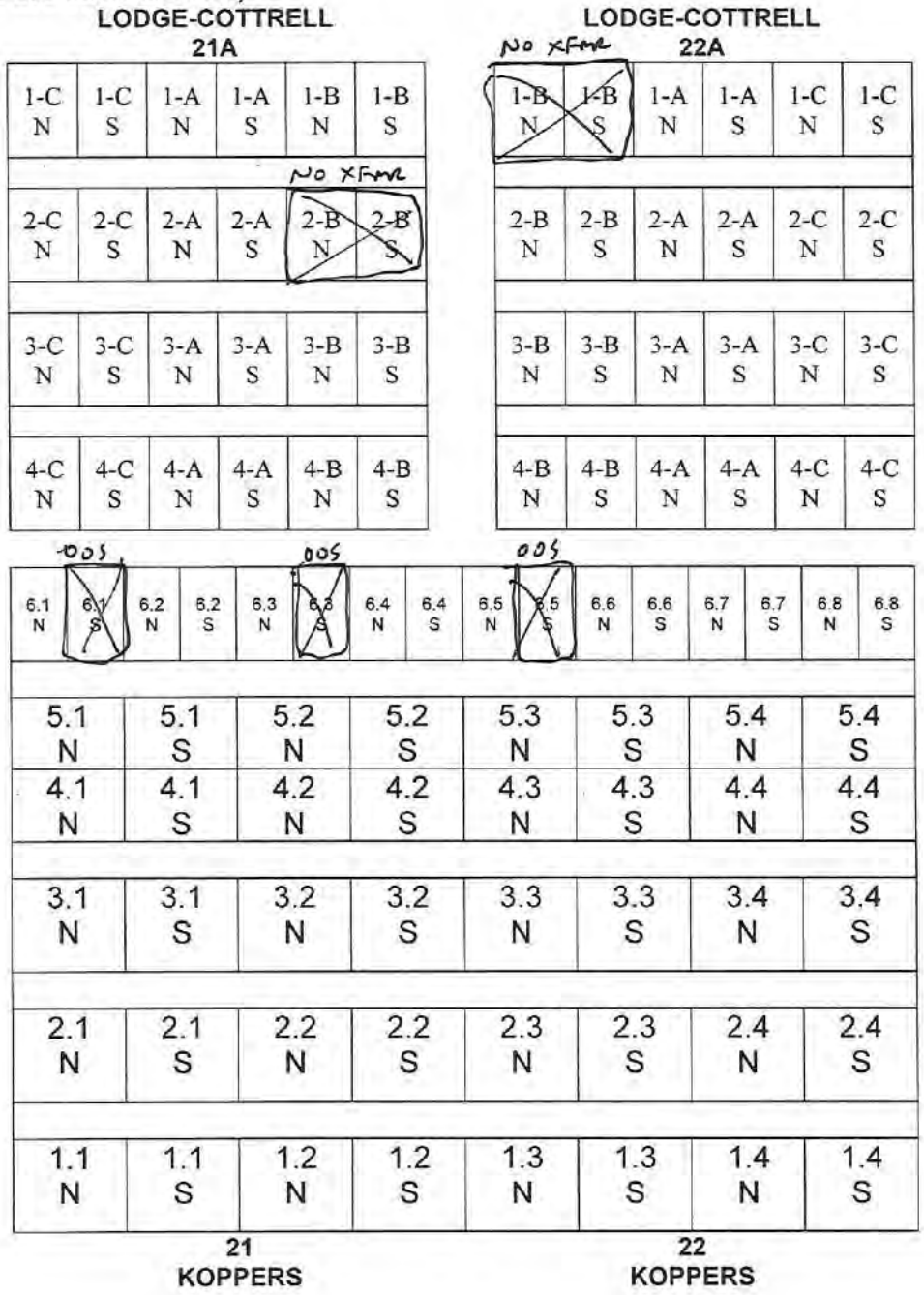
Layout Sketch



Comments:

ESP Status **(Mark all fields that are out of service)**

Date: 10-6-23



EU	Emissions Unit	Hour Meter Reading	Date		Comments	
EU4	Unit 1 Emergency Diesel Generator	2825.7	10-6-23	Record Engine Hour Meter Reading		
EU4	Unit 2 Emergency Diesel Generator	241.0	10-6-23	Record Engine Hour Meter Reading		
EU4	Emergency Diesel Fire Pump	354.7	10-6-23	Record Engine Hour Meter Reading		

Printed Name: Graham

Signature:

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Skeeter Stanley **Signature:** Skeeter Stanley

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	4578	10-3-23	Record Engine Hour Meter Reading	
EU4	Portable Generator TA-01 (GEN-01)	1020	10-3-23	Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985	10-3-23	Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (5872)	3147	10-3-23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205	10-3-23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-04)	3773	10-3-23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light – Skid (TA-06)	~~00003~~	~~10-3-23~~	Record Engine Hour Meter Reading	
EU4	Pressure Washer Skid (PRW-01)	00003 ~~982~~	10-3-23	Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	982	10-3-23	Record Engine Hour Meter Reading	
~~EU4~~	~~Portable Welder Miller Big 40 (WLD-19)~~	~~982~~	~~10-3-23~~	~~Record Engine Hour Meter Reading~~	
EU4	Diesel Welder (5947)	3879	10-3-23	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	3354	10-3-23	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	6972	10-3-23	Record Engine Hour Meter Reading	

TransAlta Centralia Generation - Monthly Title V Air Permit Tracking

Printed Name: Chad Gross **Signature:**

EU	Emissions Unit	Hour Meter Reading	Date of Reading		Comments
EU4	CUF Emergency Diesel sump pump (PMP-06)	1863.3	11/6/23	Record Engine Hour Meter Reading	Standby
EU4	Portable Generator TA-01 (GEN-01)	1026.9	11/6/23	Record Engine Hour Meter Reading	
EU4	Portable Air Compressor (CMP-02)	1985.6	11/6/23	Record Engine Hour Meter Reading	OOS
EU4	Portable Air Compressor (5872)	315.8	11/6/23	Record Engine Hour Meter Reading	
EU4	Portable Flood Light (TA-03)	3205.5	11/6/23	Record Engine Hour Meter Reading	will not start
EU4	Portable Flood Light (TA-04)	3773.8	11/6/23	Record Engine Hour Meter Reading	will not start
EU4	Portable Flood Light – Skid (TA-06)	4578.7	11/6/23	Record Engine Hour Meter Reading	will not start
EU4	Pressure Washer Skid (PRW-01)	3.7	11/6/23	Record Engine Hour Meter Reading	
EU4	Pressure Washer Trailer (PRW-02)	983.0	11/6/23	Record Engine Hour Meter Reading	
EU4	Portable Welder Miller Big 40 (WLD-19)	982.3	11/6/23	Record Engine Hour Meter Reading	will not start
EU4	Diesel Welder (5947)	3879.7	11/6-23	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-05)	3354.1	11/6/23	Record Engine Hour Meter Reading	
EU4	Godwin Pump (PMP-07)	6982.1	11/6/23	Record Engine Hour Meter Reading	

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

Hydrated Lime Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: -1.0 inches of Water Column.

Run Time Meter Reading: 04263.7
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 10/04/23

Observation Time (24 Hr Clock): 09:45

Observer's Signature: Olivia Clifford

Observer's Name (print): OLIVIA CLIFFORD

Employee Number: 108630

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

Hydrated Lime Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: -1.0 inches of Water Column.

Run Time Meter Reading: 04263.7
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 10/20/23

Observation Time (24 Hr Clock): 10:00

Observer's Signature: Olivia Clifford

Observer's Name (print): OLIVIA CLIFFORD

Employee Number: 108630

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

Storage Silo Dust Collector Observation

Per Title 5 Operating Air Permit SW98-8, observe and record the differential pressure across the Storage Silo Dust Collector. This observation must be performed each time during which loading operations occur.

Name of Silo observed: (circle one)

(Hydrated Lime) Unit 1 Activated Carbon Unit 2 Activated Carbon

Maximum Observed Differential Pressure: 4 inches of Water Column.

Run Time Meter Reading: 04265.3
(Record at the end of the loading operation)

Observation Made (MM/DD/YY): 11-22-23

Observation Time (24 Hr Clock): 10:18

Observer's Signature: Eddie N Tobin

Observer's Name (print): Eddie Tobin

Employee Number: 104639

When the observation has been completed, return this form to the Environmental Department for recording and record retention.

Note: Ensure the loading system is shutdown at the end of the loading operation.

EXHIBIT 11-12

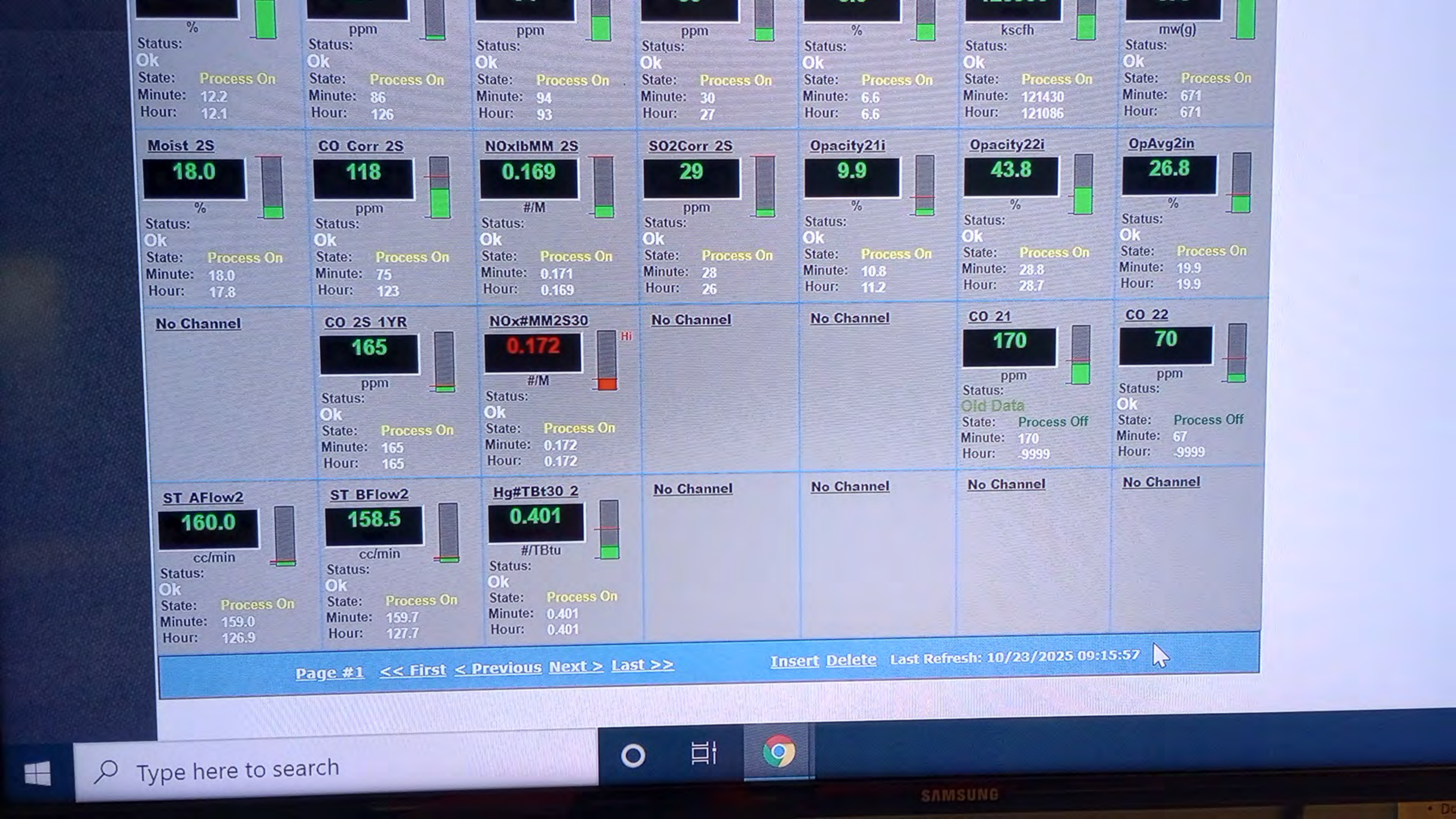
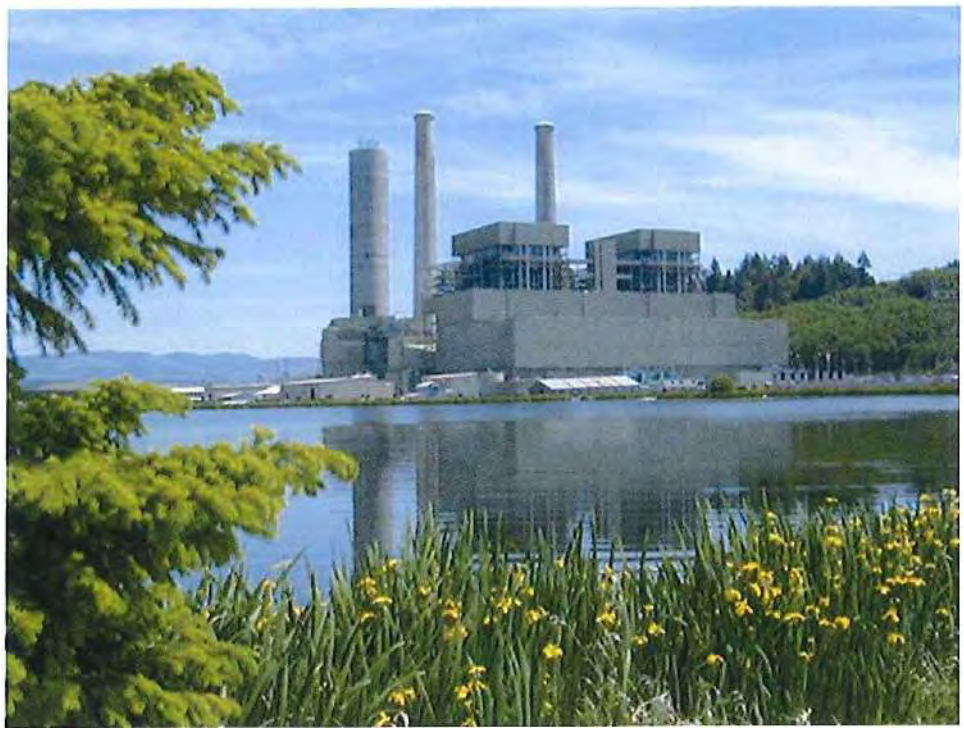

%
Status:
Ok
State: Process On
Minute: 12.2
Hour: 12.1
ppm
Status:
Ok
State: Process On
Minute: 86
Hour: 126
ppm
Status:
Ok
State: Process On
Minute: 94
Hour: 93
ppm
Status:
Ok
State: Process On
Minute: 30
Hour: 27
%
Status:
Ok
State: Process On
Minute: 6.6
Hour: 6.6
kscfh
Status:
Ok
State: Process On
Minute: 121430
Hour: 121086
mw(g)
Status:
Ok
State: Process On
Minute: 671
Hour: 671
Moist 2S
18.0
%
Status:
Ok
State: Process On
Minute: 18.0
Hour: 17.8
CO Corr 2S
118
ppm
Status:
Ok
State: Process On
Minute: 75
Hour: 123
NOxlbMM 2S
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#/M
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Ok
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Minute: 0.171
Hour: 0.169
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ppm
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Ok
State: Process On
Minute: 28
Hour: 26
Opacity21i
9.9
%
Status:
Ok
State: Process On
Minute: 10.8
Hour: 11.2
Opacity22i
43.8
%
Status:
Ok
State: Process On
Minute: 28.8
Hour: 28.7
OpAvg2in
26.8
%
Status:
Ok
State: Process On
Minute: 19.9
Hour: 19.9
No Channel
CO 2S 1YR
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ppm
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Ok
State: Process On
Minute: 165
Hour: 165
NOx#MM2S30
0.172
Hi
#/M
Status:
Ok
State: Process On
Minute: 0.172
Hour: 0.172
No Channel
No Channel
CO 21
170
ppm
Status:
Old Data
State: Process Off
Minute: 170
Hour: -9999
CO 22
70
ppm
Status:
Ok
State: Process Off
Minute: 67
Hour: -9999
ST AFlow2
160.0
cc/min
Status:
Ok
State: Process On
Minute: 159.0
Hour: 126.9
ST BFlow2
158.5
cc/min
Status:
Ok
State: Process On
Minute: 159.7
Hour: 127.7
Hg#TBt30_2
0.401
#/TBtu
Status:
Ok
State: Process On
Minute: 0.401
Hour: 0.401
No Channel
No Channel
No Channel
No Channel
Page #1 << First < Previous Next > Last >>
Insert Delete
Last Refresh: 10/23/2025 09:15:57
Type here to search
SAMSUNG

EXHIBIT 11-13

TRANSALTA CENTRALIA U2 Boiler

40 CFR 63 DDDDD TUNE-UP REPORT



October 2022

Prepared by:
David Raastad
Manager
Environmental
& Compliance

Energizing the future.

Tune-up Report – 40 CFR 63.10021(e)

Date: October 3, 2022

Prepared By: David Raastad

Re: Tune-up Report – 40 CFR 63.10021(e)

Summary:
TransAlta Centralia staff have prepared this report to meet the regulatory requirements of 40 CFR 63.100021(e).

Specific Requirements:
The requirements listed below are those required by 40 CFR 63.10021(e)(1) through (9). This report documents how each section was met, the data that was collected, reviews that were conducted, and any actions that were/are required to ensure that Centralia Unit 2 operates in compliance with applicable environmental legislation and operating parameters.

Requirement (1)
As applicable, inspect the burner and combustion controls, and clean or replace components of the burner or combustion controls as necessary upon initiation of the work practice program and at least once every required inspection program.

Requirement (2)
As applicable, inspect the flame pattern and make any adjustments to the burner combustion controls necessary to optimize the flame pattern. The adjustments should be consistent with the manufacturer's specifications, if available, or in accordance with best combustion engineering practice for that type of burner.

Requirement (3)
As applicable, observe the damper operations as a function of mill and/or cyclone loadings, cyclone and pulverizer coal feeder loadings, or other pulverizer and coal mill performance parameters, making adjustments and effecting repair to dampers, controls, mills, pulverizers, cyclones, and sensors.

Requirement (4)
As applicable, evaluate windbox pressures and air proportions, making adjustments and effecting repair to dampers, actuators, controls, and sensors.

Requirement (5)
Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly. Such inspection may include calibrating excess 0_2 probes and/or sensors, adjusting overfire air systems, changing software parameters, and calibrating associated actuators and dampers to ensure that the systems are operated as designed. Any component out of calibration, in or near future, or in a state that is likely to negate combustion optimization efforts prior to the next tune-up, should be corrected or repaired as necessary.

Requirement (6)
Optimize combustion to minimize generation of CO and NOx. This optimization should be consistent with the manufacturer's specifications, if available, or best combustion engineering practice for the applicable burner type. NOx optimization includes burners, overfire air controls, concentric firing system improvements, neural network or combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles, and add-on controls such as CO optimization includes burners, overfire air controls, concentric firing system improvements, neural network and combustion efficiency software, control systems calibrations, adjusting combustion zone temperature profiles.

Requirement (7)

While operating at full load or the predominantly operated load, measure the concentration in the effluent stream of CO and NOX in ppm, by volume, and oxygen in volume percent, before and after the tune-up adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). You may use portable CO, NOX and 02 monitors for this measurement. EGU's employing neural network optimization systems need only provide a single pre- and post-tune-up value rather than continual values before and after each optimization adjustment made by the system.

Requirement (8)

Maintain on-site and submit, if requested by the Administrator, an annual report containing the information in paragraphs (e)(1) through (e)(9) of this section including:

(i) The concentrations of CO and NOX in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems.

(ii) A description of any corrective actions taken as a part of the combustion adjustment; and

(iii) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period.

Requirement (9)

Report the dates of the initial and subsequent tune-ups as follows:

(i) If the first required tune-up is performed as part of the initial compliance demonstration, report the date of the tune-up in hard copy (as specified in 63.10030) and electronically (as specified in 63.10031). Report the date of each subsequent tune-up electronically (as specified in 63.10031).

(ii) If the first tune-up is not conducted as part of the initial compliance demonstration, but is postponed until the next unit outage, report the date of that tune-up and all subsequent tune-ups electronically, in accordance with 63.10031.

Compliance Documentation:

The information contained in this section document how TransAlta Centralia has met the specific compliance requirements noted above.

Requirement (1)

In April 2022 the U2 boiler was fully scaffolded internally. This allowed for an up-close inspection of the internal boiler components. All burner tips, nozzles, pins, SOFA and CCOFA registers (tips) on U2 were inspected and repaired or replaced as required. See Attachment A & C (combined).

Requirement (2)

Flame patterns were inspected for Unit 2 by a qualified GE Steam Power field engineer, and an engineer from Taber International, the OEM of the combustion optimization system/ neural network at full and varying loads. Adjustments were made to the burners and controls as necessary and are recorded in attachment A & C (combined) of this report.

Requirement (3)

Requirement 3 was done in conjunction with requirement 2 by GE Steam Power and Taber International. Internal inspections of 21 and 22 air preheaters were performed by TransAlta maintenance personnel and the air preheater seals, sector plates and baskets were found to be in good condition. The Air Preheaters were overhauled in 2018. Because the GE Steam Power and Taber International tuning was a collaborative effort, both reports are combined under one tab in A & C.

Requirement (4)

As noted in Requirement (3) above, damper operations were evaluated and are currently in proper operating condition. Documentation of these damper inspections are included as Attachment B. We have also included a list of maintenance work orders since the last boiler tune-up report.

Of note as stated in the reports from Taber and GE Steam Power, the ID fans are delivering maximum air during high outdoor ambient temperatures. This is indicating duct leaks downstream of the boiler allowing the fans to draw in ambient air reducing their available capacity to deliver maximum draw on the boiler. This issue will be addressed during the Spring 2023 outage when an internal duct inspection and possible repairs can be addressed.

Requirement (5)

As part of the required tune-up, TransAlta Centralia calibrated all 0^2 probes. Documentation of these calibrations (and inspections) are contained in Attachment D. As noted in Requirement (3) above, dampers were evaluated and are currently in proper operating conditions. Documentation of these damper inspections (August and September) are included as Attachment B. Operating software is up to date for current operations. No components are out of calibration, and currently no components are in a state that is likely to negate combustion optimization.

Requirement (6)

TransAlta Centralia continually operates its equipment to minimize generation of CO and NOx and operate in compliance with all operating parameters. Centralia continually operates with low NOx burners. As noted in the various requirements above and documented Attachments (A-D).

Requirement (7)

Centralia utilizes Continues Emissions Monitor Systems (GEMS) to monitor various boiler outputs including CO and NOx, Data for August and September are included as Attachment E. New CEMs were installed during the 2022 outage to guarantee better reliability and maintainability through the end of the operating life of the plant.

Requirement (8)

This report will be maintained on-site (filed) and shall be submitted, if requested. In addition to the information noted above and contained in Attachments (A-D), this report notes:

(iv) The concentrations of CO and NOX in the effluent stream in ppm by volume, and oxygen in volume percent, measured before and after an adjustment of the EGU combustion systems (Attachment E)

(v) A description of any corrective actions taken as a part of the combustion adjustment (Attachment F)

(vi) The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period (Attachment G).

Requirement (9)

Report the dates of the initial and subsequent tune-ups as follows:

(iii) This is TransAlta Centralia's third tune-up report. The date of this tune-up report shall be reported electronically (as specified in 63.10031).

(iv) The last tune up report was dated 10/29/2018.

Attachment A & C

TRANSALTA

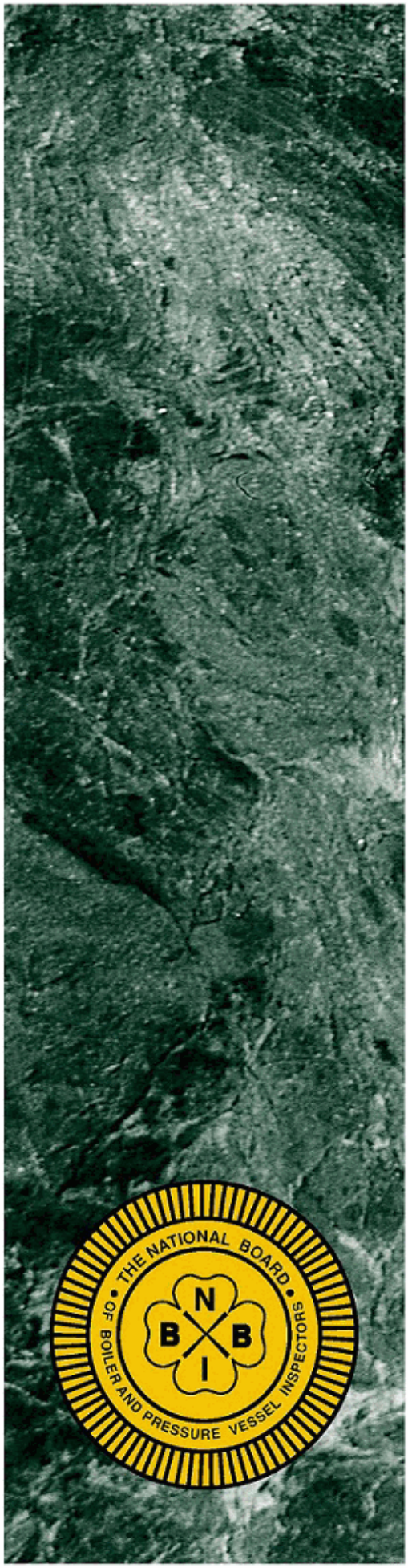
CENTRALIA U2
SPRING OUTAGE
INSPECT and REPAIR



-JOB BOOK-

717103-WWA

SPRING 2022



THE NATIONAL BOARD
OF
BOILER & PRESSURE VESSEL INSPECTORS

Certificate of Authorization

This is to certify that

APComPower, Inc.
3213 Pasadena Blvd.
Pasadena, Texas 77503
United States

Acceptable Abbreviation: APCP

is authorized to use the R Symbol in accordance with the provisions of the National Board Inspection Code and NB-415, Accreditation of "R" Repair Organizations.

All activities within the scope of this Authorization shall be controlled by the above location.

The scope of this Authorization is limited to:

Metallic
Repairs and Alterations
At
Field Locations

Certification Number: 3

Issue Date: February 14, 2022

Expiration Date: February 27, 2025

Executive Director

TRANSALTA

CENTRALIA U2
SPRING OUTAGE
INSPECT and REPAIR



-JOB BOOK-

717103-WWA

SPRING 2022

FORM R-1 REPORT OF REPAIR

in accordance with provisions of the *National Board Inspection Code*

TT (Authorized Rep. initials)

JaD (Inspector's initials)

N/A (Form "R" Registration no.)

717103-WWA (P.O. no., job no., etc.)

1. WORK PERFORMED BY: APComPower,Inc. (name of repair organization)
   3213 Pasadena Blvd. Pasadena, Texas 77503 (address)
2. OWNER: TransAlta (name)
   110 12th Avenue Southwest, Calgary Alberta, Canada T2R0G7 (address)
3. LOCATION OF INSTALLATION: Centralia Steam Plant (name)
   913 Big Hanaford Rd. Centralia, WA 98531 (address)
4. ITEM IDENTIFICATION: Boiler (boiler, pressure vessel, or piping) NAME OF ORIGINAL MANUFACTURER: Combustion Engineering
5. IDENTIFYING NOS: 20897 (mfg. serial no.) | 20897 (National Board no.) | 24001-72W (jurisdiction no.) | Unit 2 (other) | 1972 (year built)
6. NBIC EDITION/ADDENDA: 2021 (edition) ---- (addenda)

   Original Code of Construction for Item: ASME Section I (name / section / division) 1968 (edition / addenda)

   Construction Code Used for Repair Performed: ASME Section I (name / section / division) 2021 (edition / addenda)
7. REPAIR TYPE: ☑ welded ☐ graphite pressure equipment ☐ FRP pressure equipment ☐ DOT
8. DESCRIPTION OF WORK: ☑ Form R-4, Report Supplementary Sheet is attached ☐ FFSA Form (NB-403) is attached (use Form R-4, if necessary))

   Replaced ~ 4' length of 2.5" OD x .280 MW SA 210-A1 Steam Cooled Wall tubes on the Front wall of the boiler back-pass area. Tubes replaced were numbers 3&4, 7&8, 10 through 20, 23 through 90, 92 through 95, 97 through 108, 111 through 114, 116 through 121, 123 through 156, 158 through 167, and 176 through 179. Counting from the left wall toward the right. Tubes were cut at approximate elevation 166'-3" to 170'-3" from grade and replaced with like and kind material using WPS GTA-SMA 3.3V-300 Rev 11. - Continued on R-4

   N/A (Liquid, Pneumatic, Vacuum, Leak) Pressure Test, if applied * psi MAWP 2990 psi
9. REPLACEMENT PARTS: (Attached are Manufacturer's Partial Data Reports or Form R-3's properly completed for the following items of this report): (name of part, item number, data report type or Certificate of Compliance, mfg's. name and identifying stamp)

   Bifurcated Tubes, Item 6(b), Form P-4, Metro Boiler Tube Company, Inc., "S" Designator No. 25,823, S/N & P-4 ID No. FC22-172.
10. REMARKS:

    * NDE as Retest (PT/MT- 5 Star Testing- IIA Facility Services)

N/A
(Form "R" Registration no.)

717103-WWA
(P.O. no., job no., etc.)

CERTIFICATE OF COMPLIANCE

I, Thomas Tucker, certify that to the best of my knowledge and belief the statements made in this report are correct and that all material, construction, and workmanship on this Repair conforms to the *National Board Inspection Code*. National Board "**R**" *Certificate of Authorization* No. 3 Expiration date: Feburary 27, 2025

Repair Organization: APComPower,Inc.

Signed: Thomas Tucker
(authorized representative)

Date: June 28, 2022

CERTIFICATE OF INSPECTION

I, James Doran, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and certificate of competency, where required, issued by the Jurisdiction of Washington State and employed by The Hartford Steam Boiler Inspection and Insurance Company of Hartford, CT have inspected the work described in this report on June 28, 2022 and state that to the best of my knowledge and belief, this work complies with the applicable requirements of the *National Board Inspection Code*. By signing this certificate, neither the undersigned nor my employer makes any warranty, expressed or implied, concerning the work described in this report. Furthermore, neither the undersigned nor my employer shall be liable in any manner for any personal injury, property damage, or loss of any kind arising from or connected with this inspection.

Commissions: NB 12571RN / WA12571W
(National Board and Jurisdiction no. including endorsement)

Signed: James A Doran
(inspector)

Date: June 28, 2022

2022 Burner Repair's Made to Unit 2

Corners A,B,C,D,E,F,G,H see attached for details. 64 BURNERS



6- New Burner Nozzle tips replaced.



13 - In Good condition with ceramic tile intact burner nozzles with tips were swapped out with the criticality damaged ones.

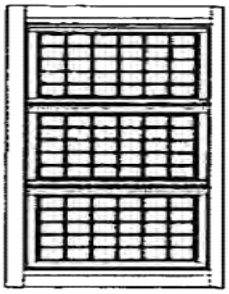


All other Air tips and Burner Tips were repaired by welding. And all the damaged ceramic from blasting was repaired.

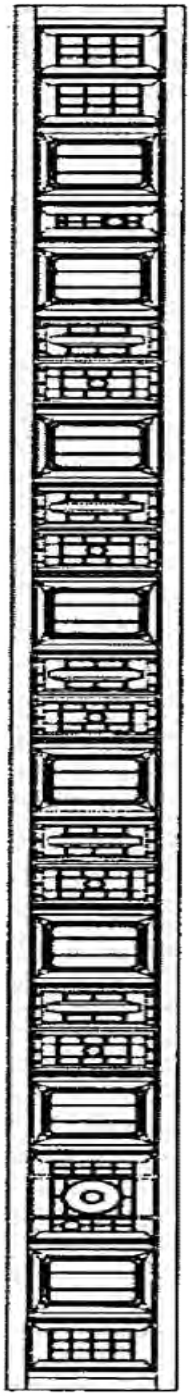




CORNER "A"



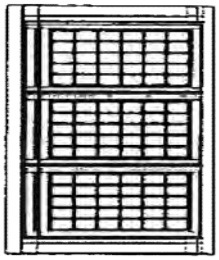
SOFA L1	NO WORK
SOFA L2	WELDING COMPLETED
SOFA L3	WELDING COMPLETED



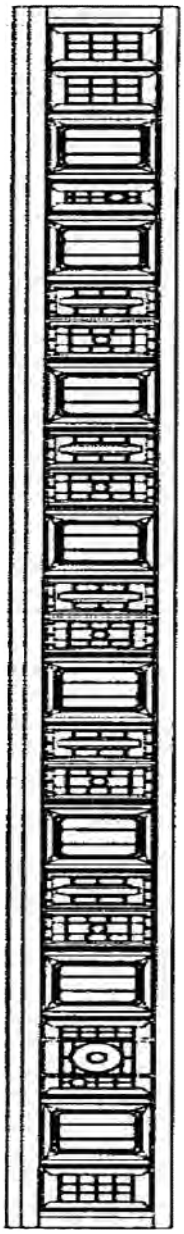
CCOFA	LIGHT WELD REPAIR MADE
CCOFA	LIGHT WELD REPAIR MADE
FA-8	LIGHT WELD REPAIR MADE / NO TILE TO REPAIR
AA-7/8	LIGHT WELD REPAIR MADE
FA-7	LIGHT WELD REPAIR ON CORNERS MADE / NO TILE TO REPAIR
AA6/7	LIGHT WELD REPAIR MADE
FA-6	LIGHT WELDREPAIRS MADE ON CORNERS
AA-5/6	OK
FA-5	CHANGED TIP AND REPAIRED TILE
AA-4/5	OK
FA-4	OK
AA-3/4	OK
FA-3	OK
AA-2/3	OK
FA-2	WELD REPAIR MADE / PLATE INSERTED
AA-1/2 OIL	LIGHT WELD REPAIR MADE
FA-1	CHANGED TIP AND REPAIRED TILE
AA-0/1	WELD REPAIR MADE

CORNER "B"

SOUTH FURNACE (RIGHT SIDE)



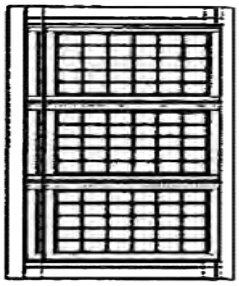
SOFA L1	WELD REPAIR MADE
SOFA L2	WELD REPAIR MADE
SOFA L3	WELD REPAIR MADE



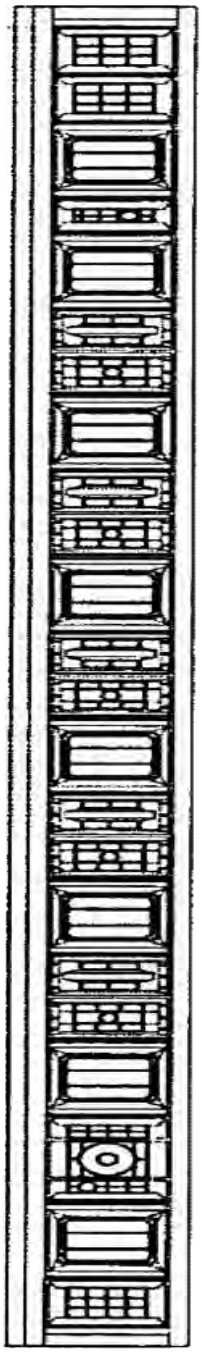
CCOFA	WELD REPAIR MADE
CCOFA	WELD REPAIR MADE
FA-8	LIGHT WELD REPAIR / NO TILE TO REPAIR
AA-7/8	WELD REPAIR MADE
FA-7	CHANGED BURNER BARREL
AA6/7	WELD REPAIR MADE
FA-6	LIGHT WELDREPAIRS ON CORNERS
AA-5/6	WELD REPAIR MADE
FA-5	CHANGED TIP AND REPAIRED TILE
AA-4/5	OK
FA-4	LIGHT WELD / TILE OK
AA-3/4	OK
FA-3	LIGHT WELD / TILE OK
AA-2/3	OK
FA-2	TILE REPAIRED AND TIP CHANGED
AA-1/2 OIL	LIGHT WELD REPAIR MADE
FA-1	CHANGED TIP AND REPAIRED TILE
AA-0/1	WELD REPAIR

CORNER "C"

SOUTH FURNACE (RIGHT SIDE)



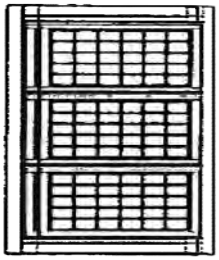
SOFA L1	WELD REPAIR MADE
SOFA L2	WELD REPAIR MADE
SOFA L3	WELD REPAIR MADE



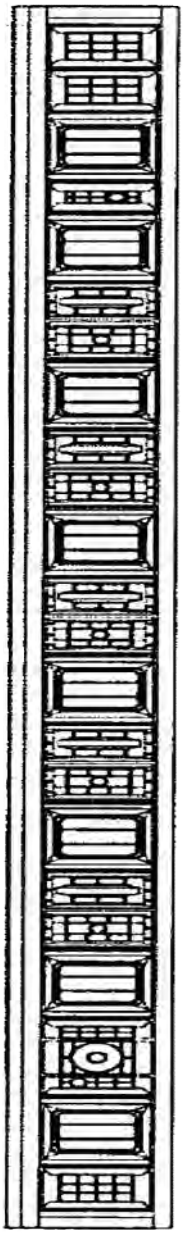
CCOFA	WELD REPAIR MADE
CCOFA	WELD REPAIR MADE
FA-8	OK
AA-7/8	OK
FA-7	OK
AA6/7	OK
FA-6	CHANGED BURNER BARREL
AA-5/6	OK
FA-5	LIGHT WELDING ON TIP COMPLETE
AA-4/5	OK
FA-4	REPAIRED TILE / WELD COMPLETED
AA-3/4	OK
FA-3	LIGHT WELDING
AA-2/3	OK
FA-2	CHANGED BURNER BARREL
AA-1/2 OIL	POSSIBLE LINKAGE ISSUE / FIXED BROKEN PIVIOT PIN
FA-1	PULL ELBO FIX TILE COMPLETE
AA-0/1	WELD REPAIR MADE

CORNER "D"

SOUTH FURNACE (RIGHT SIDE)



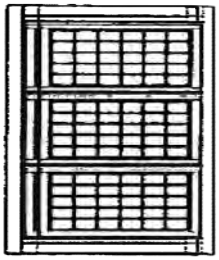
SOFA L1	WELDING REQUIRED / CHECK LINKAGE
SOFA L2	WELDING REQUIRED / CHECK LINKAGE
SOFA L3	WELDING REQUIRED / CHECK LINKAGE



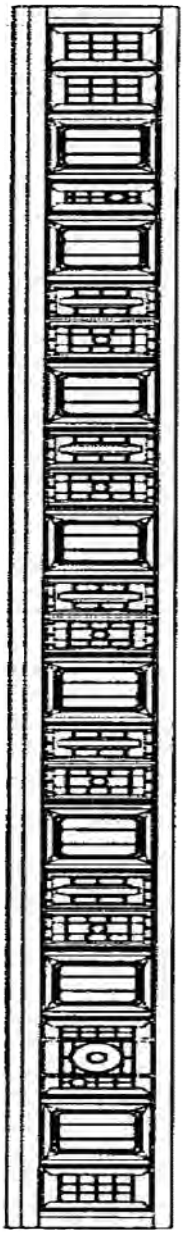
CCOFA	WELDING REQUIRED
CCOFA	WELDING REQUIRED
FA-8	OK
AA-7/8	WELD REPAIR
FA-7	NOZZZLE SWAPED
AA6/7	WELD REPAIR
FA-6	WELD REPAIR
AA-5/6	OK
FA-5	TILE FIXED / CHANGE TIP / COMPLETE / New Tip
AA-4/5	OK
FA-4	WELD REPAIR
AA-3/4	OK
FA-3	TILE REPAIRED/ LIGHT WELDING / COMPLETE
AA-2/3	OK
FA-2	NOZZZLE SWAPED
AA-1/2 OIL	LIGHT WELD REPAIR / COMPLETE
FA-1	TILE REPAIRED / PLATE REPAIR WELD TIP / COMPLETE
AA-0/1	WELD REPAIR COMPLETE

CORNER "E"

SOUTH FURNACE (RIGHT SIDE)



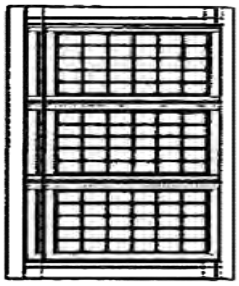
SOFA L1	WELDING / COMPLETE
SOFA L2	WELDING / COMPLETE
SOFA L3	WELDING / COMPLETE



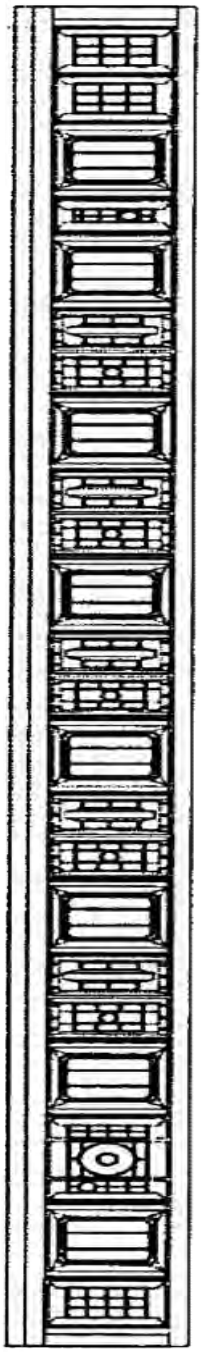
CCOFA	WELDING / COMPLETE
CCOFA	WELDING / COMPLETE
FA-8	OK
AA-7/8	WELDING / COMPLETE
FA-7	LIGHT WELD REPAIR / COMPLETE
AA6/7	OK
FA-6	WELD REPAIR / COMPLETE
AA-5/6	OK
FA-5	WELD REPAIR ON TIP / COMPLETE
AA-4/5	OK
FA-4	TILE REPAIRED / TIP OK
AA-3/4	OK
FA-3	TILE REPAIRED/ LIGHT WELDING / COMPLETE
AA-2/3	OK
FA-2	NOZZZLE SWAPED
AA-1/2 OIL	LIGHT WELD REPAIR / COMPLETE
FA-1	NOZZZLE SWAPED
AA-0/1	WELD REPAIR / COMPLETE

CORNER "F"

SOUTH FURNACE (RIGHT SIDE)



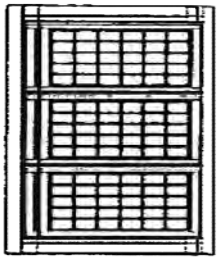
SOFA L1	WELDING COMPLETE
SOFA L2	WELDING COMPLETE
SOFA L3	WELDING COMPLETE



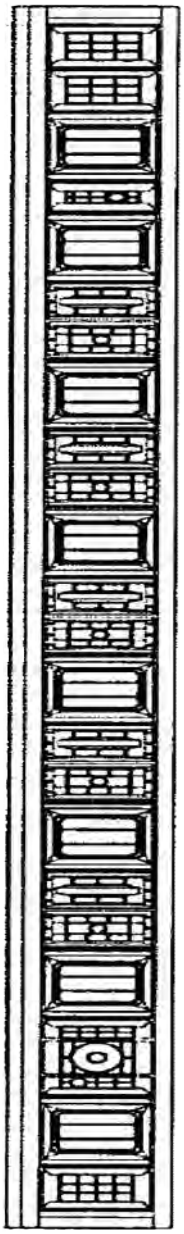
CCOFA	WELDING COMPLETE
CCOFA	WELDING COMPLETE
FA-8	LIGHT WELD REPAIR COMPLETE / NO TILE TO REPAIR
AA-7/8	WELDING COMPLETE
FA-7	LIGHT WELD REPAIR
AA6/7	WELDING COMPLETE
FA-6	WELDING COMPLETE
AA-5/6	OK
FA-5	WELDING COMPLETE
AA-4/5	OK
FA-4	NOZZZLE SWAPED
AA-3/4	OK
FA-3	NOZZZLE SWAPED
AA-2/3	OK
FA-2	WELD REPAIR ON TIP COMPLETE
AA-1/2 OIL	OK
FA-1	WELD REPAIR COMPLETE
AA-0/1	WELD REPAIR COMPLETE

CORNER "G"

SOUTH FURNACE (RIGHT SIDE)



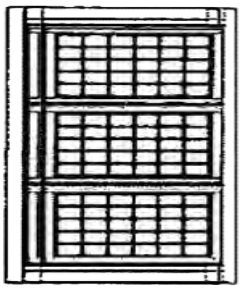
SOFA L1	WELDING COMPLETE
SOFA L2	OK
SOFA L3	WELDING COMPLETE



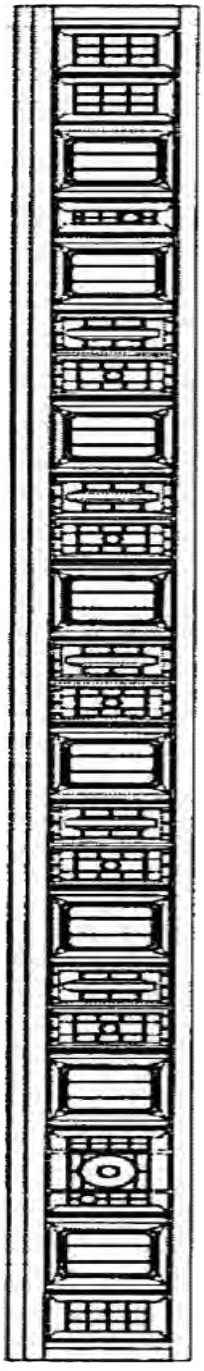
CCOFA	WELDING COMPLETE
CCOFA	WELDING COMPLETE
FA-8	OK
AA-7/8	OK
FA-7	LIGHT WELD REPAIR COMPLETE/ TILE OK
AA6/7	OK
FA-6	OK
AA-5/6	OK
FA-5	PULL ELBO AND FIX TILE COMPLETE / LIGHT WELDING ON TIP
AA-4/5	OK
FA-4	OK
AA-3/4	OK
FA-3	LIGHT WELD COMPLETE / TILE OK
AA-2/3	OK
FA-2	WELD REPAIR WILL NEED PLATE INSERT / COMPLETE
AA-1/2 OIL	LIGHT WELD REPAIR / COMPLETE
FA-1	PULL ELBO AND FIX TILE / WELD REPAIR ON TIP / COMPLETE
AA-0/1	LIGHT WELD REPAIR / COMPLETE

CORNER "H"

SOUTH FURNACE (RIGHT SIDE)



SOFA L1	WELDING /COMPLETE
SOFA L2	WELDING /COMPLETE
SOFA L3	WELDING /COMPLETE



CCOFA	WELDING COMPLETE
CCOFA	WELDING COMPLETE
FA-8	LIGHT WELD REPAIR COMPLETE / NO TILE TO REPAIR
AA-7/8	WELD REPAIR COMPLETE
FA-7	NOZZZLE SWAPED
AA6/7	WELD REPAIR COMPLETE
FA-6	NOZZZLE SWAPED
AA-5/6	OK
FA-5	NOZZZLE SWAPED
AA-4/5	OK
FA-4	PULL ELBO FIX TILE / TIP OK / COMPLETE
AA-3/4	OK
FA-3	NOZZZLE SWAPED
AA-2/3	OK
FA-2	WELD REPAIR MADE ON TIP WITH PLATE INSERT
AA-1/2 OIL	LIGHT WELD REPAIR / COMPLETE
FA-1	PULL ELBO FIX TILE / PLATE REPAIR WELD TIP / COMPLETE
AA-0/1	WELD REPAIR/ COMPLETE

TRANSALTA

CENTRALIA STEAM GENERATION STATION

UNIT No. 2

CENTRALIA, WA.

MATS TUNING

AUGUST 2022

EB0-019016-154

Prepared By:

Christian Breton

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DISCLAIMER

This document was carefully prepared based on our observations and analysis. Any conclusions or recommendations are based on our experience and judgment. We cannot guarantee that these conclusions and recommendations would be the same as those made by another qualified consultant. Any data, which we furnish concerning performance or condition of equipment, is carefully predicted by us. However, these data may be based on assumptions and information furnished by others and is not guaranteed except to the extent expressly set forth in the following report.

This document is furnished for your benefit only, and not for the benefit of any third party.

INTRODUCTION:

GE Steam Power was on site at the TransAlta Centralia Steam Generation Station Unit #2 to perform MATS tuning August 15 – 18, 2022.

BOILER INFORMATION

TransAlta Centralia Unit 2 is a late 1960's vintage Combustion Engineering Controlled Circulation ®, radiant, reheat steam generator with a divided furnace and extended back-pass. The unit was originally designed for a maximum continuous rating (MCR) of 5,168,000 pounds of steam per hour at superheater outlet conditions of 2655 psig and 1005° F. Corresponding reheat flow at MCR is 4,562,000 Lbs/Hr and 1005°F and inlet steam conditions of 690°F and 735 psig. Control load, the initial load point where superheat and reheat steam temperatures are controllable at 1005°F/1005°F, was predicted to occur at 2,944,000 Lbs/Hr main steam flow and 2,652,000 Lbs/Hr reheat flow.

The primary fuel is a blend of Spring Creek Coal (60%) and Powder River Basin Rawhide Coal (40%). The coal is supplied by eight CE Raymond 1003 RP pulverizers through eight elevations of tangentially arranged tilting nozzles. The firing configuration is a conventional CE tangential design, in that each pulverizer supplies an entire burner elevation in each furnace cell. The unit is also capable of firing oil for warm-up through one level located in a lower auxiliary air (12) compartment. The unit operates under balanced draft firing conditions and is equipped with two Ljungstrom ® tri - sector regenerative air heaters, two forced draft fans, and two induced draft fans.

An ALSTOM Power Low NOx Concentric Firing System (LNCFS) Level III retrofit was installed on Centralia Unit 2 during the 2001 outage.

The unit currently operates at 708 GMW & 670 NMW with a throttle pressure of 2400 psig.

BOILER ORIENTATION

Elevation for dampers and burners are the following:

SOFA – TOP
SOFA – MIDDLE
SOFA – BOTTOM

CCOFA – TOP
CCOFA – BOTTOM
Fuel Air / Burner 28
Auxiliary Air 78
Fuel Air / Burner 27
CFS Aux Air 67
Fuel Air / Burner 26
CFS Aux Air 56
Fuel Air / Burner 25
CFS Aux Air 45
Fuel Air / Burner 24
CFS Aux Air 34
Fuel Air / Burner 23
CFS Aux Air 23
Fuel Air / Burner 22
Auxiliary Air (WU OIL) 12
Fuel Air / Burner 21
Auxiliary Air 11 / UFA

Fireball rotation in Left/North Furnace is clockwise (CW) and in Right/South Furnace is counterclockwise (CCW) rotation, toward the center wall.

Front Wall = West
Left Wall = North
Right Wall = South
Rear Wall = East

CONTRACT DATA SHEET

TO
P. MECAGNI
9503-2305
TAB 15 A

CONTRACT DATA SHEET

October 19, 1976

File alphabetically. PAC
Destroy sheet dated 1-9-70

CONTRACT NO. 13167 - 5168
DISTRICT OFFICE 50% Denver
CREDITED WITH SALE 50% San Francisco
CONTRACT DATE 10-10-67

PURCHASER Pacific Power & Light Co., Portland, Oregon & Washington Water Power Co., Spokane, Washington

USER Pacific Power & Light Co. Centralia, Washington

PLANT NAME Centralia
CONS. ENGR. Bechtel Corp. San Francisco, Cal.
INDUSTRY P. U.

BOILER # 1 & # 2
SQ. FT. H.S. PER UNIT 41,500
DESIGNATION 90' - 0" / 42' - 8 & 1/2" 431 - 2" O.D. / 205 - 2" O.D. CCRRD

PRESS
DESIGN 2990
OPER. S.O. 2655
TURBINE THROTTLE 2540

FURNACE
VOLUME CU. FT. TOTAL 527,000
TYPE OF BOTTOM Basket
WIDTH 90' - 0"
FRONT TO REAR 42' - 8 & 1/2"

SUPERHEATER TYPE 2 Stage with platen and panel
REHEATER TYPE 2 Stage with radiant wall

ECONOMIZER NO. 1 TYPE Plain tube

AIR HEATER NO. 2 TYPE 32 - VI - 73 & 1/2 (T) MAKE Ljungstrom

FUEL BURNING EQUIPMENT 8-# 1003 RP Mills & TT Burners

FUEL	ASH FUSION TEMP. F	GRINDABILITY	HHV
Sub. Bit.			
Moist. 20% Vol. Matter 34.4%	initial 2190 soft 2290	40	8100
Fixed Carb. 29.6% Ash 16%			

OPERATING CONDITIONS

		CONTROL POINT	100% LOAD	MAX. CONT. LOAD		
LB STEAM PER HOUR ACTUAL	PRIMARY	2,944,000	4,907,000	5,168,000		
	REHEAT	2,652,000	4,420,000	4,562,000		
STEAM TEMP. F LEAVING	SUPERHEATER	1005	1005	1005		
	RENEATER	1005	1005	1005		
REHEAT DATA	ENTERING TEMP.	620	687	690		
	ENTERING PRESS.	427	713	735		
FEEDWATER TEMP. F		452	504	509		
TEMP. AIR TO AIR HEATER		80	80	80		
TEMP. GAS FROM AIR HEATER		250	300	310 (uncorr)		
OVERALL EFFICIENCY % *Guaranteed		86.82	85.50 *	85.24		

SUPPLEMENTARY DATA Setting & Insulation (R & I Products), S.B., Circulation system, F.D. & I.D. Fans T.V. Equip., Casing, Ductwork, Platforms & Stairways, Controls, Feeders, etc.

GENERATOR KW MFR. RATING 650,000

PLANT ELEV. 220 feet

CE 0010213 (11/69)

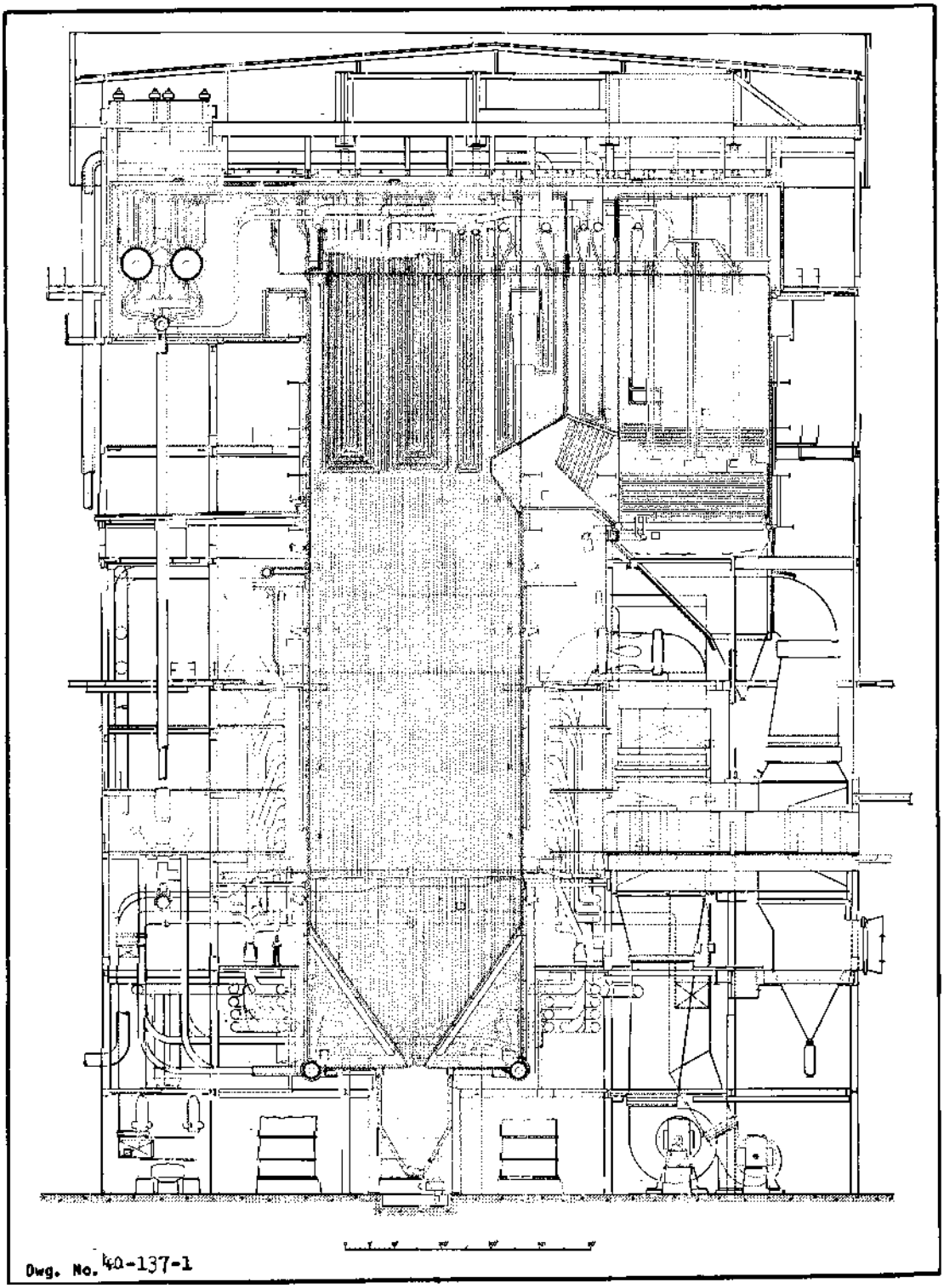
LINE REVISED THIS ISSUE •

COMBUSTION ENGINEERING, INC. WINDSOR, CONN.

SIDE VIEW OF UNIT

POWER SYSTEM

Ce elia Un: Ligh
Con r 13 7 #1&2
.68



UNIT LOADS & EMISSION LIMITS

Centralia Unit #2 has a NOx limit based on a 30 Day Average of 0.180 Lbs/MMBtu. CO limit is based on a yearly average of 200 ppm.

Tuning was performed between 710 to 446 GMW. Two days were spent at full load and then load was reduced due to a tube leak in the furnace. The load reduction was beneficial to find settings that worked for the lower load range.

TUNING SET UP

The intent of the MATS tuning is to show that the boiler is operating at its optimal condition for NOx and CO emissions. The testing was done in conjunction with setting up & tuning of the Griffin Optimizer, which is a neural net based system.

All the NOx and CO data was taken from the CEMS system that the operator uses to makes sure the unit is within compliance.

The testing involved visual observations of the fire and slagging in the furnace. Changes were made to SOFA dampers and tilts to lower NOx and CO, which were incorporated into the Griffin Optimizer system.

Looking in the furnace it is obvious that the unit is running too hot, which is causing significant amount of slag on the waterwalls. This slag reduces the heat transfer to the water in the waterwall tubes therefore making the upper part of the furnace hot and causing slag to drip and run down the walls. This increase NOx due to creating thermal NOx.

The main issue with the unit is that even after coming out of a major outage the ID fan are maxed out due to air in leakage issues downstream of the boiler. This limits how high the boiler O_2 can be raised. The FD fan is not limited at all during this time. If the air in leakage issues were to be corrected then the ID fans would not be limited and the O_2 could be set slightly higher, which would dry the slag in the furnace.

Due to the ID fan issues and being limited with O_2 set point there is a significant benefit to utilizing the Griffin Optimizer to make adjustments to keep the ID fans from maxing out.

The Griffin Optimizer was utilized to bias fuel air dampers between hot and cold corners to help reduce NOx and to reduce steam temperatures. The goal is to pull the ignition points back in the cold corners. In the hot corners the ignition points are pushed out. Auxiliary air dampers were biased between hot and cold corners. SOFA dampers and SOFA tilts were biased to reduce NOx and steam temperatures. By the 2nd day it was obvious the slag up in the upper part of the furnace was drying because the slag could be knocked out of the OB door openings.

TUNING RESULTS

The baseline test at full load 708 GMW had a NOx of 0.166 Lbs/MMBtu and CO of 164 ppm. At the end of the full load 709 GMW testing the NOx was 0.176 Lbs/MMBtu and CO was 75 ppm. This was a significant reduction in CO.

The mid load test was done at 571 & 572 GMW. The NOx stayed the same at 0.162 Lbs/MMBtu with the CO being reduced from 125 to 106 ppm.

The lowest load tested was 446 GMW. The NOx was 0.147 Lbs/MMBtu and CO was 38 ppm.

The appendix section has all the tuning data and notes from the MATS tuning.

For years operations had to bias SOFA dampers and tilts manually to get the NOx and CO below the limits. It was found that there were the curves in the DCS were not correct. Curves were changed so that operations would not have to manual bias SOFA and CCOFA dampers. Adjusting the curves was beneficial for the Griffin Optimizer to have a starting point without huge biases.

The biggest change was that the Bottom CCOFA dampers are now always closed. The top CCOFA dampers are set at 10% open at the upper loads.

This most significant change during this tuning was changing SOFA dampers & CCOFA damper curves. There were minor changes to other curves.

Windbox to Furnace Delta Pressure
Boiler O_2
Fuel Air Damper Elevations – No Change.
Closed Coupled Over Fire Air Dampers Elevation TOP
Closed Coupled Over Fire Air Dampers Elevation BOTTOM
Separated Over Fire Air Dampers Elevation TOP
Separated Over Fire Air Dampers Elevation MIDDLE
Separated Over Fire Air Dampers Elevation BOTTOM

The current combustion curves that are in the DCS system can be referenced in the appendix section of this report.

There is no DCS curves for the SOFA tilts or the Bottom Air / UFA dampers, so they are being controlled by the Griffin Optimizer system.

The unit has manual adjustable yaws on the CFS auxiliary air tips and SOFA tips. These are set at full load operation to lower CO, balance O_2, control slagging, and lower NOx. The main reason for the yaws is to lower CO but they have other uses. The current yaw positions have not changed in many years. During this tuning phase none of the yaw positions were changed.

The yaws are not to be moved by operations unless there is specific tuning occurring. These are not items that are to be moved due to load changes. Future adjustment would be required

due to different NOx and CO limits, or different coal being burned. The yaw positions are documented in the appendix section of this report.

The MATS tuning was completed, and the boiler is doing very well keeping the NOx and CO below the limits. The Griffin Optimizer is a tool that will help operations keep NOx and CO under control through the different load ranges.

FUTURE RECOMMENDATIONS

To help reduce the slag buildup in the furnace it is recommended that the main burner tilts and SOFA tilts be stroked once a shift. This will keep slag buildup from binding up the tilts and exercise the tilts as well. Per operations it was common practice in the past to stroke all the burner tilts once a shift, but they have not been performing this for a while.

Since the Griffin Optimizer has control of the SOFA tilts, a logic set up was built so the SOFA tilts can be stroked automatically. The intent is to stroke one (1) corner at a time and get through all eight (8) corners. This was tested and it works. It has not been implemented but is ready to be released when operations and engineering agrees to utilize the program.

The burner tilts are not controlled by the Griffin Optimizer, so to stroke the burner tilts would have to be performed by the operator once a shift. Recommend that the main burner tilts be stroked one (1) corner at a time +/-20°. If the Griffin Optimizer was given access to the burner tilts this could be set up to occur automatically like the SOFA tilts.

APPENDIX

TUNING CURVES

TUNING DATA

TUNING NOTES

WINDBOX & SOFA YAW SETTINGS

TUNING CURVES

TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

LASTEST REVISION 08-17-22

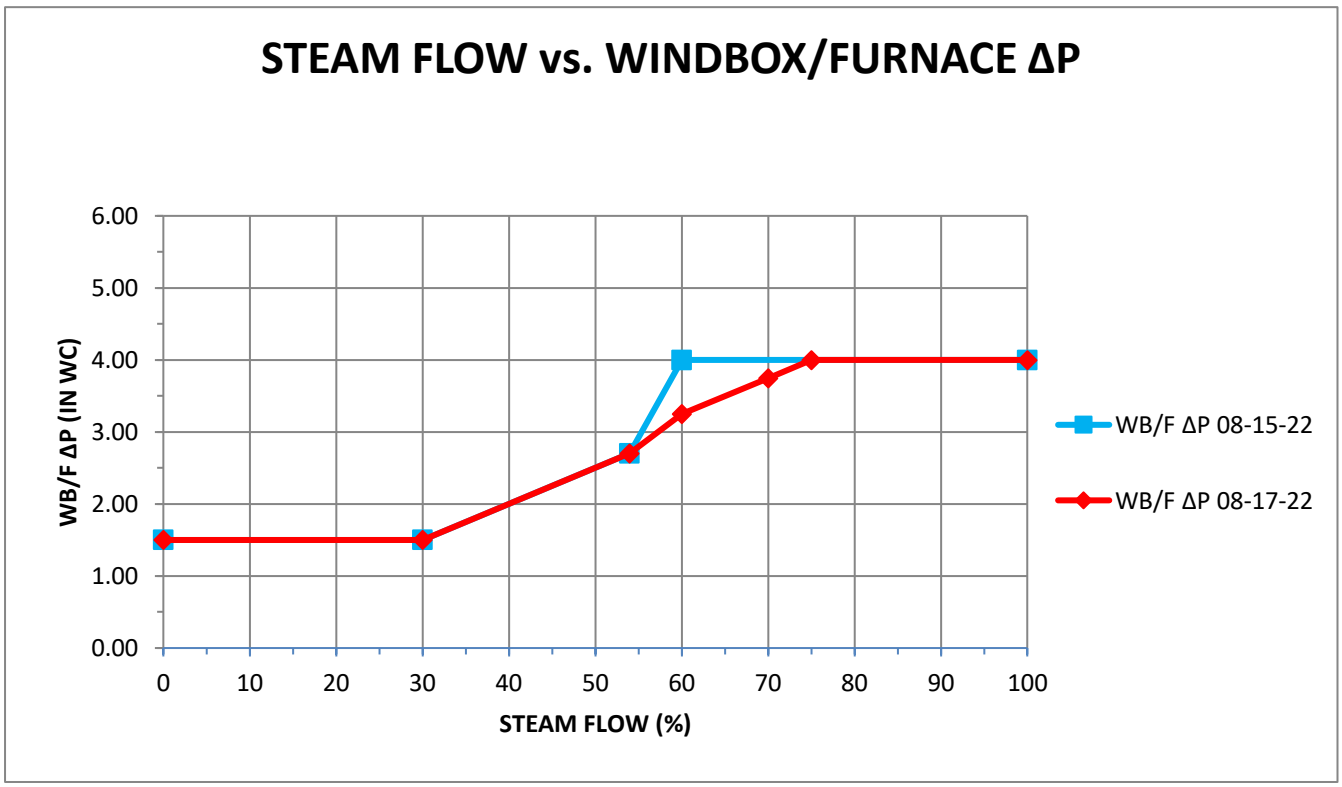
DROP	6
TASK	3
SHEET	67

STEAM FLOW vs. WINDBOX/FURANCE ΔPRESSURE

STEAM FLOW (%)	WB/F ΔP 08-15-22
0	1.50
30	1.50
54	2.70
60	4.00
100	4.00

STEAM FLOW (%)	WB/F ΔP 08-17-22
0	1.50
30	1.50
54	2.70
60	3.25
70	3.75
75	4.00
100	4.00

NOTE: STEAM FLOW 0-100% is 0-6000 KLbs/Hr.



TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

LASTEST REVISION 08-18-22

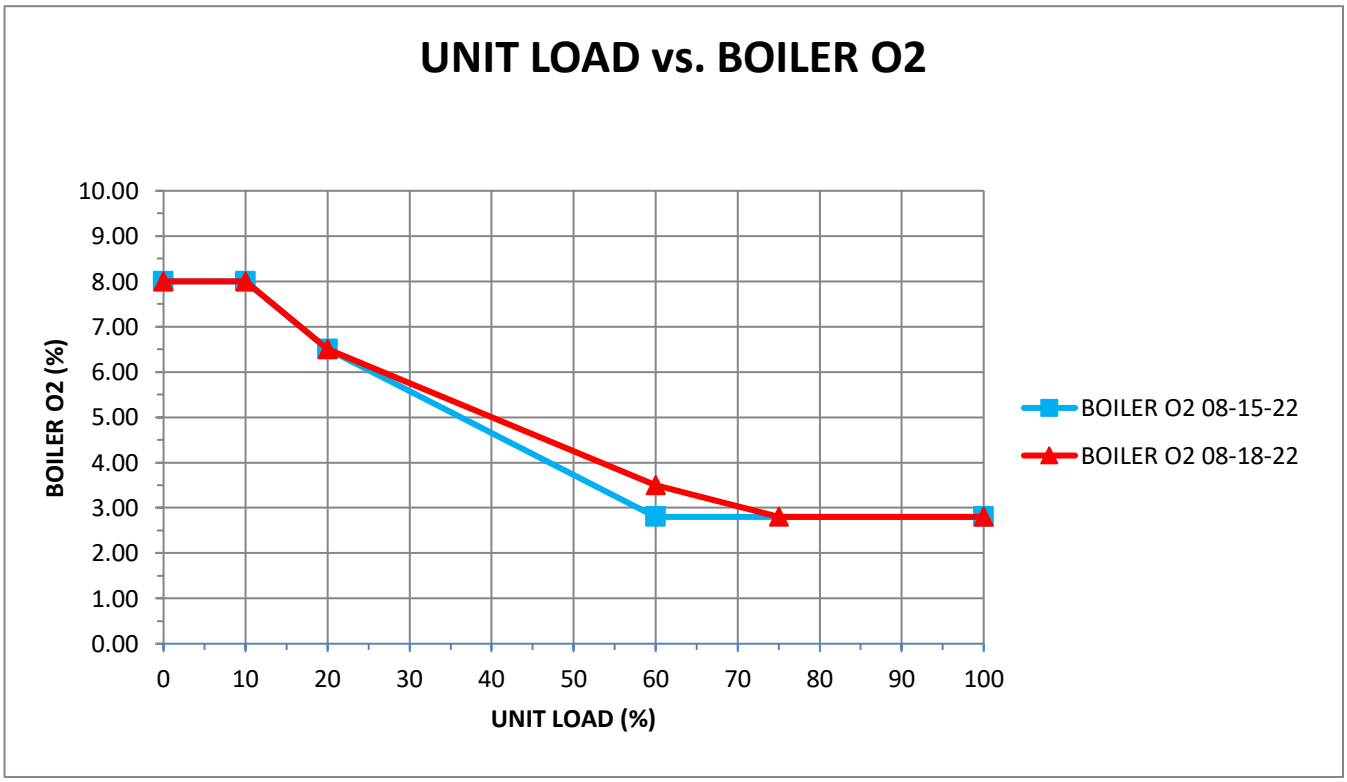
DROP	6
TASK	3
SHEET	18

UNIT LOAD vs. BOILER O2

UNIT LOAD (%)	BOILER O2 08-15-22
0	8.00
10	8.00
20	6.50
60	2.80
100	2.80

UNIT LOAD (%)	BOILER O2 08-18-22
0	8.00
10	8.00
20	6.50
60	3.50
75	2.80
100	2.80

NOTE: Unit Load 0-100% is 0-750 GMW.



TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

LASTEST REVISION 08-17-22

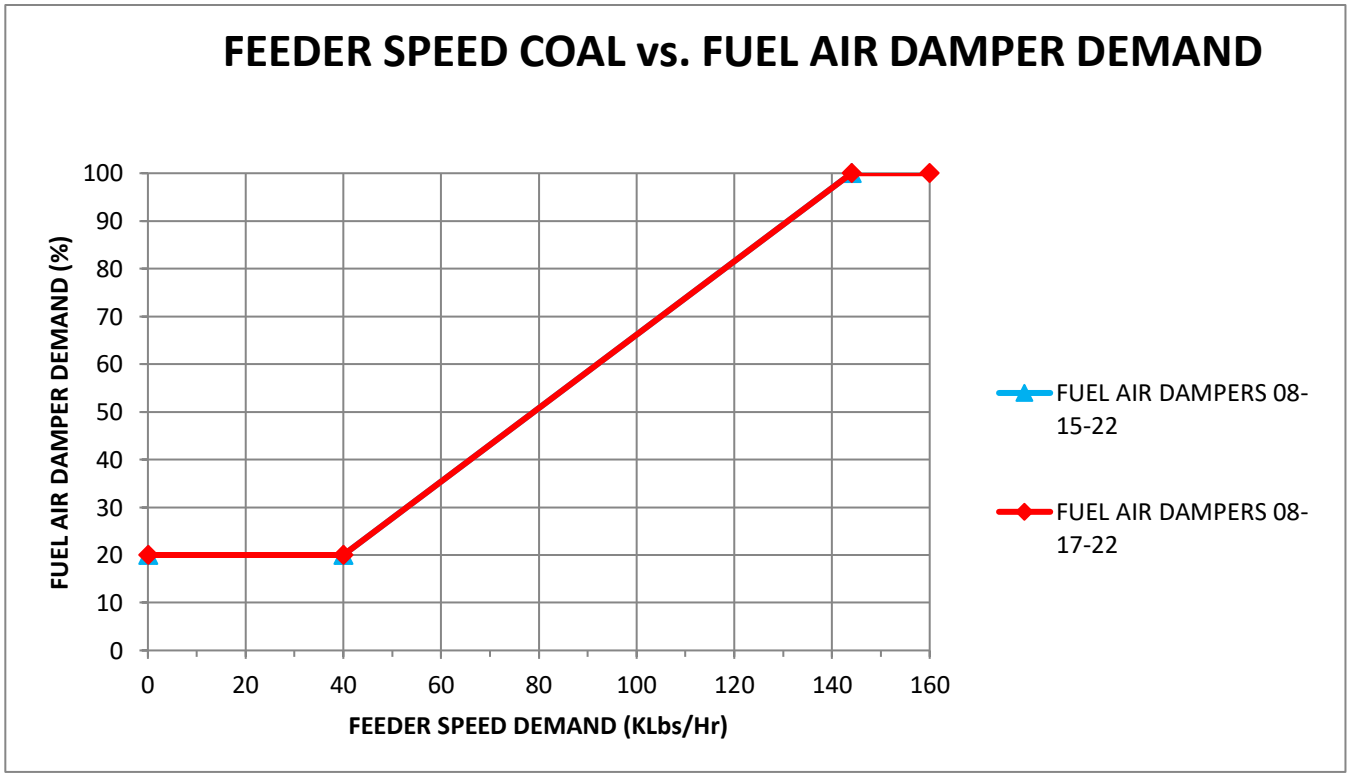
	MILL 21	MILL 22	MILL 23	MILL 24	MILL 25	MILL 26	MILL 27	MILL 28
DROP	6	6	6	6	6	6	6	6
TASK	3	3	3	3	3	3	3	3
SHEET	76	77	78	79	80	81	82	83

FEEDER SPEED COAL vs. FUEL AIR DAMPER DEMAND

FEEDER SPEED COAL (KLbs/Hr)	FUEL AIR DAMPERS 08-15-22
0	20
40	20
144	100

FEEDER SPEED COAL (KLbs/Hr)	FUEL AIR DAMPERS 08-17-22
0	20
40	20
144	100
160	100

NOTE: FEEDER RATE IS BASED ON 0 - 160 KLbs/Hr.
NOTE: OPERATIONS BIASES FA DAMPERS COLD TO HOT CONRERS WITH HOT CORNERS AHEAD 20%.



TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

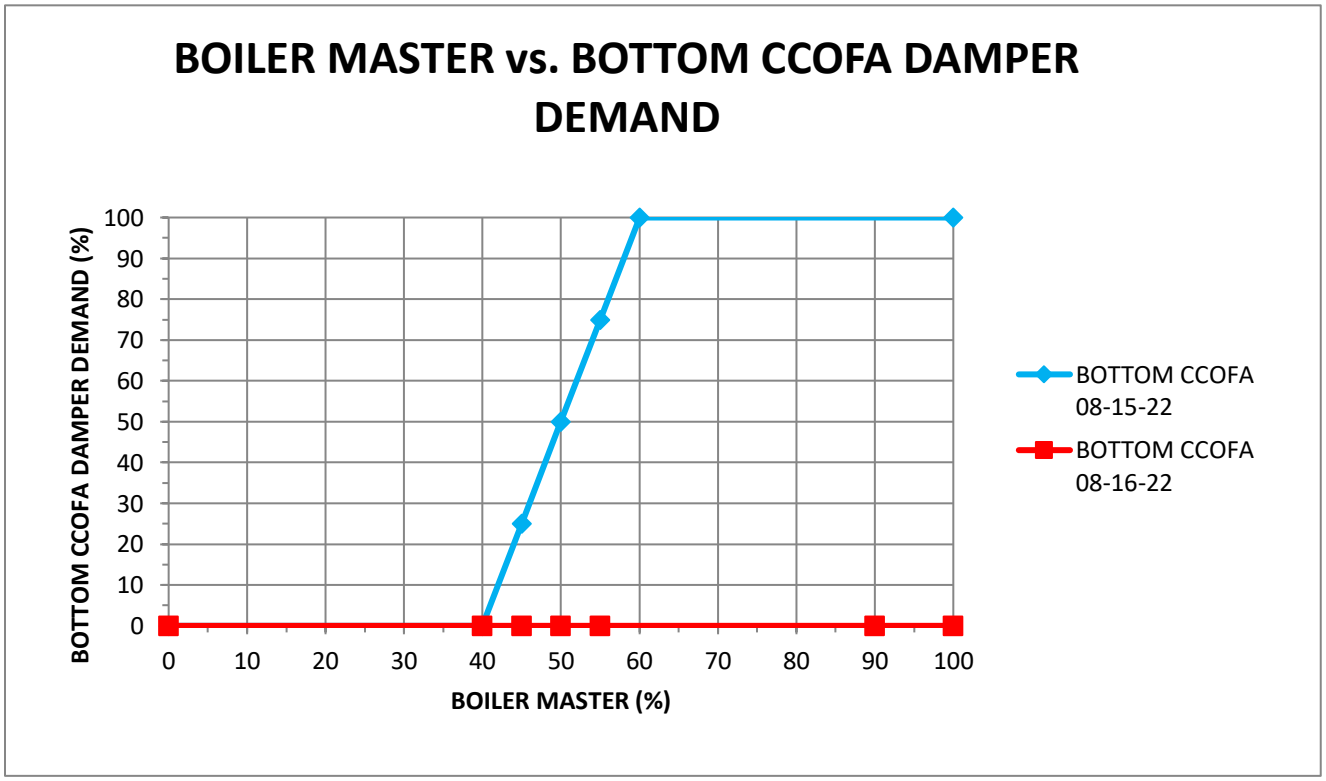
LASTEST REVISION 08-16-22

DROP	6
TASK	3
SHEET	85

BOILER MASTER vs. BOTTOM CCOFA DAMPER DEMAND

BOILER MASTER (%)	BOTTOM CCOFA 08-15-22
0	0
40	0
45	25
50	50
55	75
60	100
100	100

BOILER MASTER (%)	BOTTOM CCOFA 08-16-22
0	0
40	0
45	0
50	0
55	0
90	0
100	0



TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

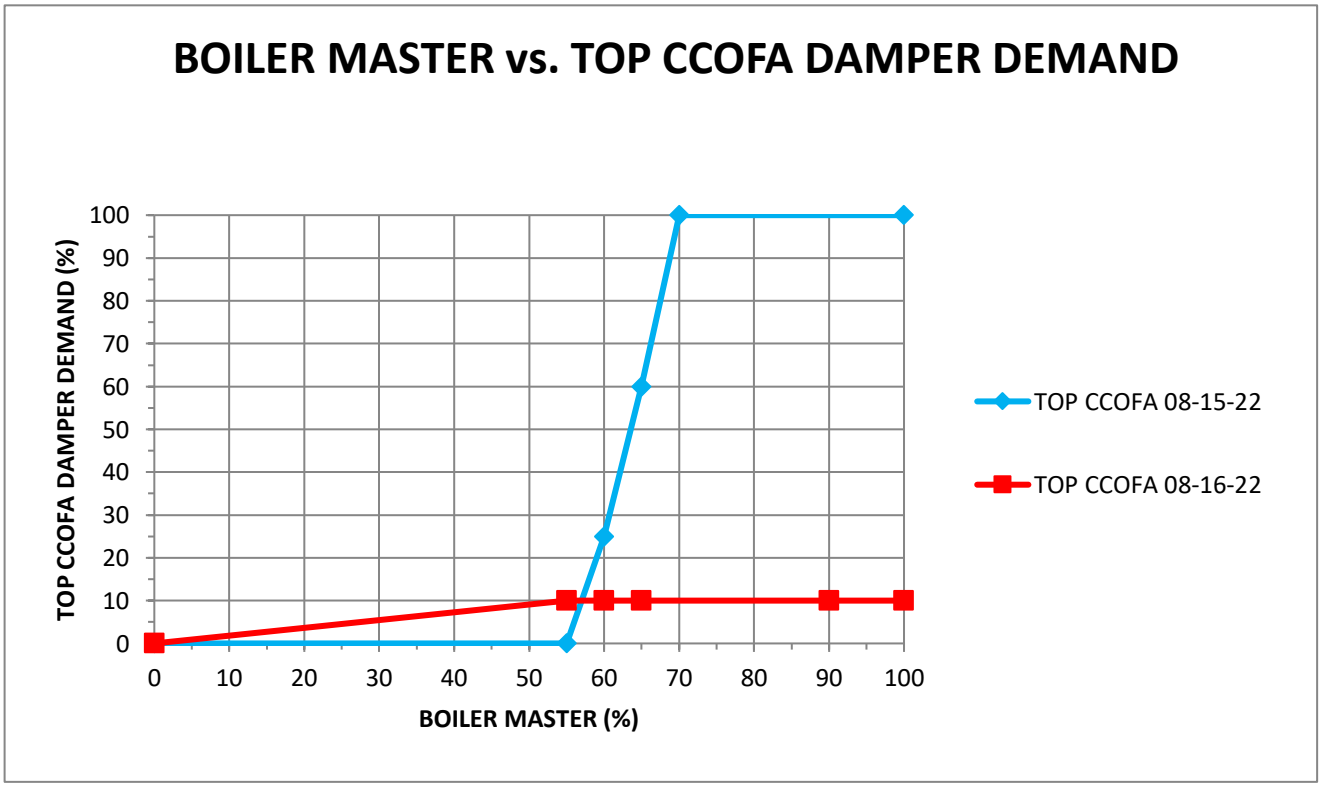
LASTEST REVISION 08-16-22

DROP	6
TASK	3
SHEET	86

BOILER MASTER vs. TOP CCOFA DAMPER DEMAND

BOILER MASTER (%)	TOP CCOFA 08-15-22
0	0
55	0
60	25
65	60
70	100
100	100

BOILER MASTER (%)	TOP CCOFA 08-16-22
0	0
55	10
60	10
65	10
90	10
100	10



TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

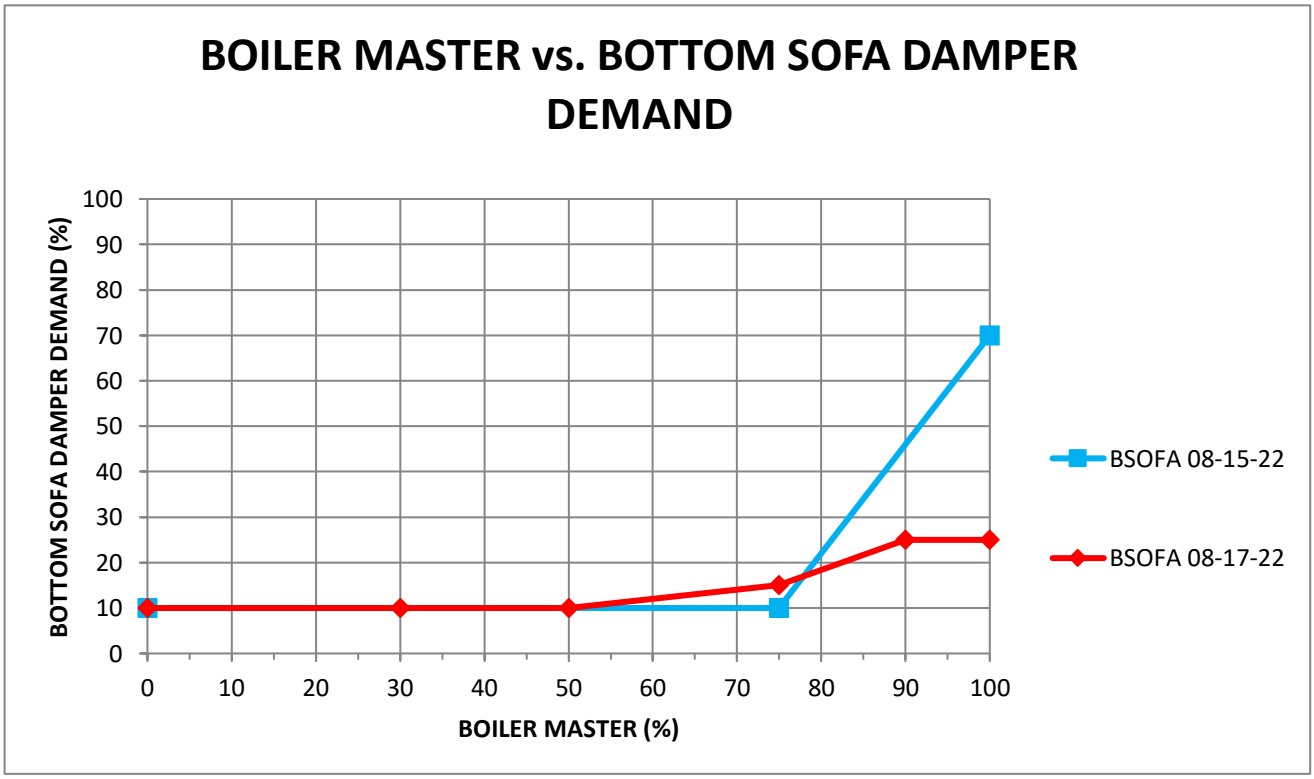
LASTEST REVISION 08-17-22

DROP	6
TASK	3
SHEET	87

BOILER MASTER vs. BOTTOM SOFA DAMPERS DEMAND

BOILER MASTER (%)	BSOFA 08-15-22
0	10
75	10
100	70

BOILER MASTER (%)	BSOFA 08-17-22
0	10
30	10
50	10
75	15
90	25
100	25



TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

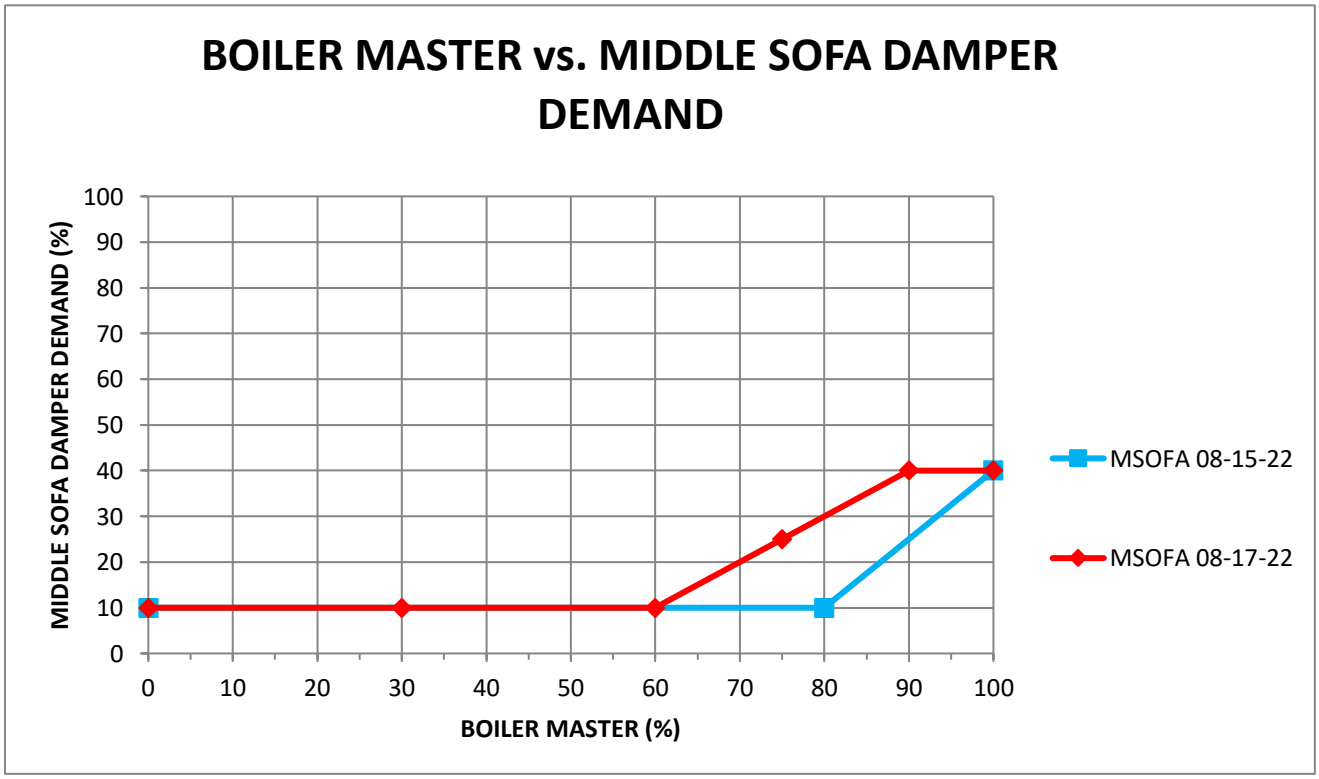
LASTEST REVISION 08-17-22

DROP	6
TASK	3
SHEET	88

BOILER MASTER vs. MIDDLE SOFA DAMPERS DEMAND

BOILER MASTER (%)	MSOFA 08-15-22
0	10
80	10
100	40

BOILER MASTER (%)	MSOFA 08-17-22
0	10
30	10
60	10
75	25
90	40
100	40



TRANSALTA
CENTRALIA UNIT No. 2
ORIGINAL CONTRACT # 5168
MATS TUNING

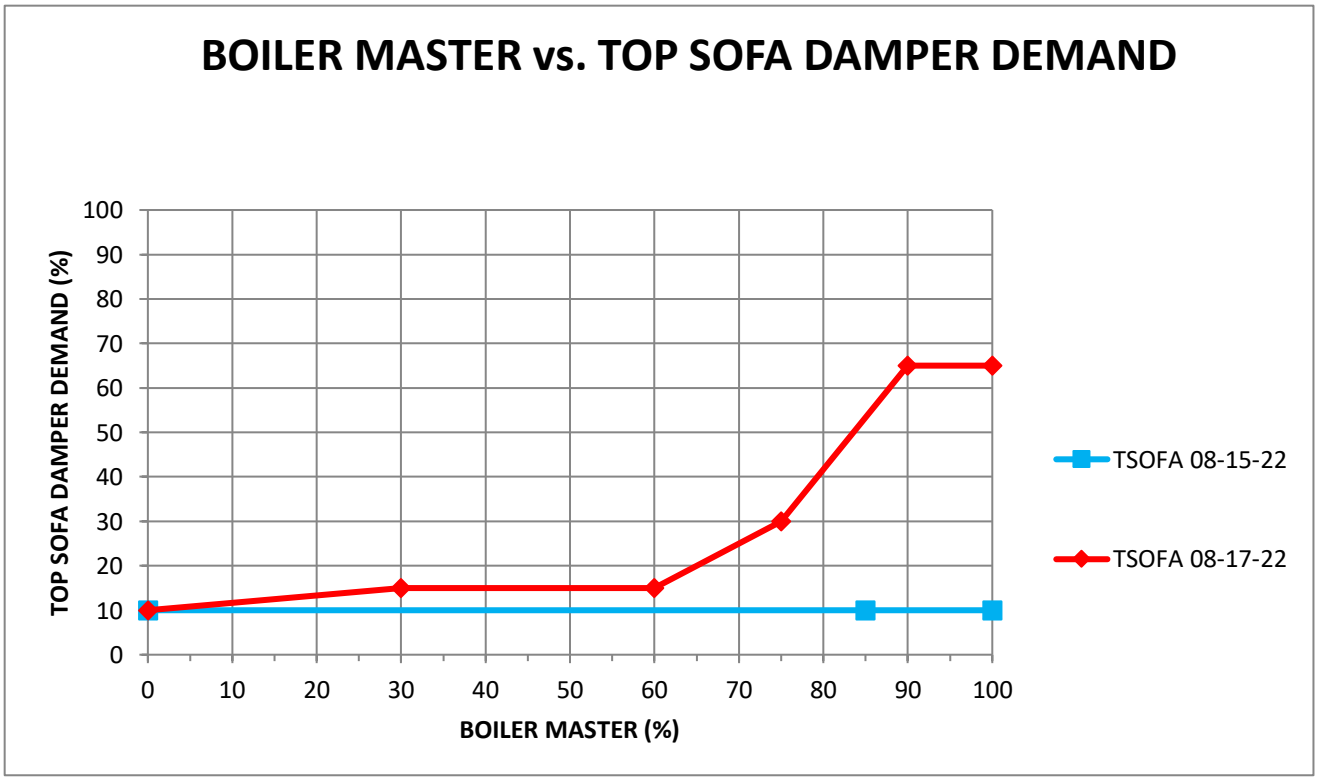
LASTEST REVISION 08-17-22

DROP	6
TASK	3
SHEET	89

BOILER MASTER vs. TOP SOFA DAMPERS DEMAND

BOILER MASTER (%)	TSOFA 08-15-22
0	10
85	10
100	10

BOILER MASTER (%)	TSOFA 08-17-22
0	10
30	15
60	15
75	30
90	65
100	65



TUNING DATA

CUSTOMER: **TRANSALTA**
PLANT: **CENTRALIA**
REASON FOR TEST DATA: **MATS TUNING**
BOILER: **2**

TEST		1	2	3	4	5	6
DATE		8/15/22	8/16/22	8/17/22	8/17/22	8/18/22	8/18/22
START TIME		14:00	16:25	7:00	15:20	7:22	12:45
END TIME		14:10	16:35	7:10	15:30	7:29	12:55
BOILER LOAD	GMW	708	710	709	572	571	446
BOILER LOAD	NMW	664	666	666	532	534	410
STEAM FLOW	%	82	83	82	68	66	53
STEAM FLOW	KPPH	4934	4977	4906	4050	3987	3147
FEEDWATER FLOW	KPPH	5290	5336	5264	4340	4257	3345
TOTAL AIR FLOW	%	85	85	86	72	70	60
BOILER MASTER	%	90.90	90.08	89.87	74.19	71.92	57.26
DRUM PRESSURE	PSIG	2733	2739	2718	2511	2506	2187
THROTTLE PRESSURE	PSIG	2388	2390	2374	2250	2249	1997
SHO TEMP - NORTH	°F	1001.1	990.5	997.7	1004.1	997.1	1012.4
SHO TEMP - SOUTH	°F	996.1	994.4	998.1	997.8	998.1	999.1
RHO TEMP - NORTH	°F	996.4	996.6	998.6	1002.2	1001.1	1000.4
RHO TEMP - SOUTH	°F	999.9	998.9	1004.2	1006.4	1003.0	1003.2
SH SPRAY FLOW	KPPH	147.7	141.9	134.1	150.1	106.6	185.1
RH SPRAY FLOW	KPPH	194.3	159.3	177.4	131.2	94.8	85.9
WB/FURNACE DELTA PRESS	IN WC	4.32	4.14	4.03	4.35	4.36	3.18
FURNACE DRAFT	IN WC	-0.50	-0.49	-0.55	-0.46	-0.51	-0.49
AMBIENT TEMPERATURE	°F	91	91	71	98	76	95
AMBIENT TEMPERATURE #2	°C	27	29	19	32	22	31
BOILER O2 PROBE A - NORHT	%	1.71	2.31	2.30	2.88	2.50	3.51
BOILER O2 PROBE B - NORTH	%	2.34	2.34	2.46	3.09	2.43	3.77
BOILER O2 PROBE C - NORTH	%	2.43	2.20	2.47	2.96	2.26	3.82
BOILER O2 PROBE D - SOUTH	%	2.19	1.93	2.33	2.44	2.63	3.55
BOILER O2 PROBE E - SOUTH	%	3.25	3.00	3.23	3.41	3.61	3.97
BOILER O2 PROBE F - SOUTH	%	2.92	2.70	2.84	3.35	4.06	3.71
NORTH O2 AVERAGE	%	2.16	2.28	2.39	2.96	2.40	3.71
SOUTH O2 AVERAGE	%	2.81	2.56	2.82	3.08	3.43	3.74
OPERATOR O2 BIAS	%	-0.34	-0.50	-0.31	0.13	0.08	0.16
NOx	Lbs/mmBtu	0.166	0.149	0.176	0.162	0.162	0.147
CO	PPM	164	249	75	125	106	38
OPACITY	%	26.88	26.36	27.47	25.99	26.49	26.17
CO2	%	13.92	13.87	13.68	12.91	12.98	12.16
STACK O2	%	5.39	5.48	5.62	6.43	6.35	7.24
SOFA Tilt Position (North)	DEG	-17	-17	-17	-17	-17	-17
SOFA Tilt Position (South)	DEG	-17	-17	-17	-17	-17	-17
Main Tilt Position (North)	DEG	-14	-15	-13	-12	-15	-16
Main Tilt Position (South)	DEG	-12	-18	-18	-15	-14	-10

TEST		1	2	3	4	5	6
DATE		8/15/22	8/16/22	8/17/22	8/17/22	8/18/22	8/18/22
START TIME		14:00	16:25	7:00	15:20	7:22	12:45
END TIME		14:10	16:35	7:10	15:30	7:29	12:55
OFA Damper Position (North)							
SOFA TOP DAMPER	% Open	77	73	75	29	25	22
SOFA MIDDLE DAMPER	% Open	31	49	35	26	20	24
SOFA BOTTOM DAMPER	% Open	16	27	20	17	13	20
CCOFA TOP DAMPER	% Open	0	9	10	9	0	10
CCOFA BOTTOM DAMPER	% Open	0	6	3	0	2	5
OFA Damper Position (South)							
SOFA TOP DAMPER	% Open	77	67	75	33	26	24
SOFA MIDDLE DAMPER	% Open	31	36	35	22	31	10
SOFA BOTTOM DAMPER	% Open	16	25	20	14	16	10
CCOFA TOP DAMPER	% Open	0	5	10	0	1	1
CCOFA BOTTOM DAMPER	% Open	0	0	1	8	7	4
AUXILIARY AIR DAMPERS							
NORTH AUX AIR DMAPER 78	% Open	100	92	100	21	34	36
NORTH AUX AIR DAMPER 67	% Open	94	92	100	33	22	32
NORTH AUX AIR DAMPER 56	% Open	100	92	100	33	22	25
NORTH AUX AIR DAMPER 45	% Open	100	92	100	32	23	25
NORTH AUX AIR DAMPER 34	% Open	100	92	100	21	34	25
NORTH AUX AIR DAMPER 23	% Open	100	92	100	33	34	36
NORTH AUX AIR DAMPER 12 / WU OIL	% Open	100	92	100	21	22	25
NORTH AUX AIR DAMPER 11 / UFA	% Open	100	99	97	37	13	46
SOUTH AUX AIR DMAPER 78	% Open	100	70	100	33	24	27
SOUTH AUX AIR DAMPER 67	% Open	100	70	100	26	36	27
SOUTH AUX AIR DAMPER 56	% Open	100	70	100	33	36	38
SOUTH AUX AIR DAMPER 45	% Open	100	70	100	33	36	32
SOUTH AUX AIR DAMPER 34	% Open	100	70	100	21	36	38
SOUTH AUX AIR DAMPER 23	% Open	100	70	100	33	36	38
SOUTH AUX AIR DAMPER 12 / WU OIL	% Open	100	70	100	23	36	38
SOUTH AUX AIR DAMPER 11 / UFA	% Open	100	77	91	17	15	18
FUEL AIR DAMPERS							
FUEL AIR DAMPER 8 - HOT	% Open	81	82	74	54	38	33
FUEL AIR DAMPER 8 - COLD	% Open	36	36	41	31	29	21
FUEL AIR DAMPER 7 - HOT	% Open	81	82	74	54	38	33
FUEL AIR DAMPER 7 - COLD	% Open	36	36	41	31	29	21
FUEL AIR DAMPER 6 - HOT	% Open	70	68	65	46	38	33
FUEL AIR DAMPER 6 - COLD	% Open	44	45	48	39	33	30
FUEL AIR DAMPER 5 - HOT	% Open	69	70	67	44	37	32
FUEL AIR DAMPER 5 - COLD	% Open	45	44	46	37	37	30
FUEL AIR DAMPER 4 - HOT	% Open	80	80	77	53	38	34
FUEL AIR DAMPER 4 - COLD	% Open	36	37	39	31	28	26
FUEL AIR DAMPER 3 - HOT	% Open	1	1	1	1	1	1
FUEL AIR DAMPER 3 - COLD	% Open	5	5	6	6	6	6
FUEL AIR DAMPER 2 - HOT	% Open	81	82	74	54	38	33
FUEL AIR DAMPER 2 - COLD	% Open	36	36	41	31	29	21
FUEL AIR DAMPER 1 - HOT	% Open	74	74	72	45	39	35
FUEL AIR DAMPER 1 - COLD	% Open	42	41	43	29	28	20

TEST		1	2	3	4	5	6
DATE		8/15/22	8/16/22	8/17/22	8/17/22	8/18/22	8/18/22
START TIME		14:00	16:25	7:00	15:20	7:22	12:45
END TIME		14:10	16:35	7:10	15:30	7:29	12:55
Mill 1 Coal Flow	KPPH	127	126	126	104	100	93
Mill 2 Coal Flow	KPPH	127	126	125	104	100	93
Mill 3 Coal Flow	KPPH	NA	NA	NA	NA	NA	NA
Mill 4 Coal Flow	KPPH	127	127	127	104	101	94
Mill 5 Coal Flow	KPPH	127	126	126	104	101	94
Mill 6 Coal Flow	KPPH	128	126	125	103	100	93
Mill 7 Coal Flow	KPPH	128	127	127	105	101	94
Mill 8 Coal Flow	KPPH	127	126	126	104	100	0
Mill 1 Air Flow	KPPH	207.4	208.2	214.9	186.3	180.4	168.6
Mill 2 Air Flow	KPPH	189.7	193.9	199.1	186.4	180.6	168.3
Mill 3 Air Flow	KPPH	NA	NA	NA	NA	NA	NA
Mill 4 Air Flow	KPPH	196.2	196.7	202.8	191.4	185.7	178.0
Mill 5 Air Flow	KPPH	190.4	191.9	191.6	186.6	180.7	168.2
Mill 6 Air Flow	KPPH	215.7	211.2	218.0	202.1	197.6	188.3
Mill 7 Air Flow	KPPH	198.1	198.7	198.8	186.6	180.5	168.2
Mill 8 Air Flow	KPPH	213.4	209.4	217.3	186.5	180.4	52.9
Mill 1 Amps	AMPS	85	85	85	79	76	75
Mill 2 Amps	AMPS	96	86	85	80	79	78
Mill 3 Amps	AMPS	0	0	0	0	0	0
Mill 4 Amps	AMPS	92	93	92	79	77	75
Mill 5 Amps	AMPS	99	98	98	91	89	88
Mill 6 Amps	AMPS	82	80	80	75	75	73
Mill 7 Amps	AMPS	98	97	97	90	87	84
Mill 8 Amps	AMPS	81	77	78	71	71	0
Mill 1 Outlet Temperature	°F	145	145	145	145	144	145
Mill 2 Outlet Temperature	°F	145	145	145	145	145	145
Mill 3 Outlet Temperature	°F	87	86	84	120	120	122
Mill 4 Outlet Temperature	°F	145	145	145	145	145	145
Mill 5 Outlet Temperature	°F	144	145	145	144	144	145
Mill 6 Outlet Temperature	°F	145	145	145	145	146	146
Mill 7 Outlet Temperature	°F	144	144	145	145	144	145
Mill 8 Outlet Temperature	°F	145	145	145	145	145	124

TUNING NOTES

CUSTOMER: TRANSALTA
PLANT: CENTRALIA
REASON FOR TEST DATA: MATS TUNING
UNIT: 2

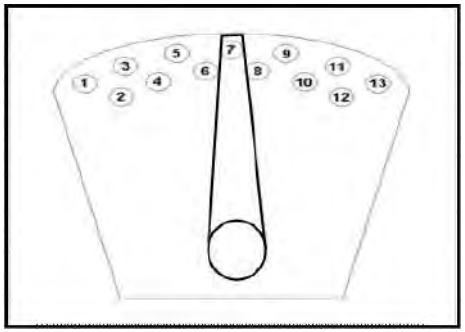
TEST	DATE	NOTES / COMMENTS
NA	NA	Purpose of this MATS tuning after completing a major overhaul this spring. Complete rebuild of
NA	NA	Major outage in April - July to install and repair burner & SOFA tips as inspection direction.
NA	NA	NOx limit is 0.180 Lbs/MMBtu on a 30 days rolling average.
NA	NA	CO limit is 200 ppm based on a yearly average.
NA	8/15/2022	Walked down the unit to document current yaw positions for both the main windbox auxiliary air
NA	8/15/2022	Walked down the unit to look slag
NA	8/15/2022	All tuning will be done at full load with pulverizer 23 being off.
1	8/15/2022	Baseline, Unit load 708 GMW / 664 NMW. All pulverizers in service except 23. All SOFA dampers and SOFA tilts are in manual adjusted by operator. Operator has fuel air dampers biased between hot and cold corners. NOx is 0.166 Lbs/mmBtu and CO is 164 ppm.
NA	8/15/2022	Operations has issues with ID fan maxing out as the day gets warmer outside. With the FD fan being at 75% there is no reason to be maxed out on the ID fan. Therefore, it is obvious there are leaks due to cracks & holes in the that is allowing a significant amount of air in leakage. This is causing false higher readings on the O2 probes and lower CO readings. Operations says this is mostly on the South/Right side of the unit. Currently the FD fan is at 75% and the ID fans are maxed out. This is not normal and makes it very difficult to maintain load and keep the unit from going positive.
NA	8/15/2022	Due to ID fan being maxed out had to bias O2 from -0.42% to -0.5%. This allowed the furnace draft to go to -0.5 "WC. This also moved the aux air dampers from 100% open to 97% open.
NA	8/15/2022	Raised the WB/F from 4.0 "WC to 4.5 "WC. NOx went up to 0.169 Lbs/MMBtu and CO is 190 ppm.
NA	8/15/2022	Raised the WB/F from 4.5 to 4.75 "WC. This made CO go to 360 ppm and NOx 0.165 Lbs/mmBtu.
NA	8/15/2022	Moved WB/F from 4.75 to 4.6 "WC. CO was coming down but does not want to stay down. CO is 371 ppm. NOx is 0.165 Lbs/mmBtu.
NA	8/15/2022	Go back to WB/F at 4.5 "WC.
NA	8/15/2022	UFA dampers are currently biased by operations at 77% on South side and North side is at 81%. Moving these all to 100%.
NA	8/15/2022	Found the CCOFA dampers were at 13%. Forced them closed to 0% open.
NA	8/15/2022	Moving several things at once made CO come down to 195 ppm but NOx went up to 0.174 Lbs/mmBtu.
NA	8/15/2022	Operations has a 10% bias between hot and cold corners. Cold is 76% and Hot is 96%. No bias the dampers would be at 86%.
NA	8/15/2022	Since the Cold corner ignition points are about 8 feet out cut back the cold corner dampers to 50%. NOx dropped to 0.169 Lbs/mmBtu. CO is 254 ppm.
NA	8/15/2022	Moved SOFA C tilt from -8 to 0 deg and NOx stayed at 0.169 Lbs/mmBtu but CO went up to 304 ppm.
NA	8/15/2022	Decided to put all the SOFA tilts at the baseline position because the optimizer had started moving individual SOFA tilts earlier. Moved all SOFA tilts to -16 deg.
NA	8/15/2022	Tried biasing SOFA tilt in corner D but moved C from -16 to 0 deg. Huge CO increase and NOx went down to 0.157 Lbs/MMBtu. Not good.
NA	8/16/2022	Walk down boiler to check slag patterns. The slag is wet and taffy above the burners and in the burner zone. The upper part of the furnace runs too hot and there is no clinkers coming down into the bottom.

TEST	DATE	NOTES / COMMENTS
NA	8/16/2022	Raised SOFA tilts D&F from -15 to 0 deg. NOx is 0.165 Lbs/mmBtu and CO 112 ppm prior to biasing SOFA tilts.
NA	8/16/2022	Raising the 2 corner SOFA tilts helped to bring up O2 average on the North side. NOx is going down and CO stayed about the same.
NA	8/16/2022	Raised the same 2 SOFA tilts to +10 deg. Seem to make the CO want to go up and is making the ID fan go up. Put them back to 0 deg.
NA	8/16/2022	Moved SOFA Tilts A&C from -17 to -20 deg. This is helping RH steam temperatures to come down. Not helping the SH steam temperatures, they are high. Helping the O2 probes to come together more.
NA	8/16/2022	Took away the North / South bias on the SOFA. Then lost mill 26 so everything was lost we were working on.
NA	8/16/2022	Now back at full load and all SOFA tilts are at -17 deg area.
NA	8/16/2022	Biasing SOFA tilts A&C to -25 deg. Moved SOFA tilts D&F to 0 deg. The CO is going up and NOX coming down.
NA	8/16/2022	Hit limit on ID fan at noon today with outside temperature at 96 deg. Going to fight this the rest of the day. Due to this problem had to bias the O2 back with a -0.5% to back off the FD fan. This caused the CO to go up as expected.
NA	8/16/2022	Biased auxiliary air dampers North/South. Since the aux air dampers are 100% open, the South dampers were biased back to 90%.
NA	8/16/2022	Moved SOFA tilt D&F to -25 deg and SOFA tilts A&G to 0 deg. This was good for ID fan running at 95%. CO is 172 ppm and NOx is 0.152 Lbs/mmBtu with a O2 bias of -0.5%.
NA	8/16/2022	Moved FA dampers in cold corners from 77% to 60%.
NA	8/16/2022	Issue with ID fan so opening the bottom SOFA damper from 10% to 25%. Middle SOFA damper moving from 30% to 40%.
NA	8/16/2022	Due to lower O2 probes on the North side, raising the SOFA tilts D&F from -25 to -10 deg. It helped and it helps the ID fan bringing it from 100% to 95%. The NOx is 0.144 Lbs/mmBtu and CO is 249 ppm. The O2 probes on North side need to keep coming up.
NA	8/16/2022	Had the aux air dampers on the South side biased from 90% to 80% to take air away and put into the North side. This helped the NOx which was not the intent. NOx is 0.136 Lbs/mmBtu. CO went higher.
NA	8/16/2022	Moved SOFA tilts A&G from 0 deg to -15 deg. Not sure how this helped or hurt because when operations blew IK5 & IK6 the CO dropped out and North side O2 probes went up just like we have been trying to do all day.
NA	8/16/2022	Decided to take all the SOFA tilts to -15 deg to start over but left the aux air and FA damper biases in place.
NA	8/16/2022	Waiting on unit to settle since operations is blowing sootblowers hard and fast which is swinging O2, CO, ID fan all over the place.
NA	8/16/2022	Biased auxiliary air dampers North/South. Since the aux air dampers are 100% open, the South dampers were biased back to 80% and now biased back to 70%. There is too much air in the South side of the unit and need to put air in the North side. No changes to NOx, CO or ID fan.
NA	8/16/2022	Biasing SOFA tilts C&E from -15 to 0 deg. This was not good since the B&C O2 probes on the North side dropped too low.
NA	8/16/2022	All day so far have had great success reducing steam temperatures, especially RH sprays.
NA	8/16/2022	Took all the FA dampers in the hot corners from 95 to 100%.
NA	8/16/2022	Moved all the SOFA tilts in the North furnace from -15 to 0 deg. Did not help.
NA	8/16/2022	Moved all the SOFA tilts in the North furnace back to -20 deg. South side from -15 to 0 deg. Made CO stay high at 323 ppm. NOx is doing the same at 0.147 Lbs/mmBtu. Helps O2 probes B&C but nothing for A&D which are below 2%. This was not expected.
NA	8/16/2022	Closed off the UFA damper from 100% to 50%. This did nothing.

TEST	DATE	NOTES / COMMENTS
NA	8/16/2022	Biasing SOFA dampers by putting in 10% more open on all 3 elevations on the North side. Some movement on O2.
NA	8/16/2022	After moving a lot of SOFA tilts, aux air damper bias still in place. SOFA dampers are biased North to South. Also reduced steam temperatures and big SH spray reduction.
2	8/16/2022	Unit load 710 GMW / 666 NMW. All pulverizers in service except 23. All SOFA dampers and SOFA tilts are in manual adjusted by operator. NOx is 0.149 Lbs/mmBtu and CO is 249 ppm. Great reduction in steam temperatures.
NA	8/17/2022	Walk down the boiler after leaving the settings in place from yesterday. There has been a change to the slag in the furnace at the 9 - 10.5 floor elevation. The slag is drying. It would probably take some more time and minor adjustments for the slag to dry more. Monday & Tuesday could not knock off the clinkers in many door openings at 10.5 floor elevation due to it being running, wet, and thick. This morning was able to knock the slag clinkers out of the door openings. The slag is still sticky but a lot less than typical.
3	8/17/2022	Unit load 709 GMW / 666 NMW. All pulverizers in service except 23. All SOFA dampers and SOFA tilts are auto. NOx is 0.176 Lbs/mmBtu and CO is 75 ppm.
NA	8/17/2022	Reducing load to 570 GMW due to a tube leak in the furnace about 10.5 floor elevation. Will operate with 7 mills in service and mill 23 out of service, which is the same as what we had at full load.
NA	8/17/2022	Made minor adjustments to damper settings to help the Griffin Optimizer. The Griffin Optimizer was in service all day.
NA	8/17/2022	Put in new curves so that there is less of a swing to the boiler when tuning on and off the Griffin Optimizer.
4	8/17/2022	Unit load 572 GMW / 532 NMW. All pulverizers in service except 23. All SOFA dampers and SOFA tilts are auto. NOx is 0.162 Lbs/mmBtu and CO is 125 ppm.
NA	8/18/2022	Griffin Optimizer ran all night learning to optimize for NOx and CO. It did some good and adjustments were made this morning to get CO down more and it came in excellent.
5	8/18/2022	Unit load 571 GMW / 534 NMW. All pulverizers in service except 23. All SOFA dampers and SOFA tilts are auto. NOx is 0.162 Lbs/mmBtu and CO is 106 ppm.
NA	8/18/2022	Discussion to set up the SOFA tilts to stroke once a shift to exercise the tips, break up slag in corners, and burp the boiler. Plan to set this up in the Griffin Optimizer.
NA	8/18/2022	The main burner tilts use to be stroked every shift +/- 20 deg. It appears that in the last year or two this processed stopped. Now coming out of outage it would be beneficial to start that process up again. Moving 1 corner down and then up and then back to position will not upset the boiler.
NA	8/18/2022	Changed the O2 curve to add more O2 when below full load to help dry the slag in the furnace.
NA	8/18/2022	The slagging and emission indicate that there is not enough air in the furnace. There is plenty of air in the ducts downstream of the economizer to the stack due to air in leakage. Due to the ID fan being limited at full load and the FD fans only at 75% there is room to raise the O2 but cannot due to the ID fan issue.
NA	8/18/2022	The SOFA tilts are set up to auto stroke one corner at a time in the Griffin Optimizer. Tested it and it worked well. Now need implement the sequence.
NA	8/18/2022	Load dropped due to tube leak and coming off line for repairs.
6	8/18/2022	Unit load 446 GMW / 410 NMW. All pulverizers in service except 23. All SOFA dampers and SOFA tilts are auto. NOx is 0.147 Lbs/mmBtu and CO is 38 ppm.
NA	8/18/2022	MATS tuning on TransAlta Centralia Unit #2 is complete and the boiler is optimized for the conditions that the unit was operating under at this time.

WINDBOX & SOFA YAW SETTINGS

UTILITY: TRANSALTA
STATION: CENTRALIA
TEST DATA: MATS TUNING
UNIT: 2
DATE: 8/15/22



(+) Indicates with fireball (-) Indicates against fireball

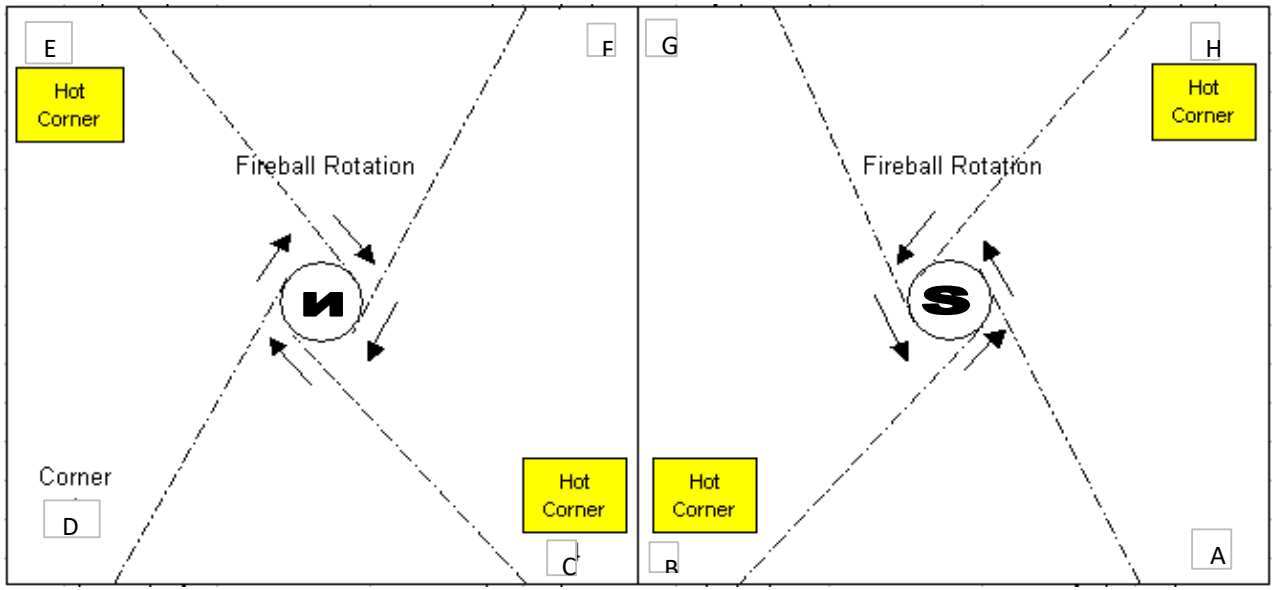
SOFA YAWS ARE + / - 15 Degrees of Movement (Each Pin Hole Equals 2.5 Degrees). Total pinholes is 13 with #7 being neutral.

	Furnace NORTH / LEFT								Furnace SOUTH / RIGHT							
	CNR C		CNR D		CNR E		CNR F		CNR A		CNR B		CNR G		CNR H	
	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position
SOFA TOP	0	7	0	7	+15	13	0	7	0	7	0	7	0	7	0	7
SOFA MIDDLE	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
SOFA BOTTOM	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1

(+) Indicates with fireball (-) Indicates against fireball

WINDBOX YAWS ARE + / - 15 Degrees of Movement (Each Pin Hole Equals 2.5 Degrees). Total pinholes is 13 with #7 being neutral.

	Furnace NORTH / LEFT								Furnace SOUTH / RIGHT							
BURNER CORNERS	CNR C		CNR D		CNR E		CNR F		CNR A		CNR B		CNR G		CNR H	
	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position	Yaw Angle (DEG)	Pin Position
CCOFA TOP	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw
CCOFA BOTTOM	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw
AUX AIR 78	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw
CFS 67 UPPER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 67 LOWER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 56 UPPER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+5	5
CFS 56 LOWER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 45 UPPER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 45 LOWER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 34 UPPER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 34 LOWER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 23 UPPER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
CFS 23 LOWER	+15	13	+15	13	+15	13	+15	13	+15	1	+15	1	+15	1	+15	1
WU 12	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw
BOTTOM AIR 11 / UFA	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw	No Yaw


E
Hot Corner
F
Fireball Rotation
Corner
D
Hot Corner
C
G
Hot Corner
B
H
Hot Corner
Fireball Rotation
A

CENTRALIA UNIT 2 COS TUNING

SYSTEM UPDATES AND TUNING - REPORT

August 15 – 19, 2022 : Prepared by Jake Tuttle – Sep 19, 2022

Taber International, LLC.

Summary –

Recently a major unit outage took place at Centralia Unit 2 during which several projects were performed on the boiler which will affect the behavior of the unit's Combustion Optimization System (COS). This visit was aimed at making the necessary system improvements and adjustments to account for these physical changes to the boiler and unit-wide, while also performing regular system maintenance, updates, and tuning. Changes were focused on realizing the objective of unit operation with NOx and CO emission rates consistently below the site's permitted levels of 0.18 lb/MMBtu and 200 ppm, respectively. Details about each notable system adjustment and related observations are provided below.

This optimization system visit overlapped with the visit of the boiler tuner, Christian Breton. This was purposely done due to the advantage of incorporating findings and practices identified by both the boiler tuner and COS engineer directly within the COS such that these events are developed as fully automated responses within the COS.

Observations –

Several important observations were made throughout the duration of Taber's visit, and a great deal of development took place within the COS application (hosted in the Griffin AI Toolkit software platform). Noteworthy observations are provided below and discussed.

Observation	Comments
Installation of Upgraded Server	At the initiation of the visit, the new server machine provided by Neundorfer was installed in place of the existing machine. The specifications of the new machine were confirmed to meet at least the minimum recommended levels for hosting the Griffin AI Toolkit software and operating Taber's Combustion Optimization System (COS) in closed-loop control. With the improved CPU and memory capacity of this machine, the delays and inconsistencies that were sometimes experienced in the past while the system was actively being edited should no longer take place. At all times with respect to functionality of the server, the system has remained available and operational. The most current version of the Griffin AI Toolkit software was updated to during this installation (v2.3.10).
Data Link Unreliability – OPC Connection	Since the original installation of Taber's COS at the site, there has been a persistent issue where the site's OPC server severs all connections due to too many connections being made to it (beyond the number allowed by the system's license). During a past visit, all of the Griffin AI Toolkit data links were consolidated into a single link to reduce the number of OPC connections made to the server. This has been effective

Data Link Unreliability – OPC Connection (continued)	in avoiding the issue of exceeding the number of allowed connections with the site's OPC server. Since the unit's startup several months ago, site engineers have seen that within hours of connecting and starting the Griffin AI Toolkit data links, the OPC server would disconnect. It was identified at the beginning of this tuning visit that one of the obsolete data links had somehow been started on the COS server machine. This redundant connection was responsible for exceeding the allowed number of OPC server connections. Taber engineers disconnected this data link, and no data communication issues were experienced for the duration of the visit, suggesting this issue has been resolved. To avoid this from taking place in the future, all unnecessary data links within the Griffin AI Toolkit were deleted and completely removed from the COS server.
Bumpless Transfer	A primary criticism of the COS from operators has been the amount of unit disruption that occurs when the system is engaged/disengaged. Taber's applications are all constructed with a bumpless transfer mechanism, meaning that during the transition from OFF to ON, the system maintains the setpoint that was in place by the DCS. This same behavior is expected when transitioning from ON to OFF, however the bumpless behavior in this circumstance is the responsibility of the DCS. Upon further review of the DCS logic by both site I&C technicians and Taber engineers, it was recognized that the factor which has led to stepwise setpoint movements during transitions of the COS has been the demand tag being provided to the COS and its relation to a series of LeadLag blocks within the DCS which control the rate which setpoints change when the DCS system is transitioned from manual to auto. The demand value that is provided to the COS is prior to the LeadLag blocks, meaning that the actual system demand that is passed to system hardware is being lagged, while the COS receives the immediate step change of these setpoints. A permissive of the COS is that the control loop is in AUTO control. Historically several of the control loops that the COS acts on have always been operated in manual control by operators. What has taken place is that operators transition these loops to AUTO, the COS receives the new setpoint and adjusts its bias value accordingly to match with the current position of the equipment relative to this setpoint, however the setpoint that is being sent to the control hardware is actually lagged (or in other words, slowly stepped) toward that new setpoint value. This discrepancy in values provided to the COS and to the control hardware has been responsible for stepwise movement of unit hardware. A thorough review of the DCS logic determined that a resolution to this behavior is to introduce similar LeadLag behavior (or a "rate limiter") to the bias value being provided to the DCS by the COS. By restricting the rate that the COS bias is introduced to the DCS, the transition between systems in closed-loop control should be smooth. If going forward, stepwise transitions are still observed, the problem can be resolved by changing from sharing the unbiased demand out of the DCS to sharing the lagged demand value with the COS, which will ensure that the COS always has the current setpoint value being provided to the hardware available to it for decision making.

DCS OFA Damper Curves	Working with the boiler tuner, the DCS setpoint curves for all of the OFA dampers (top, mid, and bottom SOFAs, and top and bottom CCOFAs) were adjusted to be more appropriate for operating the unit day to day with acceptable emission rates and unit behavior. These adjustments will further assist the bumpless transfer operation of the system, as the DCS AUTO setpoint will be much nearer to the actual position of these dampers when they are being controlled in manual by operators. Further information on the DCS setpoint curve adjustments can be found in the visit report provided by the boiler turner who performed this work.
ID Fan & Furnace Draft	Following the resolution of data communication issues between the DCS, the COS was allowed to operate in closed-loop control and to optimize as necessary to reduce NOx and CO emission rates. The operation of the unit, and therefore the COS, has always been limited due to ID fans nearing their maximum control level (100% damper opening), which results in the furnace draft being uncontrollable. A common operator practice to avoid this circumstance is to reduce the excess O2 setpoint, which reduces the total air in the unit. This reduces the demand on the ID fans, but it also affects combustion, most often by elevating CO emission rates. To help automatically address the ID fans reaching their control maximum and furnace draft becoming uncontrollable, logic was further modified within the COS to automatically reduce the excess O2 setpoint when the ID fans are very near to their maximum setting. The rate at which the excess O2 setpoint is decreased is proportional to the ID fan position and current furnace draft. With the furnace draft within a control range, the optimizer will focus on adjusting air staging to meet all emission rate objectives.
Load Range Performance	Operation of the unit at three load points (700+ MW gross, ~575 MW gross, and ~450 MW gross) with Mill 3 out of service was observed during the tuning visit. At all load ranges, the emission rate objectives were able to be realized with the optimizer in service. Also, by operating at each of these load ranges, a representative control curve was able to be put in place within the DCS to guide future operation. The DCS control curve is very similar to the mill-specific curves that were implemented within the COS several tuning visits ago. Due to this, the COS control curves have been left active due to their being specifically developed for each unique mill combination configuration.
SOFA Tilt Auto-Stroke	A common practice at many corner-fired boilers with available burner and SOFA tilt control is to "stroke tilts" or to periodically run individual tilts across their control range to keep the hardware free of binds and to break loose any developing slag or other conditions which may cause limitations in tilt responsiveness. It was recommended by the boiler tuner that the tilts on Centralia U2 begin to be stroked periodically for this purpose. To assist with the performance of tilt-stroking, Taber engineers developed within the COS "auto-stroke" logic for the SOFA tilts on the unit (the COS does not act on the burner tilts). Each operations shift, this auto-stroke logic will wait until the unit is at a relatively steady-state for more than 30 minutes, and then will quickly move through each individual SOFA tilt, running the tilts across their control range (±25°). The system will move one tilt, wait one minute, then move to the next, until it has stroked all 8 corner tilts. The system is also responsive in that it recognizes if conditions

	change, and it needs to pause the auto-stroke procedure until the unit settles down and reaches steady state again. The logic is developed and has been tested, but it is currently deactivated. Site engineers have been shown how to enable this logic if they so choose. A simple toggle switch has been constructed within the COS interface to activate the auto-stroke procedure once each shift. Prior to activating this logic, operations should be thoroughly briefed about this that they are not caught off-guard or surprised when SOFA tilts seemingly jump between their minimum and maximum positions without prompting or warning.
Hot/Cold Corner Biasing of FA Dampers	After repeated testing and observation of ignition points at the burners and of furnace conditions, unique biasing ranges have been introduced to the hot and cold corners of the fuel air (FA) dampers. For the unit's cold corner FA dampers, the optimizer is allowed to bias between ±8%. For the unit's hot corner FA dampers, no negative biasing is allowed, or the bias range is 0% to 8%.
Restricted Corner-to-Corner SOFA Tilt Split	Observation of the COS optimizer's behavior during the visit revealed that, at times, large deviations or splits are realized between individual corner SOFA tilt positions. Testing was performed during the visit to understand if these corner-to-corner splits are useful or not to system objectives. It was determined that no major benefit is being realized by these large splits, and that at times it may make emission rates more difficult to control, or affect other operating goals such as steam temperatures. In response to this, the COS has been configured to not allow a split larger than 8° between any SOFA tilt positions. If a split of this magnitude is desired by the optimizer or is introduced in any other way, the system determines whether NOx or CO is the immediate higher priority and moves the appropriate extreme SOFA tilt to be within the allowed range of its counterparts. If NOx is the current high priority, the lowest SOFA tilt is raised. If CO is the current high priority, the highest SOFA tilt is lowered.
NOx/CO Prioritization	A method of real-time prioritization between the conflicting operational objectives of NOx and CO was introduced within the COS. This method draws upon the current 30-day average and instantaneous level of each species, as well as utilizing recently developed advances to the Griffin AI Toolkit's optimization algorithm. The prioritization method weighs the current 30-day average of each species against the permitted level, and also factors in the instantaneous emission rate to determine which species should be given higher priority by the optimization algorithm. Although one of the two emission rates may be more focused on for reduction at any given moment, the system will always attempt to minimize both species to be below the site's permitted levels. During the tuning visit, this system of prioritization was observed to perform well and respond to real-time changes in combustion performance, while also aiding in avoiding increases to the 30-day average of each species. The upgraded optimization algorithm was also observed to identify effective unit configurations and solutions which improved both NOx and CO emission rates.

If there are any questions about the content of this visit summary, please do not hesitate to contact Taber International at info@taber-intl.com, or reach out to your Taber representative.

The tuning visit was performed, and this report was compiled by Jacob Tuttle. Please refer any specific question about this report's contents or the status of Centralia's Taber COS application to him. He can be reached at jake@taber-intl.com, or (435)-749-4470.

Thank you for this opportunity, and we look forward to our next visit to the site. Whenever Centralia personnel would like to schedule another visit, or if there are other areas of the system or the plant that you would like to explore applying optimization to, please inform Taber and we would be happy to discuss these opportunities.

Attachment B

WO# **95056325**
Type# **MIC Capital Other**

TransAlta™

PM Work Order

Order:	**95056325**
Description:	**PM U2 EMA Operated Dampers/Vv's: Stroke**
Start Date:	2022/04/25 End Date: 2022/04/26
Priority:	**Strategic Plan Sched**
Status:	REL CNF PRT NMAT PRC SETC
User Status	Comp
Reported By:	
Functional Loc:	0410-U2-BL-BD-IC U2 Boiler Draft I&C
Equipment:	
Sort Field:	
Tech.ID.	
MaintPlanGroup:	605 0410 Controls
MainWrkCenter:	TCG Technician, Computer
Notification:	

Order Long Text

PM U2 EMA Operated Dampers/Vv's: Stroke

4/25/2022 Green/Kelly stroked burner tilts. May need to be done again after mechanical work on nozzles. Grove

Tested reheat and superheat valves. Pulverizer hotair and cold air valves. MJG MK 5/11/2022

Completed testing all dampers. MK MJG

WO# 95056325
Type# MIC Capital Other

TransAlta™

PM Work Order

Operation	**0010**	**U2 Stroke EMA Controlled Dampers/Vv's**	
Work Center:	TCGCT		
Contol Key:	PM01		
Work:	40.0 H	Activity Type:	JRNY
Duration:	20.0 H	Number:	2
EarlStart Date:	2022/04/25	LateEndDate:	2022/04/26
Actual Work:	21.000		

Operation Long Text

U2 Stroke EMA Controlled Dampers/Vv's

DESCRIPTION OF WORK NEEDED:
PERFORM OVATION SENSOR CALIBRATION
REFER TO PROCEDURE AI004

LOCATION OF EQUIPMENT:
Boiler Varies

IDENTIFIED HAZARDOUS CONDITIONS:
Energized circuits
Moving Parts
Pinch Points
Sharp Edges

OPERATION DETAILS/TASK LIST:
Complete FLHA
Obtain Permits
Perform sensor calibration on EMA dampers/valves.
Clean-up/Close-out

TOOLS/PARTS REQUIRED:
Hand Tools / Minimum glove requirements - Leather/ Cut Resistant

DRAWINGS AND DOCUMENTATION:
Procedure AI 004

SAFETY CONSIDERATIONS:
Some or all of the following Policies and Procedures
May apply to this work order.

TA-133: ELECTRICAL SAFE WORK STANDARD
CNP-19: CONTROL OF WORK
CNP-29: JOB SAFETY ANALYSIS (JSA)
CNP-45: WORKING FROM HEIGHTS
CNP-85: HAND/POWER TOOL OPERATION
CNP-157: LIGHTING/ILLUMINATION
CNP-178: SAFE WORK PLANNING
CNP-181: ACCIDENT PREVENTION MANUAL
CNP-295: WORKING ALONE
CNP-296: PERSONAL PROTECTIVE EQUIPMENT (PPE)
CNP-364: WORK PERMITTING AND LOTO

WO# **95056328**
Type# **MIC Capital Other**

TransAlta™

PM Work Order

Order:	**95056328**
Description:	**PM U2 Fuel & Aux Air Damper: Test/Repair**
Start Date:	2022/05/09 End Date: 2022/05/17
Priority:	**Strategic Plan Sched**
Status:	REL CNF PRT PRC SETC
User Status	Comp
Reported By:	
Functional Loc:	0410-U2-BL-BM-AR U2 Auxiliary Air Dampers
Equipment:	
Sort Field:	
Tech.ID.	
MaintPlanGroup:	605 0410 Controls
MainWrkCenter:	TCG Technician, Computer
Notification:	

Order Long Text

PM U2 Fuel & Aux Air Damper: Test/Repair

PM Clean/REP Fuel & Aux Air Damper
This can't be done while people are in the boiler. This will be done prior to TA. Additional information - Operations has been doing a very good job of patrolling the boiler and writing up faulty damper actuators which have been repaired/replacedd while the unit is running whenever possible. Cycling the dampers just for the sake of cycling the dampers is not really necessary. Grove

5/18/2022 I/P testing on hold due to GE not feeling comfortable with us testing AA/FA/CCOFA damper controls while they are working on the burner nozzles. Grove

Tested 10+ I/Ps and determined they were all withen calibration specs and further work was not necessary. 07/10/22 MJK

WO# **95056328**
Type# **MIC Capital Other**

TransAlta™

PM Work Order

Operation	**0010**	**On shut down stroke Aux Air/Fuel Dampers**	
Work Center:	TCGCT		
Contol Key:	PM01		
Work:	12.0 H	Activity Type:	JRNY
Duration:	12.0 H	Number:	1
EarlStart Date:	2022/05/09	LateEndDate:	2022/05/10
Actual Work:	8.000		

Operation Long Text

On shut down stroke Aux Air/Fuel Dampers Damper Actuators

DESCRIPTION OF WORK NEEDED:
Set DCS to ramp open and close Aux Air and Fuel Air Dampers. Compile list which ones don't operate. Shut ramp off.

IDENTIFIED HAZARDOUS CONDITIONS:
Be aware of pinch points while the dampers are moving

TOOLS/PARTS REQUIRED:
Hand/ Tools

DRAWINGS AND DOCUMENTATION:
N/A
SAFETY CONSIDERATIONS:
Some or all of the following Policies and Procedures
May apply to this work order.

TA-133: ELECTRICAL SAFE WORK STANDARD
CNP-19: CONTROL OF WORK
CNP-29: JOB SAFETY ANALYSIS (JSA)
CNP-45: WORKING FROM HEIGHTS
CNP-85: HAND/POWER TOOL OPERATION
CNP-144: PRESSURIZED LINES OR FITTINGS
CNP-157: LIGHTING/ILLUMINATION
CNP-178: SAFE WORK PLANNING
CNP-181: ACCIDENT PREVENTION MANUAL
CNP-295: WORKING ALONE
CNP-296: PERSONAL PROTECTIVE EQUIPMENT (PPE)
CNP-364: WORK PERMITTING AND LOTO
CNP-386: PLANT HOUSEKEEPING
CNP-416: ELECTRICAL WORK PROCEDURES & STANDARDS

Document 1001001A10J08B55602A55583 E01 000
Rosemount Hagan Manual IB-102-202N 2-1/2

TransAlta™

PM Work Order

Operation	**0020**	**Clean/Rebuild Aux/Fuel air Act. LVL 1-2**		
Work Center:	TCGCT			
Contol Key:	PM01			
Work:	4.0 H	Activity Type:	JRNY	
Duration:	4.0 H	Number:	1	
EarlStart Date:	2022/05/10	LateEndDate:	2022/05/10	
Actual Work:	0.000			

Operation Long Text

Clean/Rebuild Aux/Fuel air Act. LVL 1-2

DESCRIPTION OF WORK NEEDED:

1. Clean or replace air filter supplying positioners
2. Lubricate actuator pivot points
3. Set controls to cycle positioners to full open and then full close.
   a. Observe operation to find positioners not performing correctly.
   b. Close faulty positioner's air-supply valve, and remove linkage pin at damper lever.
   c. Open air valve and observe if actuator now operates as expected.
4. If actuator operates correctly when disconnected from damper, report the faulty damper to Supervision.
5. If actuator is faulty, shut off air, disconnect air lines and remove actuator for repair.
6. Repair faulty actuators per instructions in EMERSON/ ROSEMOUNT-Hagan Instruction manual "IB-102-202N", and return them to service.
   X\Plant\C&C\Fuel air_Aux air\HAGAN_2-5x5_Manual_2 00301.pdf
7. Replace the actuators that were removed and complete this level

LOCATION OF EQUIPMENT:
7th Level

IDENTIFIED HAZARDOUS CONDITIONS:
Working from Heights
Sharp Edges

OPERATION DETAILS/TASK LIST:
Complete FLHA
Obtain Permits
Rebuild
Clean-up/Close-out

TOOLS/PARTS REQUIRED:
Hand/ Tools

DRAWINGS AND DOCUMENTATION:
N/A

SAFETY CONSIDERATIONS:
Some or all of the following Policies and Procedures
May apply to this work order.

TA-133: ELECTRICAL SAFE WORK STANDARD
CNP-19: CONTROL OF WORK

WO# **95056336**
Type# **MIC Capital Other**

TransAlta™

PM Work Order

Order:	**95056336**
Description:	**PM U2 CCOFA Damper: Test/Repair**
Start Date:	2022/05/16 End Date: 2022/05/16
Priority:	**Important Plan Sched**
Status:	REL CNF PRT NMAT PRC SETC
User Status	Comp
Reported By:	
Functional Loc:	0410-U2-BL-BM-CD U2 CCOFA Dampers
Equipment:	
Sort Field:	
Tech.ID.	
MaintPlanGroup:	605 0410 Controls
MainWrkCenter:	TCG Technician, Computer
Notification:	

Order Long Text

PM U2 CCOFA Damper: Test/Repair

5/18/2022 During the year, Operations has been very good about looking for faulty dampers and reporting them for repair and replacement. Repairs wer made while the unit was online or down due to forced outage. Cycling the dampers for the sake of cycling the dampers is really not necessary. Grove

Checked the FA/AA Dampers per Justin Gists request. I replaced faulty actuators, marked with orange flagging tape all that had insturment air signal loss(10)(E Corner LVL 6 Damper is mechanically bound up). I also stroked the CCOFA Dampers and the SOFA Dampers(No Problems with these).

NEED TO ADD PROCEEDURE TO THE WO X:\PLANT\C&C\Fuel_Aux air (FA-AA Damper PM). The title of the WO needs changed to reflect FA/AA dampers as well.
07/09/22 MJK

WO# **95056336**
Type# **MIC Capital Other**

TransAlta™

PM Work Order

Operation	**0010**	**CCOFA Tilt PM Stroke**	
Work Center:	TCGCT		
Contol Key:	PM01		
Work:	0 MIN	Activity Type:	JRNY
Duration:	0.0	Number: 0	
EarlStart Date:	2022/05/16	LateEndDate:	2022/05/16
Actual Work:	705		

Operation Long Text

CCOFA Tilt PM Stroke

DESCRIPTION OF WORK NEEDED:
Verify the I/P for each CCOFA tilt drives the tilt -30 Degrees, at 4ma, with 3 PSI to +30 Degrees, at 20ma, with 15 PSI. Verify the Feedback to the DCS matches the actual position of the damper at 0 %, 50 %, and 100 %

On 8 ½ Level of boiler

Verify the I/P for each CCOFA Damper drives the Damper from 10 % open, at 4ma, with 3 PSI to 100 % open, at 20ma, with 15 PSI.

On 7th Level of boiler

Clean or Replace CCOFA Damper Actuators Hagan

1. Clean or replace air filter supplying positioners
2. Lubricate actuator pivot points
3. Set controls to cycle positioners to full open and then full close.
   a. Observe operation to find positioners not pertorming correctly.
   b. Close faulty positioner's air-supply valve, and remove linkage pin at damper lever.
   c. Open air valve and observe if actuator now operates as expected.
4. If actuator operates correctly when disconnected from damper, report the faulty damper to Supervision.
5. If actuator is faulty, shut off air, disconnect air lines and remove actuator for repair.
6. Repair faulty actuators per instructions in EMERSON/ ROSEMOUNT-Hagan Instruction manual "IB-102-202N", and return them to service.
   X\Plant\C&C\Fuel air_Aux air\HAGAN_2-5x5_Manual_200301.pdf

IDENTIFIED HAZARDOUS CONDITIONS:
Tripping
Pinch Points
Sharp Edges

OPERATION DETAILS/TASK LIST:
Complete FLHA
Obtain Permits
Check
Clean-up/Close-out

TOOLS/PARTS REQUIRED:
Hand Tools

DRAWINGS AND DOCUMENTATION:

TransAlta™

PM Work Order

X\Plant\C&C\Fuel air_Aux air\HAGAN_2-5x5_Manual_200301.pdf

SAFETY CONSIDERATIONS:
Some or all of the following Policies and Procedures
May apply to this work order.

TA-133: ELECTRICAL SAFE WORK STANDARD
CNP-19: CONTROL OF WORK
CNP-29: JOB SAFETY ANALYSIS (JSA)
CNP-45: WORKING FROM HEIGHTS
CNP-85: HAND/POWER TOOL OPERATION
CNP-144: PRESSURIZED LINES OR FITTINGS
CNP-157: LIGHTING/ILLUMINATION
CNP-178: SAFE WORK PLANNING
CNP-181: ACCIDENT PREVENTION MANUAL
CNP-295: WORKING ALONE
CNP-296: PERSONAL PROTECTIVE EQUIPMENT (PPE)
CNP-364: WORK PERMITTING AND LOTO
CNP-386: PLANT HOUSEKEEPING
CNP-416: ELECTRICAL WORK PROCEDURES & STANDARDS

WO# 95056311
Type# MIC Capital Other

TransAlta™

PM Work Order

Order:	**95056311**
Description:	**PM U2 SOFA Damper: Test/Repair**
Start Date:	2022/05/09 End Date: 2022/05/12
Priority:	**Strategic Plan Sched**
Status:	REL CNF PRT NMAT PRC SETC
User Status	Comp
Reported By:	
Functional Loc:	0410-U2-BL-BM-SD U2 SOFA Dampers
Equipment:	
Sort Field:	
Tech.ID.	
MaintPlanGroup:	605 0410 Controls
MainWrkCenter:	TCG Technician, Computer
Notification:	

Order Long Text

PM U2 SOFA Damper: Test/Repair

6/17/2022 Kelly, Gudeman, Grove
Stroked all SOFA tilts. Mechanical binding on all tilts in the up direction. "H" corner has sheared an actuating pin/arm and needs reprair. "E" corner has metal drooping down from the top of the space creating binding when going upwards. The mechanics will have to affect repairs on it as well. Sensor calibrated the other tilts with the final range of motion being:
"A" -30 to +13
"B" -30 to +18
"C" -25 to +15
"D" -30 to +10
"E" awaiting mechanical repairs
"F" -30 to +10
"G" -30 to +18
"H" awaiting mechanical repairs
Will complete stroking of the "E" and "H" later after repairs made and LOTO's cleared.

6/20/2022
Mechanical repairs made to "E" corner. Stroked and sensor calibrated -30 to +28. Best one yet. Still waiting for repairs on "H" corner. Grove

6/21/2022
Mechanics made repirs to "H" corner and Gudeman moved the tilt for them to ensure free range of motion. Still needs to be calibrated. Grove

7/11/2200
Gudeman and Kelly completed stroking PM on 7/7/22 per note on work order. Grove

TransAlta™

PM Work Order

Operation	**0010**	**SOFA Tilt PM stroke A corner**	
Work Center:	TCGCT		
Contol Key:	PM01		
Work:	8.0 H	Activity Type:	JRNY
Duration:	4.0 H	Number:	2
EarlStart Date:	2022/05/09	LateEndDate:	2022/05/09
Actual Work:	13.500		

Operation Long Text

SOFA Tilt PM stroke A corner

DESCRIPTION OF WORK NEEDED:
Verify the I/P for each SOFA tilt drives the tilt -30 Degrees, at 4ma, with 3 PSI to +30 Degrees, at 20ma, with 15 PSI. Verify the Feedback to the DCS matches the actual position of the damper at 0 %, 50 %, and 100 %

On 8 ½ Level of boiler

Verify the I/P for each SOFA Damper drives the Damper from 10 % open, at 4ma, with 3 PSI to 100 % open, at 20ma, with 15 PSI.

On 7th Level of boiler

Clean or Replace SOFA Damper Actuators Hagan

1. Clean or replace air filter supplying positioners
2. Lubricate actuator pivot points
3. Set controls to cycle positioners to full open and then full close.
   a. Observe operation to find positioners not performing correctly.
   b. Close faulty positioner's air-supply valve, and remove linkage pin at damper lever.
   c. Open air valve and observe if actuator now operates as expected.
4. If actuator operates correctly when disconnected from damper, report the faulty damper to Supervision.
5. If actuator is faulty, shut off air, disconnect air lines and remove actuator for repair.
6. Repair faulty actuators per instructions in EMERSON/ ROSEMOUNT-Hagan Instruction manual "IB-102-202N", and return them to service.
   X\Plant\C&C\Fuel air_Aux air\HAGAN_2-5x5_Manual_200301.pdf

IDENTIFIED HAZARDOUS CONDITIONS:
Tripping
Pinch Points
Sharp Edges

OPERATION DETAILS/TASK LIST:
Complete FLHA
Obtain Permits
Check
Clean-up/Close-out

TOOLS/PARTS REQUIRED:
Hand Tools

DRAWINGS AND DOCUMENTATION:

Bas. start date	Order	Description
10/16/2018	90871081	PM U2 Scanner
11/01/2018	90871304	PM U2 Sec. Air Impulse Lines: Clean Out
11/05/2018	90872681	PM U2 N and S O2 Probes; Monthly
11/05/2018	90873590	U2 ignitors PM 4D not staying lit.
11/05/2018	90873589	U2 ignitors PM 6F not stay lit. RPR
11/05/2018	90873505	U2 ignitors 1/2 H corner no power. RPR
11/05/2018	90873591	U2 ignitors PM 5G not working RPR
11/06/2018	90874837	24 BCP mech seal hx water hose
11/07/2018	90871963	PM U2 Sec. Air Impulse Lines: Clean Out
11/14/2018	90871804	PM U2 Furnace DraftTaps: Rod/Clean
11/15/2018	90872824	PM U2 Sec. Air Impulse Lines: Clean Out
11/19/2018	90876299	S flue gas O2-D probe RPR
11/19/2018	90873551	PM U2 Sec. Air Impulse Lines: Clean Out
11/28/2018	90873433	PM U2 Furnace DraftTaps: Rod/Clean
11/28/2018	90874318	PM U2 Sec. Air Impulse Lines: Clean Out
12/03/2018	90875941	PM U2 N and S O2 Probes; Monthly
12/06/2018	90875049	PM U2 Sec. Air Impulse Lines: Clean Out
12/10/2018	90877164	PM U2 Scanner
12/10/2018	90878660	U2 "B" BACKEND O2 HIGH BACKPRESSURE (RPR
12/10/2018	90877190	U2 Hydrojets #5 & 6, remove hoses - Plug
12/12/2018	90874947	PM U2 Furnace DraftTaps: Rod/Clean
12/12/2018	90875808	PM U2 Sec. Air Impulse Lines: Clean Out
12/12/2018	90878891	U2 RH Tube Leak Repair 2-659
12/13/2018	90879061	*22b bypass damper not opening
12/13/2018	90872851	U2 N SH spray valve packing blown
12/17/2018	90879202	21 BCP seal relief sticking
12/17/2018	90874156	PM U2 Scanner Air Filters: Replace
12/17/2018	90874157	PM U2 Scanner Blower Air Filters 6 Mth
12/18/2018	90878723	U2 "E" BACKEND O2 HIGH BACKPRESSURE
12/20/2018	90872475	22 phosphate pp bleed off line valve bad
12/20/2018	90876313	24 Pulv. coal pipe leak, 24" above Pulv.
12/20/2018	90876634	PM U2 Sec. Air Impulse Lines: Clean Out
01/02/2019	90881133	*24 BCP BCW line rupture
01/03/2019	90876519	PM U2 Furnace DraftTaps: Rod/Clean
01/07/2019	90879300	PM U2 N and S O2 Probes; Monthly
01/07/2019	90878206	PM U2 Sec. Air Impulse Lines: Clean Out
01/08/2019	90877373	PM U2 Sec. Air Impulse Lines: Clean Out
01/09/2019	90878055	PM U2 Furnace DraftTaps: Rod/Clean
01/10/2019	90879053	PM U2 Sec. Air Impulse Lines: Clean Out
01/14/2019	90882229	U2 5A bent lance, hitting tubes
01/15/2019	90879775	PM U2 Sec. Air Impulse Lines: Clean Out
01/15/2019	90883383	U2 Both S Rear Sec Air TRBS
01/16/2019	90882971	U2 Tube leak at WW section 01/12/19
01/20/2019	90879690	PM U2 Furnace DraftTaps: Rod/Clean
01/21/2019	90884070	24 BCP Mech Seal Cooler hoses changeout

Bas. start date	Order	Description
01/21/2019	90880234	U2 3 Level F corner ignitor TRBS
01/21/2019	90880231	U2 5 Level D corner Ignitor TRBS
01/21/2019	90876316	U2 6 lvl F cornr ignitor TRBS
01/21/2019	90875793	U2 8 lvl ignitor D cornr TRBS
01/21/2019	90883790	U2 SH/WW tube leak IK 16 01/20/19
01/22/2019	90883425	U2 6E Ignitor TRBS
01/22/2019	90883398	U2 Ignitor 6D runs/shows no flame TRBS
01/23/2019	90875791	1 lvl ignitr hcornr only proves in local
01/24/2019	90880372	PM U2 Sec. Air Impulse Lines: Clean Out
01/28/2019	90884872	U2 5G corner ignitor RPR
01/31/2019	90883266	PM U2 N and S O2 Probes; Monthly
01/31/2019	90885716	U2 Backpass North Side SH Tube leak
02/04/2019	90884141	PM U2 Scanner
02/04/2019	90881602	PM U2 Sec. Air Impulse Lines: Clean Out
02/04/2019	90880239	U2 5 level G corner Ignitor short
02/05/2019	90881266	PM U2 Furnace DraftTaps: Rod/Clean
02/07/2019	90882719	PM U2 Sec. Air Impulse Lines: Clean Out
02/12/2019	90884993	U2 N & S CRH Drn Pot hi/flooded checks R
02/14/2019	90883635	PM U2 Sec. Air Impulse Lines: Clean Out
02/14/2019	90887238	U2 BCP Seal Leakoff Reg. drifting close
02/18/2019	90886490	25 D corner coal leak below 7 level
02/18/2019	90879643	U2 B corner W/U close ind RPR
02/20/2019	90883477	PM U2 Furnace DraftTaps: Rod/Clean
02/21/2019	90884401	PM U2 Sec. Air Impulse Lines: Clean Out
02/21/2019	90887833	U2 Coal Pipe leak below 27D riffle
02/21/2019	90887914	U2 Flue gas temp from APH 21 D3 TRBS
02/26/2019	90887806	22 PA Fan Lube oil PP/Mtr TRBS
02/28/2019	90885238	PM U2 Sec. Air Impulse Lines: Clean Out
03/04/2019	90888846	*U2 N ECONO INLET VV INDICATION
03/04/2019	90887130	PM U2 N and S O2 Probes; Monthly
03/05/2019	90885119	PM U2 Furnace DraftTaps: Rod/Clean
03/05/2019	90887611	PM U2 Scanner
03/11/2019	90886286	PM U2 Sec. Air Impulse Lines: Clean Out
03/11/2019	90888645	U2 tubeleak 02/27/19 WW/RH area IK6
03/11/2019	90886381	U2-1/2F corner ignitor RPR
03/14/2019	90887156	PM U2 Sec. Air Impulse Lines: Clean Out
03/20/2019	90886990	PM U2 Furnace DraftTaps: Rod/Clean
03/21/2019	90887880	PM U2 Sec. Air Impulse Lines: Clean Out
03/24/2019	90891832	North econo inlet VV U2 TRBS
03/25/2019	90891963	*U2 Sootblowing Computer abnormal screen
03/26/2019	90891949	U2 front drum level >8" dev TRBS
03/28/2019	90888708	PM U2 Sec. Air Impulse Lines: Clean Out
04/01/2019	90890926	PM U2 N and S O2 Probes; Monthly
04/02/2019	90892238	U2 silica Analyzer gives bad reading
04/03/2019	90888530	PM U2 Furnace DraftTaps: Rod/Clean

Bas. start date	Order	Description
04/03/2019	90889914	PM U2 Sec. Air Impulse Lines: Clean Out
04/08/2019	90892716	U2 BCP Seal Leakoff Reg. needs adjusting
04/09/2019	90893494	U2 N ECONO INLET VV BKR FAILED
04/11/2019	90890687	PM U2 Sec. Air Impulse Lines: Clean Out
04/15/2019	90894235	21 PA Fan trip RFTS
04/15/2019	90882009	CRH Drainn Pot Flooded U2
04/17/2019	90890531	PM U2 Furnace DraftTaps: Rod/Clean
04/18/2019	90891459	PM U2 Sec. Air Impulse Lines: Clean Out
04/22/2019	90882972	22B abs bypass damper REPAIRS IN TuAr
04/25/2019	90892170	PM U2 Sec. Air Impulse Lines: Clean Out
04/29/2019	95053071	PM U2 CCOFA Damper: Test/Repair
04/29/2019	95053028	PM U2 Fan Motors Heater: On while Down
04/29/2019	95053054	PM U2 Secondary Air Xmitters: Calibrate
04/29/2019	90875920	PM U2 Warm-Up Guns 6 MTH BF001
04/29/2019	90886099	U2 coal pipe hangers inspect and repair
05/01/2019	95052865	2019 U2 Safety Valves Section 1
05/01/2019	90894630	2019 Unit 2 Boiler Back Pass cleaning
05/01/2019	90892074	PM U2 Furnace DraftTaps: Rod/Clean
05/01/2019	90894151	PM U2 N and S O2 Probes; Monthly
05/01/2019	90894035	U2 N Econo Inlet VV handwheel off
05/02/2019	90893024	PM U2 Sec. Air Impulse Lines: Clean Out
05/06/2019	90883384	22 ID Fan Motor Bearing Oil Leak Inspect
05/06/2019	90874878	24 BCP suction vv packing leak
05/06/2019	90889002	U2 BCPs change out all 8 seal clr hoses
05/08/2019	90888861	2019 U2 Boiler Clean and throat repairs
05/08/2019	90896281	U2 Reheat Front Face Assm 7&12 Weld Repa
05/09/2019	90893843	PM U2 Sec. Air Impulse Lines: Clean Out
05/13/2019	90894036	2 horiz sh drn root Vv pkng leak
05/13/2019	90879753	22 BCP LO Heat Exchanger Oil Leak
05/13/2019	90892973	22 id fan inlet damper hyd cylndr leak
05/13/2019	90891286	22 ID fan L/O temp hi
05/13/2019	95052998	PM APH Guide Bearing Temp Alarms Check
05/13/2019	90892374	U2 2" boiler drain plugged- T/S & REPAIR
05/13/2019	90886244	U2 Horizontal SH Baffles INSP/REPR
05/13/2019	90886241	U2-3F ignitor iso valve pluged - Clear
05/14/2019	90880238	U2 6 level F corn Ignitor TRBS
05/14/2019	90888486	U2 6D ignitor RPR
05/14/2019	90893664	U2 N/S Econo Inlet VV internal inspectin
05/14/2019	90892978	U2 North Mid Lvl Avaition Light RPR
05/15/2019	90893734	PM U2 Furnace DraftTaps: Rod/Clean
05/16/2019	95053064	PM U2 O2 Probes: Rebuild/Calibrate
05/16/2019	90894554	PM U2 Sec. Air Impulse Lines: Clean Out
05/20/2019	90892990	U2 north and south econo inlet valves
05/20/2019	90871177	Unit 2 Drum Level Transmitter RPR
05/23/2019	90895116	PM U2 Sec. Air Impulse Lines: Clean Out

05/24/2019	90890415	22 ID Fan Troubleshoot Vibration RPR
05/27/2019	90895530	PM SCE U2 Boiler Scanner
05/27/2019	95053046	PM U2 SOFA Damper: Test/Repair
05/27/2019	95053150	U2 ID Fan Ducting I/R
05/29/2019	90895010	PM U2 Furnace DraftTaps: Rod/Clean
05/30/2019	90885005	21 ID Fan S. side ductwork siding off
05/30/2019	90891187	21,22,23,24 BCP Suction Vv insul. repair
05/30/2019	90895840	PM U2 Sec. Air Impulse Lines: Clean Out
06/03/2019	90886118	24 BCP Faulty Thrust Brg Temp Probe TRBS
06/03/2019	90897186	PM U2 N and S O2 Probes; Monthly
06/06/2019	90896633	PM U2 Sec. Air Impulse Lines: Clean Out
06/10/2019	90891624	21 BCP Injection PP keeps tripping
06/10/2019	90886148	U2-5E&5G ignitors strainers missing. RPR
06/12/2019	90896553	PM U2 Furnace DraftTaps: Rod/Clean
06/13/2019	90895381	PM U2 Scanner Air Filters: Replace
06/13/2019	90895382	PM U2 Scanner Blower Air Filters 6 Mth
06/13/2019	90897324	PM U2 Sec. Air Impulse Lines: Clean Out
06/17/2019	90887562	23 BCP seal leak off press gauge Replace
06/18/2019	90901393	U2 Start Up support
06/19/2019	95053130	2019 U2 WW Hanger Tube Refurb GL
06/20/2019	90897948	PM U2 Sec. Air Impulse Lines: Clean Out
06/24/2019	90882014	21 Ducting over lodge skin loose
06/26/2019	90897864	PM U2 Furnace DraftTaps: Rod/Clean
06/27/2019	90901487	Calibrate U2 pH probes
06/27/2019	90898750	PM U2 Sec. Air Impulse Lines: Clean Out
07/01/2019	90890373	22aph guide brng pp inop T/S no oil PSI
07/01/2019	90897184	PM U2 Warm-Up Guns 6 MTH BF001
07/02/2019	90899526	PM U2 Sec. Air Impulse Lines: Clean Out
07/03/2019	90900313	PM U2 N and S O2 Probes; Monthly
07/03/2019	90902023	U2 22 APH HE Sootblwer fails to run full
07/07/2019	90902546	24 Pulv coal leak @ pipe under fdr deck
07/08/2019	90901807	2 4d igniter TRBS
07/08/2019	90901808	2 5e igniter TRBS
07/08/2019	90902141	U2 Line 8 silica analyzer TRB
07/09/2019	90899400	PM U2 Furnace DraftTaps: Rod/Clean
07/10/2019	90903091	coal leak on 26D coal pipe
07/10/2019	90903090	U2 coal leak on 23F coal pipe
07/11/2019	90900220	PM U2 Sec. Air Impulse Lines: Clean Out
07/15/2019	90903321	U2 coal pipe 22B ,coal leak
07/15/2019	90903167	u2 rack comm 3 fault sootblowers
07/16/2019	90903444	#24 BCP Casing Temp 2TE-5199 TRBS
07/16/2019	90899568	U2-1/2&3F corner ignitor air RPR
07/16/2019	90902135	U2-ignitor-3F corner REPL
07/17/2019	90902986	U2 TIFI agitator, move power supply
07/17/2019	90902985	U2-Ignitor 3Fcorner VV REPL
07/18/2019	90900806	PM U2 Sec. Air Impulse Lines: Clean Out
07/18/2019	90903855	u2 rack3 comm fault

Bas. start date	Order	Description
07/22/2019	90904126	24 BCP upper bearing temp high
07/22/2019	90898357	A Corner AA #3 Inst Air Signal Loss RPR
07/22/2019	90898358	B Corner AA #3 Inst Air Signal Loss RPR
07/23/2019	90900744	PM U2 Furnace DraftTaps: Rod/Clean
07/23/2019	95053383	U2 N and S Econo Inlet Vv's - RBLD
07/24/2019	95053382	24 Boiler Circ Pump - REPL
07/25/2019	90901430	PM U2 Sec. Air Impulse Lines: Clean Out
07/25/2019	95052915	U2 Scrubber Duct Refurbishment
07/28/2019	90904666	#22 APH Gas in 2TE-536A1 TRBS
07/29/2019	90904457	APH 21-2B Sector Plate position TRBS
07/30/2019	90903272	PM U2 N and S O2 Probes; Monthly
07/31/2019	90890031	PM 21 FD Fan INSP/Repair/Align/Lube
07/31/2019	90890033	PM 21 ID Fan INSP/Repair/Align/Lube
07/31/2019	90890029	PM 21 PA Fan INSP/Repair/Align/Lube
07/31/2019	90890032	PM 22 FD Fan INSP/Repair/Align/Lube
07/31/2019	90890034	PM 22 ID Fan INSP/Repair/Align/Lube
07/31/2019	90890030	PM 22 PA Fan INSP/Repair/Align/Lube
07/31/2019	90896924	PM U2 Silica Analyzer: Yrly
08/01/2019	90902229	PM U2 Sec. Air Impulse Lines: Clean Out
08/05/2019	90902098	PM U2 Furnace DraftTaps: Rod/Clean
08/05/2019	90904964	U2 D corner fuel oil filter leaking
08/05/2019	90903861	u2 F corner w/u atomizing air valve
08/08/2019	90903038	PM U2 Sec. Air Impulse Lines: Clean Out
08/13/2019	90903729	PM U2 Sec. Air Impulse Lines: Clean Out
08/15/2019	90906300	U2 5E ignitor TRBS
08/18/2019	90906631	*21 BCP pump motor starter - Repair
08/18/2019	90906738	U2 #3 motor starter issue
08/19/2019	90906779	22D coal pipe leak
08/19/2019	90904105	PM SCE U2 Boiler Scanner
08/19/2019	90906820	U2 South Econo inlet wire to LVDT melted
08/21/2019	90903626	PM U2 Furnace DraftTaps: Rod/Clean
08/21/2019	90904268	PM U2 Sec. Air Impulse Lines: Clean Out
08/22/2019	90901811	U2 N Econo Inlet ADJ
08/22/2019	90901810	U2 S Econo Inlet ADJ
08/27/2019	90907443	U2 ABT boiler blowdown U/S block packing
08/27/2019	90905905	U2 Lower Water Wall Tube Leak 2-668
08/29/2019	90906116	PM U2 N and S O2 Probes; Monthly
08/29/2019	90904932	PM U2 Sec. Air Impulse Lines: Clean Out
09/04/2019	90904793	PM U2 Furnace DraftTaps: Rod/Clean
09/05/2019	90905665	PM U2 Sec. Air Impulse Lines: Clean Out
09/05/2019	90908350	U2 RH SPRAY BLOCK OPEN LIMIT FAILURE
09/06/2019	90908758	U2 WW tubeleak 23 BA Hopper E. side
09/09/2019	90908431	25 Pulv. coal leak under North fdr deck
09/09/2019	95052997	PM Scanners Prep For Washdown/Repair
09/09/2019	95053060	PM U2 EMA Operated Dampers/Vv's: Stroke

Bas. start date	Order	Description
09/09/2019	95053063	PM U2 Fuel & Aux Air Damper: Test/Repair
09/09/2019	95053059	PM U2 Furnace Taps: Clean 1st Day Outage
09/09/2019	95053035	PM U2 Igniters: Rebuild
09/09/2019	90908269	U2 # 27 D coal pipe leak
09/10/2019	90889545	22B Abs. Bypass damper gearbox inspect
09/12/2019	90906350	PM U2 Sec. Air Impulse Lines: Clean Out
09/15/2019	90909434	22-2 b APH sector Plate Rpr
09/16/2019	90906821	21 ID fan inlet damper rod end broken
09/18/2019	90906266	PM U2 Furnace DraftTaps: Rod/Clean
09/19/2019	90907053	PM U2 Sec. Air Impulse Lines: Clean Out
09/24/2019	90909909	U2 silica analyzer Cal
09/30/2019	90908953	PM U2 N and S O2 Probes; Monthly
09/30/2019	90907715	PM U2 Sec. Air Impulse Lines: Clean Out
10/01/2019	90907611	PM U2 Furnace DraftTaps: Rod/Clean
10/03/2019	90908309	PM U2 Sec. Air Impulse Lines: Clean Out
10/07/2019	90909636	U2 5E ignitor TRBS
10/07/2019	90909635	U2 8B ignitor TRBS
10/07/2019	90909639	U2 4C ignitor REPL
10/07/2019	90909641	U2 4E ignitor TRBS
10/07/2019	90909638	U2 5E ignitor TRBS
10/09/2019	90888485	U2 1-2A ignitor runs/shows no flame DCS
10/09/2019	90911410	U2 Boiler line 8 silica meter Cal
10/10/2019	90911052	22E & 23E coal leak at boiler 7 lvl
10/10/2019	90908959	PM U2 Sec. Air Impulse Lines: Clean Out
10/10/2019	90909640	U2 3C ignitor TRBS
10/10/2019	90906051	U2 22 BCP mech seal failing Replace Pmp
10/10/2019	90886137	U2-3D and 3F ignitor TRBS
10/15/2019	90879320	U2 SH Tube Leak IK 13/15 area 12/16/18
10/16/2019	90908885	PM U2 Furnace DraftTaps: Rod/Clean
10/17/2019	90909689	PM U2 Sec. Air Impulse Lines: Clean Out
10/17/2019	90905331	U2 Absorber inlet duct leak, Repair Dt
10/21/2019	90912686	U2 25 Pulv E/F riffle box hole Re-Patch
10/21/2019	90906298	U2 7C ignitor TRBS
10/21/2019	95053073	U2 Phosphate Analyzer; Shutdown Flushout
10/21/2019	95053072	U2 Silica Analyzer; Shutdown Flushout
10/22/2019	90912301	22 BCP logic force to bump test
10/24/2019	90910219	PM U2 Sec. Air Impulse Lines: Clean Out
10/28/2019	90911727	PM U2 N and S O2 Probes; Monthly
10/28/2019	90913204	U2 coal leak 24 pulv above NW disch vv
10/29/2019	90913210	2g corner lwr ccofa stk open
10/30/2019	90910135	PM U2 Furnace DraftTaps: Rod/Clean
10/31/2019	90910916	PM U2 Sec. Air Impulse Lines: Clean Out
11/07/2019	90911515	PM U2 Sec. Air Impulse Lines: Clean Out
11/11/2019	90911944	PM SCE U2 Boiler Scanner
11/12/2019	90914593	U2 A cnr upper COFA damper Rfts

Bas. start date	Order	Description
11/13/2019	90911422	PM U2 Furnace DraftTaps: Rod/Clean
11/13/2019	90912918	U2 ignitor PM-- 3C, 3F issues Rfts
11/14/2019	90912211	PM U2 Sec. Air Impulse Lines: Clean Out
11/17/2019	90915263	24 pulv coal leak
11/18/2019	90915426	Leak 28 Pulv. NE elbow above disch. Vv
11/18/2019	90915124	U2 7 lvl Ign no pow to Vvs - Vvs open
11/18/2019	90915281	U2 D 1/2 corner ign air blockage Rpr
11/18/2019	90904867	U2 P04 Phosphate pp 22 rebuild chk valve
11/20/2019	90912858	PM U2 Sec. Air Impulse Lines: Clean Out
11/25/2019	90914253	21 Phosphate pp outbd mtr bearing Rpr
11/25/2019	90915115	U2 7C ign short to grnd on oil vlv open
11/26/2019	90915417	U2 coal leak 25 pulv above SE disch vv
11/27/2019	90912726	PM U2 Furnace DraftTaps: Rod/Clean
11/28/2019	90913475	PM U2 Sec. Air Impulse Lines: Clean Out
11/29/2019	90912901	U2 ignitor PM-- 4D - weak air flow Rpr
12/02/2019	90914513	PM U2 N and S O2 Probes; Monthly
12/02/2019	90916503	U2 #25 D coal pipe leak
12/02/2019	90914815	U2 east fuel oil air blowdown vv Replace
12/02/2019	90912916	U2 ignitor PM-- 5 level E- low air Rpr
12/05/2019	90914199	PM U2 Sec. Air Impulse Lines: Clean Out
12/08/2019	90917220	23f coal pipe leak
12/09/2019	90909715	U2 6E ignitor Clear Air Line of blockage
12/10/2019	90913031	PM U2 Scanner Air Filters: Replace
12/10/2019	90913032	PM U2 Scanner Blower Air Filters 6 Mth
12/11/2019	90914104	PM U2 Furnace DraftTaps: Rod/Clean
12/11/2019	90917405	U2 Calibrate condy meters
12/12/2019	90914852	PM U2 Sec. Air Impulse Lines: Clean Out
12/16/2019	90912917	2 8C ignitor no indi when vv open Repl
12/19/2019	90915576	PM U2 Sec. Air Impulse Lines: Clean Out
12/25/2019	90915455	PM U2 Furnace DraftTaps: Rod/Clean
12/26/2019	90875113	Casing Temp. (RPR) (CAL)
12/26/2019	90909598	#22 APH cold end sootblower TRBS
12/26/2019	90903676	#22 ID Fan Drive Brg Oil - HTR Ctrl RFTS
12/26/2019	90893524	2 8a insp port hinge broken
12/26/2019	90916504	2 coal pipe 8d leak @ flange
12/26/2019	90879558	21 BCP Casing Vent VV Blk VV repl hndwhl
12/26/2019	90879513	21bcp suc vv brkr faulty
12/26/2019	90887674	22 BCP Inj Wtr HX Shell side drn Rep Vlv
12/26/2019	90910738	22 BCP suction vlv drive motor oos
12/26/2019	90910648	22 BCP tripped Rfts
12/26/2019	90888845	22 Bypass damper will not close
12/26/2019	90908652	22 ID fan DE Vibration Y axis RFTS
12/26/2019	90908441	22ID Hyd Prs Gaug RPL
12/26/2019	90873959	23 BCP INJ Pp inlet Vv packing leak
12/26/2019	90886768	23 BCP lube oil press. high @ 27 psi/adj

Bas. start date	Order	Description
12/26/2019	90892680	23 pulverizer coal pipe leak
12/26/2019	90906722	24 BCP lower thrust bearing temp high
12/26/2019	90873347	24 coal pipe leak Repair
12/26/2019	90892828	24 DC coal leak at coupling behind 28DC
12/26/2019	90892376	24 pullv coalleak below feeder deck
12/26/2019	90886491	24 pullverizer coalleak below feeder dec
12/26/2019	90894274	25 pulv spool coal leak
12/26/2019	90887022	28D coal pipe leak 1st elbow above riff
12/26/2019	90899210	Above 21-22 FD fans need insul. Asbestos
12/26/2019	90904865	flame scanners TRBS
12/26/2019	90909632	U2 4D ignitor TRBS
12/26/2019	90909912	U2 22-1(A) APH sector plate Rfts
12/26/2019	90888844	U2 24 Boiler Circ Pump replace seal hose
12/26/2019	90880414	U2 25 DC coal pipe leak below riffle
12/26/2019	90910722	U2 3" hole in boiler on 8.5 lvl east
12/26/2019	90875792	u2 5 lvl ignitr on g cornr, short in box
12/26/2019	90894041	U2 5E ignitor TRBS
12/26/2019	90889491	U2 6" Boiler Drn root vv hard to Open
12/26/2019	90894262	U2 6E ignitor TRBS
12/26/2019	90894037	U2 8D ignitor TRBS
12/26/2019	90908683	U2 Boiler CB Upstrm/Dwnstrm blk vv's REP
12/26/2019	90883185	U2 Center Drum Vt Root VV Adjust Packing
12/26/2019	90898466	U2 fan bay Asbestos insulation
12/26/2019	90914062	U2 hydrazine meter is out of cal. Cal
12/26/2019	90912919	U2 ignitor PM-- 7 level C & B Rfts
12/26/2019	90881429	U2 North Econ inlet packing leak
12/26/2019	90883186	U2 Rear Drum Upper Yarway Blk VV Pck lk
12/26/2019	90883396	U2 SSH spray EMA tripped TRBS
12/26/2019	90890573	U2-1/2D&3D ignitors Airlines clean lines
12/26/2019	90894702	U2-F corner12-3 ignitors have NO air.
12/30/2019	90917481	PM U2 N and S O2 Probes; Monthly
12/30/2019	90916124	PM U2 Sec. Air Impulse Lines: Clean Out
12/31/2019	90919269	25 Pulverizer coal leak abv discharge VV
01/02/2020	90916804	PM U2 Sec. Air Impulse Lines: Clean Out
01/06/2020	90914508	PM U2 Warm-Up Guns 6 MTH BF001
01/06/2020	90912613	U2 Ignitor 4E corner Oil Vlv Rpr
01/08/2020	90916702	PM U2 Furnace DraftTaps: Rod/Clean
01/09/2020	90917573	PM U2 Sec. Air Impulse Lines: Clean Out
01/09/2020	90919537	U2 analyzer reading incorrectly
01/13/2020	90921889	U2 10.5 lvl N & Econo Tube Leak
01/13/2020	90919666	U2-6D ignitor flow switch REPL
01/16/2020	90918389	PM U2 Sec. Air Impulse Lines: Clean Out
01/20/2020	90912693	2 2nd row ir stm blk vv Replace Packing
01/20/2020	90919550	21 CE APH S.B.press guage bad/steam leak
01/20/2020	90922060	21 FD fan missing motor air filter

Bas. start date	Order	Description
01/20/2020	90914148	22 APH hotend stblower blk vlv Adj Packi
01/20/2020	90912627	22BCP oil Pp-B; no run indication Rpr
01/20/2020	90906206	U2 8B ignitor has oil leak
01/20/2020	90913339	U2 ABT plug drain port east side of tank
01/20/2020	90920426	U2 econo link vent root vlv Adj Packing
01/22/2020	90912153	21 BCP inj pmp Remove
01/22/2020	90918287	PM U2 Furnace DraftTaps: Rod/Clean
01/23/2020	90918950	PM U2 Sec. Air Impulse Lines: Clean Out
01/27/2020	90922563	U2 1-2 Level E flame scanner
01/27/2020	90922825	U2 IGNITORS 3 LVL E & F TRBS
01/30/2020	90919622	PM U2 Sec. Air Impulse Lines: Clean Out
01/31/2020	90915301	25 Pulv Hot air duct lagging torn Repair
01/31/2020	90915418	28 Pulv HA DuctLagging separated Repair
01/31/2020	90904983	U2 ACorner SOFA Duct Rep Expansion Joint
02/03/2020	90920242	PM SCE U2 Boiler Scanner
02/03/2020	90920642	PM U2 N and S O2 Probes; Monthly
02/05/2020	90919498	PM U2 Furnace DraftTaps: Rod/Clean
02/06/2020	90920484	PM U2 Sec. Air Impulse Lines: Clean Out
02/09/2020	95053652	U2 Phosphate Analyzer; Shutdown Flushout
02/09/2020	95053651	U2 Silica Analyzer; Shutdown Flushout
02/10/2020	90924143	23 pulverizer coal leak above dschrg vlv
02/10/2020	95053597	PM Scanners Prep For Washdown/Repair
02/10/2020	95053643	PM U2 O2 Probes: Rebuild/Calibrate
02/10/2020	90923620	U2 8A, 5G and 6G Ignitors wont run
02/13/2020	95053572	2020 U2 Boiler Internal Clean
02/13/2020	90921450	PM U2 Sec. Air Impulse Lines: Clean Out
02/17/2020	95053558	2020 U2 Coal Pipe Repair
02/17/2020	95053662	2020 U2 ID Fan Ducting Inspection Repair
02/17/2020	90915525	Duct leak above 22 APH guide BRG Repair
02/17/2020	90923790	PM 21 FD Fan INSP/Repair/Align
02/17/2020	90923792	PM 21 ID Fan INSP/Repair/Align
02/17/2020	90923788	PM 21 PA Fan INSP/Repair/Align
02/17/2020	90923791	PM 22 FD Fan INSP/Repair/Align
02/17/2020	90923793	PM 22 ID Fan INSP/Repair/Align
02/17/2020	90923789	PM 22 PA Fan INSP/Repair/Align
02/17/2020	95053642	PM U2 Fuel & Aux Air Damper: Test/Repair
02/17/2020	95053633	PM U2 Secondary Air Xmitters: Calibrate
02/17/2020	95053625	PM U2 SOFA Damper: Test/Repair
02/17/2020	90920425	U2 main steam lead bk vlv Adj Packing
02/17/2020	90918447	U2 S. RH spray bypass Blk vlv Adj Packin
02/19/2020	90921283	PM U2 Furnace DraftTaps: Rod/Clean
02/20/2020	90922366	PM U2 Sec. Air Impulse Lines: Clean Out
02/23/2020	95053580	2020 U2 Lower Throat bend Refurb
02/25/2020	90924362	PM U2 N and S O2 Probes; Monthly
02/26/2020	90926054	Hydrojet Seal Air Fan #2, Unit 2 OOS

Bas. start date	Order	Description
02/27/2020	90923075	PM U2 Sec. Air Impulse Lines: Clean Out
03/01/2020	95053568	2020 U2 Safeties Section 1
03/01/2020	95053598	PM APH Guide Bearing Temp Alarms Check
03/02/2020	90925232	PM SCE U2 Boiler Scanner
03/02/2020	95053614	PM U2 Igniters: Rebuild
03/04/2020	90922972	PM U2 Furnace DraftTaps: Rod/Clean
03/05/2020	90924033	PM U2 Sec. Air Impulse Lines: Clean Out
03/08/2020	95053650	PM U2 CCOFA Damper: Test/Repair
03/12/2020	90924755	PM U2 Sec. Air Impulse Lines: Clean Out
03/18/2020	90924649	PM U2 Furnace DraftTaps: Rod/Clean
03/19/2020	90925458	PM U2 Sec. Air Impulse Lines: Clean Out
03/26/2020	90927442	PM U2 N and S O2 Probes; Monthly
03/26/2020	90926222	PM U2 Sec. Air Impulse Lines: Clean Out
03/30/2020	95053607	PM U2 Fan Motors Heater: On while Down
04/01/2020	90926104	PM U2 Furnace DraftTaps: Rod/Clean
04/02/2020	90926998	PM U2 Sec. Air Impulse Lines: Clean Out
04/06/2020	90912488	22bcp suc Vv man engage broke Insp & Rep
04/06/2020	90920430	U2psi contrl for elctromat pcking Adjust
04/09/2020	90927687	PM U2 Sec. Air Impulse Lines: Clean Out
04/13/2020	90903675	23 BCP seal wtr pp & flexitallic Gsk Rep
04/13/2020	95053639	PM U2 EMA Operated Dampers/Vv's: Stroke
04/13/2020	95053918	U2 2020 Sofa Ducts Inspect/Repair
04/13/2020	90906069	U2 22 PA FAN C/A DUCT LEAKS/SMALL HOLES
04/13/2020	90914172	U2 BM 8508 Drum Safety leaking by
04/13/2020	90914042	U2 Drum Safety VV BM 8507 leaking by
04/13/2020	90922292	U2 ignitor 4D&5D air line Clear Debris
04/15/2020	90927562	PM U2 Furnace DraftTaps: Rod/Clean
04/15/2020	90906299	U2 8C ignitor TRBS
04/15/2020	90915501	U2 H 1/2 ign oil vlv won't open Rpr
04/16/2020	90928465	PM U2 Sec. Air Impulse Lines: Clean Out
04/20/2020	90917645	U2 H Corner Sofa Expansion Joint Replace
04/23/2020	90929083	PM U2 Sec. Air Impulse Lines: Clean Out
04/27/2020	90901837	24 BCP oil leak @ driveshaft
04/27/2020	90930336	PM SCE U2 Boiler Scanner
04/27/2020	90930560	PM U2 N and S O2 Probes; Monthly
04/27/2020	90917643	U2 F Corner Sofa Expantion Joint Replace
04/27/2020	90917644	U2 G Corner Sofa Expantion Joint Replace
04/29/2020	90929009	PM U2 Furnace DraftTaps: Rod/Clean
04/30/2020	90929796	PM U2 Sec. Air Impulse Lines: Clean Out
05/03/2020	95053658	2020 U2 ID Fan inspect and repair 22
05/04/2020	90911901	Coal leak above 25 pulv outlet
05/04/2020	90908848	U2 21E corner elbow coal leak
05/04/2020	90908684	U2 Boiler CB to ABT Blk valves Replace
05/07/2020	90930565	PM U2 Sec. Air Impulse Lines: Clean Out
05/11/2020	90898109	PM U2 Steam Drum INSP

Bas. start date	Order	Description
05/11/2020	90927631	U2 E Corner SOFA Expansion Joint Replace
05/13/2020	90930451	PM U2 Furnace DraftTaps: Rod/Clean
05/14/2020	90931277	PM U2 Sec. Air Impulse Lines: Clean Out
05/20/2020	90907764	U2 Duct Leak on 9.5 NW top of duct Repai
05/21/2020	90931922	PM U2 Sec. Air Impulse Lines: Clean Out
05/25/2020	90935032	PM U2 N and S O2 Probes; Monthly
05/25/2020	90925387	U2 C Corner Sofa Expantion Joint Replace
05/25/2020	90902818	U2-Ignitors 3G,4D,5C TRBS
05/27/2020	90931823	PM U2 Furnace DraftTaps: Rod/Clean
05/28/2020	90932511	PM U2 Sec. Air Impulse Lines: Clean Out
06/04/2020	90934847	PM U2 Sec. Air Impulse Lines: Clean Out
06/08/2020	90931910	PM U2 Scanner Air Filters: Replace
06/08/2020	90931911	PM U2 Scanner Blower Air Filters 6 Mth
06/10/2020	90934784	PM U2 Furnace DraftTaps: Rod/Clean
06/11/2020	90935492	PM U2 Sec. Air Impulse Lines: Clean Out
06/15/2020	90935289	21 ID Fan Hydraulic System Relief Valve
06/15/2020	90935290	22 ID Fan Hydraulic System Relief Valve
06/18/2020	90936090	PM U2 Sec. Air Impulse Lines: Clean Out
06/21/2020	90903409	Lightning Arrester Continuity Check
06/21/2020	90918984	U2 Drum lvl Hydrostep probe TRBS
06/23/2020	90935030	PM U2 Warm-Up Guns 6 MTH BF001
06/24/2020	90935984	PM U2 Furnace DraftTaps: Rod/Clean
06/24/2020	90937866	PM U2 N and S O2 Probes; Monthly
06/25/2020	90936874	PM U2 Sec. Air Impulse Lines: Clean Out
06/29/2020	90923668	22 APH soot cold end freq. drive
07/02/2020	90937538	PM U2 Sec. Air Impulse Lines: Clean Out
07/08/2020	90937439	PM U2 Furnace DraftTaps: Rod/Clean
07/09/2020	90938252	PM U2 Sec. Air Impulse Lines: Clean Out
07/13/2020	90941999	U2 suspected tube leak
07/16/2020	90939352	PM U2 Sec. Air Impulse Lines: Clean Out
07/16/2020	90942358	Unit 2 North Electromatic erroneous ops
07/20/2020	90942875	21 APH HE fault
07/20/2020	90942576	23 BCP seal inj h2o leak
07/20/2020	90904653	U2 BCP seal/leakoff pressure low TRBS
07/21/2020	90934778	PM U2 Silica Analyzer: Yrly
07/22/2020	90942874	21 APH CE fault
07/22/2020	90939151	PM U2 Furnace DraftTaps: Rod/Clean
07/23/2020	90943043	22 APH CE sootblower T/S - Rep
07/23/2020	90940092	PM U2 Sec. Air Impulse Lines: Clean Out
07/27/2020	90939902	PM SCE U2 Boiler Scanner
07/27/2020	90941466	PM U2 N and S O2 Probes; Monthly
07/30/2020	90940848	PM U2 Sec. Air Impulse Lines: Clean Out
08/05/2020	90940719	PM U2 Furnace DraftTaps: Rod/Clean
08/06/2020	90941577	PM U2 Sec. Air Impulse Lines: Clean Out
08/11/2020	90944863	*U2 1/2 "A" ignitor oil valve indication

Bas. start date	Order	Description
08/11/2020	90944862	U2 Tube Leak
08/13/2020	90942287	PM U2 Sec. Air Impulse Lines: Clean Out
08/13/2020	90944593	u2 possible tube leak
08/17/2020	90943718	2020 U2 Section 1 Safeties Test
08/17/2020	90943231	21&22 APH cold end sootblwrs TRBS
08/17/2020	90920216	22 ID fan DE bearing y vibration Rfts
08/17/2020	90945114	23 BCP Seal Chambr fill pin hole lk WELD
08/17/2020	90942181	PM U2 Furnace DraftTaps: Rod/Clean
08/17/2020	90945484	U2 3C ignitor oil valve leaking oil
08/18/2020	90944583	U2 tubeleak IK 13 area 08/06/20'
08/20/2020	90943003	PM U2 Sec. Air Impulse Lines: Clean Out
08/24/2020	90944534	PM U2 N and S O2 Probes; Monthly
08/25/2020	90946215	U2 BCP inj water leakoff controller low
08/27/2020	90943663	PM U2 Sec. Air Impulse Lines: Clean Out
08/31/2020	95053638	PM U2 Furnace Taps: Clean 1st Day Outage
08/31/2020	90945792	U2 multiple flame scanners bad quality
09/02/2020	90943527	PM U2 Furnace DraftTaps: Rod/Clean
09/03/2020	90944436	PM U2 Sec. Air Impulse Lines: Clean Out
09/07/2020	90945119	27A Ignitor hole in air line REPL
09/07/2020	90945118	U2-1/2B ignitor oil gun flex hose REPL
09/10/2020	90947817	24 BCP East Disch Valve packing leak
09/10/2020	90945069	PM U2 Sec. Air Impulse Lines: Clean Out
09/14/2020	90948249	U2 PO4 analyzer leaking inside cabinet
09/16/2020	90944989	PM U2 Furnace DraftTaps: Rod/Clean
09/17/2020	90947942	28 Pulverizer coal leak coal pipe 28E
09/17/2020	90945714	PM U2 Sec. Air Impulse Lines: Clean Out
09/21/2020	90945698	U2-1/2&3 level ignitors TRBS
09/22/2020	90947431	PM U2 N and S O2 Probes; Monthly
09/22/2020	90948982	U2 21 Cold End APH sootbl seq fault TRBS
09/22/2020	90942851	U2 REP B Corner W/U Scavang Vlv Lkng By
09/24/2020	90946442	PM U2 Sec. Air Impulse Lines: Clean Out
09/30/2020	90946335	PM U2 Furnace DraftTaps: Rod/Clean
10/01/2020	90947136	PM U2 Sec. Air Impulse Lines: Clean Out
10/01/2020	90949779	U2 South Econo Inlet indication BQty Rft
10/08/2020	90947862	PM U2 Sec. Air Impulse Lines: Clean Out
10/12/2020	90948309	PM SCE U2 Boiler Scanner
10/12/2020	90919001	U2 D corner top/bottomCCOFA stuck Rpr
10/14/2020	90947730	PM U2 Furnace DraftTaps: Rod/Clean
10/15/2020	90948504	PM U2 Sec. Air Impulse Lines: Clean Out
10/18/2020	90951338	21 PA Fan Outbd Brg Failure - Replace
10/19/2020	90950917	U2 Economizer pH meter CAL
10/22/2020	90950227	PM U2 N and S O2 Probes; Monthly
10/22/2020	90949152	PM U2 Sec. Air Impulse Lines: Clean Out
10/28/2020	90949042	PM U2 Furnace DraftTaps: Rod/Clean
10/29/2020	90949740	PM U2 Sec. Air Impulse Lines: Clean Out

Bas. start date	Order	Description
11/02/2020	90947802	22a seal air fan bearings failing
11/02/2020	90949676	U2 7D Ignitor flame rod TRBS
11/02/2020	90949678	U2 8E Ignitor flame rod TRBS
11/02/2020	90951676	U2 Bypass Stack Avait Ligt Top Half OOS
11/02/2020	90945516	U2-3D ignitor flow switch REPL
11/03/2020	90951448	U2 APH 21CE sootblower seq. fault TRBS
11/04/2020	90949675	U2 7A Ignitor Fuel REPR
11/05/2020	90950420	PM U2 Sec. Air Impulse Lines: Clean Out
11/11/2020	90950328	PM U2 Furnace DraftTaps: Rod/Clean
11/12/2020	90951055	PM U2 Sec. Air Impulse Lines: Clean Out
11/16/2020	90953436	U2 6G Ignitor flame scanner short TRBS
11/19/2020	90951696	PM U2 Sec. Air Impulse Lines: Clean Out
11/25/2020	90951613	PM U2 Furnace DraftTaps: Rod/Clean
11/26/2020	90952369	PM U2 Sec. Air Impulse Lines: Clean Out
11/30/2020	90953050	PM U2 N and S O2 Probes; Monthly
12/02/2020	90950910	U2 B corner scavange vv shows trvl TRBS
12/03/2020	90953054	PM U2 Sec. Air Impulse Lines: Clean Out
12/07/2020	90951492	PM U2 Scanner Air Filters: Replace
12/07/2020	90951493	PM U2 Scanner Blower Air Filters 6 Mth
12/09/2020	90952956	PM U2 Furnace DraftTaps: Rod/Clean
12/10/2020	90953697	PM U2 Sec. Air Impulse Lines: Clean Out
12/14/2020	90955693	22 phosphate pmp Rep leak in suc. piping
12/14/2020	90950174	U2-Ignitors 3D&3F TRBS
12/17/2020	90954361	PM U2 Sec. Air Impulse Lines: Clean Out
12/21/2020	90953044	PM U2 Warm-Up Guns 6 MTH BF001
12/21/2020	90955720	Station R stamp Demenstration
12/21/2020	90957172	U2 Boiler pH readings erratic high/low
12/22/2020	90957495	22-1 APH Sect Plate Drive Trips TRBS
12/22/2020	90952880	U2 3E ignitor short TRBS
12/23/2020	90954287	PM U2 Furnace DraftTaps: Rod/Clean
12/24/2020	90955080	PM U2 Sec. Air Impulse Lines: Clean Out
12/27/2020	90958194	28C coal pipe has coal leak
12/27/2020	90958196	28E coal pipe has a coal leak
12/30/2020	90908658	#21 BCP Motor Stator Temp TRBS
12/30/2020	90910617	#24 BCP Upper Thrust BRG 1 TRBS
12/30/2020	90946009	21 APH HE sootblower binding T/S
12/30/2020	90897593	21 FD FAn Motor IB Bearing Temp Gauge
12/30/2020	90948586	22 aph supp bearng relief valve leak Rep
12/30/2020	90921038	27 pulverizer coal leak
12/30/2020	90943390	BCP 22 motor stator temp TRBS
12/30/2020	90945029	Change BCP 23 Motor Stator Alarm Rpr
12/30/2020	90929555	Clean U2 Backpass.
12/30/2020	90921891	Coal leak 22A coal pipe abv Rffle Dist.
12/30/2020	90955712	Hazard#38692 U2 Mid LVL n upper lamp OOS
12/30/2020	90927766	u2 1-2 A corner gn gun air side TRBS

Bas. start date	Order	Description
12/30/2020	90942010	U2 1/2D and 3D ignitors guns RPR
12/30/2020	90949005	U2 27H corner coal pipe leak
12/30/2020	90914153	U2 28C burner front air duct leak Repair
12/30/2020	90923918	U2 3D level ignitor fuel vv REPL
12/30/2020	90927765	u2 6h ign gun TRBS
12/30/2020	90953435	U2 7D Ignitor shortTRBS
12/30/2020	90952879	U2 8B Ignitor shows short on card TRBS
12/30/2020	90949670	U2 B Warm Up Gun/Scavenger Vv leaks
12/30/2020	90914044	U2 common FGD fluegas duct leak HC 26290
12/30/2020	90919000	U2 H corner 3/4 Aux Air stuck Rpr
12/30/2020	90956451	U2 Hydrazine flow at minimum REPR
12/30/2020	90925378	U2 Ignitor 3D corner bad air regulator
12/30/2020	90917525	U2 ignitor 6D corner TRBS
12/30/2020	90923618	U2 ignitors 3D&3E guns need cleaning
12/30/2020	90942606	U2 Replace reg. 3G ignitor REPL
12/30/2020	90923673	U2 SH spray flow cal Rpr
12/30/2020	90943393	U2-6E ignitor need new air reg REPL
12/30/2020	90943392	U2-ignitor 4E corner need new reg REPL
12/31/2020	90955745	PM U2 Sec. Air Impulse Lines: Clean Out
01/04/2021	90958192	21 APH CE sootblower binding
01/04/2021	90956273	PM SCE U2 Boiler Scanner
01/04/2021	90942714	U2 'A' EXCESS O2 PROBE SEQUENCER ISSUE
01/05/2021	90955955	PM U2 N and S O2 Probes; Monthly
01/06/2021	90955648	PM U2 Furnace DraftTaps: Rod/Clean
01/07/2021	90956514	PM U2 Sec. Air Impulse Lines: Clean Out
01/11/2021	90958389	U2 1/2 "D" Ignitor flame not seen in DCS
01/11/2021	90953569	U2 Riffle dist hangers loose - Tighten
01/14/2021	90957209	PM U2 Sec. Air Impulse Lines: Clean Out
01/20/2021	90957056	PM U2 Furnace DraftTaps: Rod/Clean
01/20/2021	90960694	U2 Hydrazine meter needs calibration
01/21/2021	90957861	PM U2 Sec. Air Impulse Lines: Clean Out
01/25/2021	90951375	U2 FD/PA External Fan Filters Mthly
01/28/2021	90958403	PM U2 Sec. Air Impulse Lines: Clean Out
02/01/2021	90959992	PM U2 Test Run Warm Up/Ignitors Mthly
02/03/2021	90958317	PM U2 Furnace DraftTaps: Rod/Clean
02/04/2021	90959225	PM U2 Sec. Air Impulse Lines: Clean Out
02/08/2021	90958733	PM U2 N and S O2 Probes; Monthly
02/08/2021	90959860	Storage of spare O2 probes
02/11/2021	90960003	PM U2 Sec. Air Impulse Lines: Clean Out
02/15/2021	90958818	U2 3E Ignitor REPR
02/15/2021	90958817	U2 4C Ign flame TRBS
02/17/2021	90959897	PM U2 Furnace DraftTaps: Rod/Clean
02/18/2021	90960864	PM U2 Sec. Air Impulse Lines: Clean Out
02/22/2021	90962142	PM U2 N and S O2 Probes; Monthly
02/23/2021	90964358	U2 PO4 meter needs calibrated

Bas. start date	Order	Description
02/25/2021	90961495	PM U2 Sec. Air Impulse Lines: Clean Out
02/25/2021	90964588	U2 high opacity
03/01/2021	90963313	PM U2 Test Run Warm Up/Ignitors Mthly
03/01/2021	90963262	U2 SH Tube Leak
03/03/2021	90961387	PM U2 Furnace DraftTaps: Rod/Clean
03/04/2021	90962223	PM U2 Sec. Air Impulse Lines: Clean Out
03/09/2021	90965829	Hydrazine Analyzer CAL
03/11/2021	90963001	PM U2 Sec. Air Impulse Lines: Clean Out
03/15/2021	90960089	21 APH CE fault - T/S & Repair
03/17/2021	90962871	PM U2 Furnace DraftTaps: Rod/Clean
03/17/2021	90966822	SSH spray vlv not driving closed
03/18/2021	90963788	PM U2 Sec. Air Impulse Lines: Clean Out
03/21/2021	90966535	U2 Flame scanners REPR
03/22/2021	90965307	C corner W/U REP fuel leak at flex hose
03/22/2021	90965462	PM U2 N and S O2 Probes; Monthly
03/22/2021	90965740	U2 3E ignitor flame "short" REPR
03/22/2021	90957496	U2 D Corner EMA pops in & out of service
03/25/2021	90964620	PM U2 Sec. Air Impulse Lines: Clean Out
03/29/2021	90966628	PM SCE U2 Boiler Scanner
03/31/2021	90964447	PM U2 Furnace DraftTaps: Rod/Clean
03/31/2021	90966382	PM U2 Test Run Warm Up/Ignitors Mthly
04/01/2021	90965354	PM U2 Sec. Air Impulse Lines:
04/05/2021	95055410	2021 TA Coal Pipe Repairs
04/05/2021	95055455	PM APH Guide Bearing Temp Alarms Check
04/05/2021	95055507	PM U2 CCOFA Damper: Test/Repair
04/05/2021	95055496	PM U2 EMA Operated Dampers/Vv's: Stroke
04/05/2021	95055464	PM U2 Fan Motors Heater: On while Down
04/05/2021	95055490	PM U2 Secondary Air Xmitters: Calibrate
04/05/2021	95055509	U2 Phosphate Analyzer; Shutdown Flushout
04/05/2021	95055508	U2 Silica Analyzer; Shutdown Flushout
04/08/2021	90966151	PM U2 Sec. Air Impulse Lines: Clean Out
04/11/2021	95055417	2021 Boiler Safety Valves (Section 1)
04/12/2021	95055495	PM U2 Furnace Taps: Clean 1st Day Outage
04/12/2021	95055482	PM U2 SOFA Damper: Test/Repair
04/13/2021	90914043	22 BCP Inj Wtr HE shellside Relief leak
04/13/2021	90955386	22 id fan damper cylinder leak
04/13/2021	90915679	25 pulv coal leak 90 degree abv pulv.
04/13/2021	90921394	25 Pulv. SE coal pipe leak
04/13/2021	90958862	Coal leak below U2 fuel/oil station
04/13/2021	95055471	PM U2 Igniters: Rebuild
04/13/2021	95055500	PM U2 O2 Probes: Rebuild/Calibrate
04/13/2021	90946013	U-2 FGD duct leak
04/13/2021	90948917	U2 2" horiz Sootblown stm Drain Rep Bend
04/13/2021	95053917	U2 2020 Primary Air Ducts Inspect/Repair
04/13/2021	95053916	U2 2020 Secondary Air Ducts Inspect/Repa

Bas. start date	Order	Description
04/13/2021	90964300	U2 22 Pulv 22A Coal pipe leak Wrap
04/13/2021	90964299	U2 27 Pulv 27H coal pipe leak Wrap
04/13/2021	90920449	U2 27D coal pipe leak @ existing patch
04/13/2021	90955788	U2 Absorber Duct SO2 leak by Lodge Cott
04/13/2021	90910322	U2 backpass inspect/clean
04/13/2021	90945598	U2 boiler tube misalignment - Inspect
04/13/2021	90892375	U2 CCOFA Top E Crnr missing cylinder
04/13/2021	90947805	U2 D Corner Sofa Duct expansion jt leak
04/13/2021	90950895	U2 flue gas duct expansion joint leak
04/13/2021	90943716	U2 Hot air leak "E" corner burnerfront 7
04/13/2021	90922814	U2 South Reheat Shock Absorber Leaks
04/14/2021	90966005	PM U2 Furnace DraftTaps: Rod/Clean
04/15/2021	90966865	PM U2 Sec. Air Impulse Lines: Clean Out
04/20/2021	95055454	PM Scanners Prep For Washdown/Repair
04/20/2021	90968470	PM U2 N and S O2 Probes; Monthly
04/22/2021	90967637	PM U2 Sec. Air Impulse Lines: Clean Out
04/26/2021	90897455	21 id fan lube flow guage nondrive side
04/26/2021	90956220	21 ID Fan Non-Drv Brg Oil Flow TRBS
04/26/2021	90950217	22 id fan drive side flow meter REPL
04/26/2021	90950218	22 id fan non drive side flow meter REPL
04/26/2021	90956221	22 ID Fan Non-Drv Brg Oil Flow TRBS
04/28/2021	90967531	PM U2 Furnace DraftTaps: Rod/Clean
04/29/2021	95055411	2021 Boiler Internal Clean
04/29/2021	90968267	PM U2 Sec. Air Impulse Lines: Clean Out
05/02/2021	95055573	2021 22 ID Fan I/R
05/06/2021	90968864	PM U2 Sec. Air Impulse Lines: Clean Out
05/10/2021	90936492	PM U2 Steam Drum INSP
05/12/2021	90968778	PM U2 Furnace DraftTaps: Rod/Clean
05/13/2021	90969524	PM U2 Sec. Air Impulse Lines: Clean Out
05/17/2021	90972223	23 BCP suction vlv will not open.
05/17/2021	90956946	U2 BCP Seal Leakoff TRBS
05/18/2021	90972412	21 BCP suction valve limitorque flooded
05/20/2021	90971258	PM U2 N and S O2 Probes; Monthly
05/20/2021	90970163	PM U2 Sec. Air Impulse Lines: Clean Out
05/24/2021	90959719	2021 TA Coal Pipe Repairs
05/24/2021	90946276	23 BCP suction VV Injected - Repack
05/24/2021	90972733	U2 Boiler Ignitr (2) lvls indicate flame
05/24/2021	90965034	U2 S Econo inlet leak - Adjust Packing
05/26/2021	90970082	PM U2 Furnace DraftTaps: Rod/Clean
05/27/2021	90970778	PM U2 Sec. Air Impulse Lines: Clean Out
06/02/2021	90969748	PM U2 Scanner Air Filters: Replace
06/02/2021	90969749	PM U2 Scanner Blower Air Filters 6 Mth
06/03/2021	90971438	PM U2 Sec. Air Impulse Lines: Clean Out
06/09/2021	90971353	PM U2 Furnace DraftTaps: Rod/Clean
06/10/2021	90971997	PM U2 Sec. Air Impulse Lines: Clean Out

Bas. start date	Order	Description
06/14/2021	90971891	2021 Boiler repairs
06/16/2021	90975132	U2 Hydrazine meter needs cal
06/16/2021	90975131	U2 P04 meter in chem lab small leak
06/17/2021	90972693	PM U2 Sec. Air Impulse Lines: Clean Out
06/17/2021	90975246	u2 south econ inlet LVDT not reading
06/17/2021	90975113	U2 South SH block vlv Adjust packing
06/21/2021	90973067	PM SCE U2 Boiler Scanner
06/21/2021	90973944	PM U2 N and S O2 Probes; Monthly
06/21/2021	90971256	PM U2 Warm-Up Guns 6 MTH BF001
06/21/2021	90975110	U2 Ignitor 3B not starting in remote
06/23/2021	90972605	PM U2 Furnace DraftTaps: Rod/Clean
06/24/2021	90973283	PM U2 Sec. Air Impulse Lines: Clean Out
06/28/2021	90975860	U2 Startup Support
06/29/2021	90976132	AC unit for U2 Sootblow cabinet 10.5 lvl
06/29/2021	90962741	PM SCE U2 Boiler Scanner
06/30/2021	90949320	#22 APH Gas Out temp 2TE-540C3 TRBS
06/30/2021	90940157	2021 Boiler Inspection/Tune-up
06/30/2021	90943717	21 PA Fan Bearing Inspection
06/30/2021	90964291	22 APH clutch not disengaging T/S
06/30/2021	90958865	22 APH Upper Guide BRG Inspection
06/30/2021	90945697	22 BCP stator Temp REPR
06/30/2021	90961999	22 FD outlet damper heim joint Replace
06/30/2021	90969957	22 PA Fan outlet damper bearing Replace
06/30/2021	90946007	23 BCP seal chamb fill line Replace Pipe
06/30/2021	90966441	23 E coal pipe leak at clamp level 5 1/2
06/30/2021	90951432	24 BCP mech seal HX hose fitting leak TS
06/30/2021	95055499	PM U2 Fuel & Aux Air Damper: Test/Repair
06/30/2021	90955801	U2 ABT tank line leak -Replace pipe WELD
06/30/2021	90949477	U2 Flue gas Temp APH 2TE-539 (C3) TRBS
06/30/2021	90919303	U2 G corner COFA lower damper stuck Rpr
06/30/2021	90967573	U2 Hdryastep probe steam leak REPR
06/30/2021	90965071	U2 igniter 27/28 D no flame TRBS
06/30/2021	90964395	U2 leaks on ABT drain lines @ 22 PA Fan
06/30/2021	90965035	U2 N Econo inlet leaking- Adjust packing
07/01/2021	90966181	PM 21 FD Fan INSP/Repair/Align
07/01/2021	90966203	PM 21 ID Fan INSP/Repair/Align
07/01/2021	90966202	PM 22 FD Fan INSP/Repair/Ali
07/01/2021	90966204	PM 22 ID Fan INSP/Repair/Align
07/01/2021	90966180	PM 22 PA Fan INSP/Repair/Align
07/01/2021	90973951	PM U2 Sec. Air Impulse Lines: Clean Out
07/05/2021	90976162	2" boiler drain limitorqVv pack leak REP
07/07/2021	90973847	PM U2 Furnace DraftTaps: Rod/Clean
07/08/2021	90976979	Line 4 D.O meter solenoid making noise.
07/08/2021	90974540	PM U2 Sec. Air Impulse Lines: Clean Out
07/08/2021	90977027	SSH spray vv not driving closed

Bas. start date	Order	Description
07/12/2021	90977167	21 phosphate pump is not pumping/error
07/12/2021	90975189	PM U2 Sec. Air Impulse Lines: Clean Out
07/12/2021	90976187	U2 21B sector plate indication erratic
07/12/2021	90975133	U2 Blr tubeleak 10.5 lvl C corner 061621
07/14/2021	90977532	Stroke D corner SOFA tilt per Newandorky
07/19/2021	90967383	22 phosphate pp leak Rebuild wet end
07/19/2021	90976615	PM U2 N and S O2 Probes; Monthly
07/19/2021	90970961	PM U2 Silica Analyzer: Yrly
07/21/2021	90975069	PM U2 Furnace DraftTaps: Rod/Clean
07/22/2021	90975783	PM U2 Sec. Air Impulse Lines: Clean Out
07/22/2021	90978373	Team Ind Perform Safety Valve Testing
07/22/2021	90978381	u2 C corner burner tilt indication
07/26/2021	90978049	Lab silica analyzer needs calibrated
07/26/2021	90976446	PM U2 Sec. Air Impulse Lines: Clean Out
07/26/2021	90978339	U2 DO Analyzer reading high
07/27/2021	90978600	21 CE APH sootblower limit switch bad
08/03/2021	90978975	APH 22 LUBE OIL HI/LVL LO caused by fire
08/04/2021	90976312	PM U2 Furnace DraftTaps: Rod/Clean
08/05/2021	90979528	22 BCP LO pressure switch oil leak 22B
08/05/2021	90977055	PM U2 Sec. Air Impulse Lines: Clean Out
08/09/2021	90979223	21 CE APH SB switches not functioning rt
08/12/2021	90977678	PM U2 Sec. Air Impulse Lines: Clean Out
08/16/2021	90980042	Block vlv for hydra step Adjust packing
08/16/2021	90979162	PM U2 N and S O2 Probes; Monthly
08/18/2021	90977585	PM U2 Furnace DraftTaps: Rod/Clean
08/19/2021	90978317	PM U2 Sec. Air Impulse Lines: Clean Out
08/23/2021	90980364	21 IK packing leak
08/23/2021	90980645	23 IK blown packing
08/23/2021	90980916	U2 AA 5-6 E-corner out of position
08/23/2021	90980919	U2 AA 5-6 F-corner out of position
08/24/2021	90978840	PM U2 Sec. Air Impulse Lines: Clean Out
08/25/2021	90976947	22 BCP seal leakoff Replace psi gauge
08/25/2021	90981131	22BCP seal H2O Replace leakoff relief vv
08/25/2021	90966179	PM 21 PA Fan INSP/Repair/Align
08/30/2021	90980541	PM SCE U2 Boiler Scanner
08/30/2021	90978734	PM U2 Furnace DraftTaps: Rod/Clean
08/30/2021	90979463	PM U2 Sec. Air Impulse Lines: Clean Out
08/30/2021	90981590	U2 3 Lvl D corner Igntr plugged air line
08/31/2021	90981676	U2 hydrazine meter not working
09/06/2021	90980088	PM U2 Sec. Air Impulse Lines: Clean Out
09/08/2021	90981202	U2 Water cooled spacer tube leak
09/13/2021	90980000	PM U2 Furnace DraftTaps: Rod/Clean
09/13/2021	90981757	PM U2 N and S O2 Probes; Monthly
09/13/2021	90980663	PM U2 Sec. Air Impulse Lines: Clean Out
09/16/2021	90976946	21 BCP Seal Chmbr Replace Vent Blk vvs

Bas. start date	Order	Description
09/16/2021	90982951	27 pulv. coal pipes A and F plugged
09/16/2021	90981674	North Supper heat spray valve failed U2
09/16/2021	90981603	U2 N Econo inlet Adjust Packing Follower
09/20/2021	90983428	21 ID fan inlet bad feedback
09/20/2021	90983085	21ID Fan Hyd Skid Repair leak blk vv MV2
09/20/2021	90981239	PM U2 Sec. Air Impulse Lines: Clean Out
09/20/2021	90983432	So. Econo-inlet vlv packing leak Adjust
09/20/2021	90983446	U2 Scanners lvl 6/7 CDEF
09/21/2021	90983429	S Electromatic close solenoid air leak
09/23/2021	90983686	4D ignitor oil valve leaking
09/27/2021	90975241	21 APH HE sootblower stopping
09/27/2021	90983687	3E ignitor strainer leaking air
09/27/2021	90983689	4E ignitor air pressure gauge bad
09/27/2021	90983688	4E ignitor oil valve leaking
09/27/2021	90983690	6E ignitor air isolation valve is bad
09/27/2021	90983684	7B ignitor air regulator is bad
09/27/2021	90981155	PM U2 Furnace DraftTaps: Rod/Clean
09/27/2021	90952801	U2 N.IK Sootblwin flow cntrl vv leak Adj
09/28/2021	90982952	U2 tuble leak bullnose Out 2-691
09/30/2021	90981838	PM U2 Sec. Air Impulse Lines: Clean Out
09/30/2021	90982810	PM U2 Test Run Warm Up/Ignitors Mthly
10/04/2021	90983955	21 APH CE SB "fail to start alarm" adjst
10/04/2021	90982963	23 IK Motor overload alarms
10/05/2021	90984747	21 APH CE SB stuck at reverse switch
10/07/2021	90982400	PM U2 Sec. Air Impulse Lines: Clean Out
10/13/2021	90982313	PM U2 Furnace DraftTaps: Rod/Clean
10/14/2021	90983039	PM U2 Sec. Air Impulse Lines: Clean Out
10/18/2021	90984088	22 ID FAN DE BEARING HI VIBRATION.Y AXIS
10/18/2021	90984349	PM U2 N and S O2 Probes; Monthly
10/19/2021	90956928	28 E corner 8 level small coal leak Wrap
10/21/2021	90983644	PM U2 Sec. Air Impulse Lines: Clean Out
10/25/2021	90986403	U2 Po4 meter has leak
10/27/2021	90983556	PM U2 Furnace DraftTaps: Rod/Clean
10/27/2021	90986578	U2 Po4 meter reading off
10/28/2021	90984250	PM U2 Sec. Air Impulse Lines: Clean Out
11/01/2021	90985427	PM U2 Test Run Warm Up/Ignitors Mthly
11/02/2021	90986400	U2 D.O meter not working
11/02/2021	90987553	U2 silica analyzer
11/03/2021	90983099	U2 Superheat Tube Leak
11/04/2021	90984900	PM U2 Sec. Air Impulse Lines: Clean Out
11/09/2021	90987539	U2 Boiler - Online Pressure Wave Clean
11/10/2021	90984817	PM U2 Furnace DraftTaps: Rod/Clean
11/11/2021	90985434	PM U2 Sec. Air Impulse Lines: Clean Out
11/15/2021	90988069	ID Fan 22 bad Vibration Probe 3YV
11/16/2021	90987258	PM U2 N and S O2 Probes; Monthly

Bas. start date	Order	Description
11/18/2021	90943486	22 BCP oil heat/xch outlet gauge Replace
11/18/2021	90947919	23 BCP East Disch Valve packing leak
11/18/2021	90947920	23 BCP West Disch Valve packing leak
11/18/2021	90946415	24 BCP W Disch Vlv packing leak - Adjust
11/18/2021	90967472	Left hot rheat auto v 2M14001B Adj Packi
11/18/2021	90986019	PM U2 Sec. Air Impulse Lines: Clean Out
11/18/2021	90967473	Rght hot rheat auto v 2M14001A Adj Packi
11/18/2021	90976140	U2 Calibrate Front Stm Drum Lvl Xmitters
11/22/2021	90985529	PM U2 Scanner Air Filters: Replace
11/24/2021	90985933	PM U2 Furnace DraftTaps: Rod/Clean
11/25/2021	90987018	PM U2 Sec. Air Impulse Lines: Clean Out
11/29/2021	90983976	22 phosphate pp leak Rebuild Chk vlv
11/29/2021	90985530	PM U2 Scanner Blower Air Filters 6 Mth
11/29/2021	90983695	Repair Fuel Leak/warm up/ D corner
11/30/2021	90988765	U2 Boiler Differential Pressure Blasting
12/01/2021	90989952	U2 S. Econo Inlet VV Adjust packing
12/02/2021	90987637	PM U2 Sec. Air Impulse Lines: Clean Out
12/08/2021	90987583	PM U2 Furnace DraftTaps: Rod/Clean
12/09/2021	90988316	PM U2 Sec. Air Impulse Lines: Clean Out
12/12/2021	90990949	5 Star Boiler inspection
12/16/2021	90988887	PM U2 Sec. Air Impulse Lines: Clean Out
12/20/2021	90989719	C CORNER W/U PIPING FUEL LEAK repair
12/20/2021	90989715	Clean and place lab analyzers in layup
12/20/2021	90987255	PM U2 Warm-Up Guns 6 MTH BF001
12/22/2021	90988786	PM U2 Furnace DraftTaps: Rod/Clean
12/22/2021	90992195	U2 Po4 replace lamp alarm
12/23/2021	90989511	PM U2 Sec. Air Impulse Lines: Clean Out
12/27/2021	90988094	PM SCE U2 Boiler Scanner
12/30/2021	90958820	1/2 A ign oil leak REPL
12/30/2021	95055603	2021 U2 Scubber Duct expansion joint
12/30/2021	90963070	21 and 22 APH HE sblowers wont run
12/30/2021	90952171	21 BCP vent line guage leaking - Replace
12/30/2021	90974913	21 ID Fan hyd. pps wont build full press
12/30/2021	90929349	21 ID Fan West lube oil pp squeal TRBS
12/30/2021	90951751	21 PA fan BCW - Replace Flow Sight
12/30/2021	90952918	21 PA Fan ob brng oil leakout of breathr
12/30/2021	90952917	21 PA Fan oil leak inbd brg cover Reseal
12/30/2021	90951420	21 PA Fan outbrd brg temp erratic Rep
12/30/2021	90957163	21BCP Motor RTD Open REPR
12/30/2021	90946795	21PA Fan oil pump flow meters OOS Repair
12/30/2021	90947689	22 BCP seal leak off press. gauge REPL
12/30/2021	90918260	22 BCP vent line insulation; repair
12/30/2021	90955387	22 ID fan control linkage around shaft
12/30/2021	90956322	22 ID Fan Drive Brg Oil Flow TRBS
12/30/2021	90957106	22 ID Fan Erratic Vibration

Bas. start date	Order	Description
12/30/2021	90947907	22 ID Fan Hydraulic leak/top off Tank
12/30/2021	90942850	23 BCP case fill vlv stem broke Replace
12/30/2021	90976344	23BCP Sealtight broken motor leads expos
12/30/2021	90970918	24 BCP Replace Heat Exchanger & Hoses
12/30/2021	90989026	3 level ignitor H corner has a short.
12/30/2021	90978777	Boiler Superheat Platen Tubes Replace
12/30/2021	90969518	Grating by 6" boiler drain needs re clip
12/30/2021	90990091	PM U2 Sec. Air Impulse Lines: Clean Out
12/30/2021	90990238	Swap "F" excess O2 probe with "C"
12/30/2021	90949482	U2 22 igniter air fan TRBS
12/30/2021	90961226	U2 3E Ignitor fuel oil filter leak
12/30/2021	90958858	U2 6G Ignitor fault TRBS
12/30/2021	90953443	U2 7A Ignitor no fuel to gun REPR
12/30/2021	90988869	U2 7B Ignitor electrical short/OOS
12/30/2021	90967347	U2 APH SB Allen Bradley time REPR
12/30/2021	90978380	u2 B corner burner tilt indication
12/30/2021	90943391	U2 B corner burner tilt indication TRBS
12/30/2021	90977085	U2 BCP seal leakoff control vv erratic
12/30/2021	90964583	U2 E corner windbox coal leak 8E level
12/30/2021	90944259	U2 FA-1 damper stuck closed E corner
12/30/2021	90979862	u2 Hydrastep
12/30/2021	90948446	U2 Hydrostep Probe REPL
12/30/2021	90965078	U2 Ignitor 25F no spark REPR
12/30/2021	90957014	U2 Line 7 blowdown valve leaking Replace
12/30/2021	90981810	U2 NSHS Control VV Adjust packing
12/30/2021	90984967	U2 SH Front Steam cooled wall tube leak
12/30/2021	90960051	Unit 2 ELEV 4-6, 7-8 Flame Qual TRBS
01/03/2022	90992806	24 BCP UPR THST BRN 1 S TEMP bad Quality
01/03/2022	90992422	U2 level 7G corner ignitor not working
01/03/2022	90992968	U2 N. Electromatic Relief opens in auto
01/03/2022	90993086	U2 NSHS Control VV packing leaking
01/03/2022	90993087	U2 South Econo Inlet MOV packing leak
01/04/2022	90993195	Sensing line heat trace and insulation
01/05/2022	90993252	C Corner burner tilt not driving
01/05/2022	90989992	PM U2 Furnace DraftTaps: Rod/Clean
01/05/2022	90993249	Reheat and superheatspray vlvs not close
01/06/2022	90991090	PM U2 Sec. Air Impulse Lines: Clean Out
01/10/2022	90989870	PM U2 N and S O2 Probes; Monthly
01/13/2022	90991720	PM U2 Sec. Air Impulse Lines: Clean Out
01/17/2022	90988077	Contractor onsite PT NDE training
01/17/2022	90993861	U2 8G ignitor fuel valve does not open
01/17/2022	90993874	U2 8H ignitor no spark when started
01/17/2022	90994634	U2 Po4 meter needs replaced
01/17/2022	90994061	U2 Po4 meter not working
01/19/2022	90991612	PM U2 Furnace DraftTaps: Rod/Clean

Bas. start date	Order	Description
01/20/2022	90992306	PM U2 Sec. Air Impulse Lines: Clean Out
01/27/2022	90992855	PM U2 Sec. Air Impulse Lines: Clean Out
01/31/2022	90994207	PM U2 Test Run Warm Up/Ignitors Mthly
02/02/2022	90996384	Lab silica analyzer needs calibrated
02/02/2022	90992592	PM U2 Furnace DraftTaps: Rod/Clean
02/03/2022	90993479	PM U2 Sec. Air Impulse Lines: Clean Out
02/07/2022	90992851	PM U2 N and S O2 Probes; Monthly
02/07/2022	90996394	U2 Hydrazine not controlling in auto
02/08/2022	90996393	North SH spray Vlv keeps hanging up
02/10/2022	90994108	PM U2 Sec. Air Impulse Lines: Clean Out
02/16/2022	90994022	PM U2 Furnace DraftTaps: Rod/Clean
02/17/2022	90994908	PM U2 Sec. Air Impulse Lines: Clean Out
02/21/2022	90997656	U2 21 APH Gas out temp probe B2
02/24/2022	90995652	PM U2 Sec. Air Impulse Lines: Clean Out
02/28/2022	90998948	22 APH guide bearing smoking
02/28/2022	90998940	22B bcp L.O. pp bad indication
02/28/2022	90998821	Lens clean needed
02/28/2022	90997551	PM U2 Test Run Warm Up/Ignitors Mthly
02/28/2022	90998541	U2 A Crnr SOFA tilts acturator air leak
03/01/2022	90999097	21 PA fan motor stator temp element
03/01/2022	90999095	25 A ignitor bad spark ignitor cord
03/01/2022	90999096	U2 #24 D Ignitor shows no flame
03/02/2022	90995523	PM U2 Furnace DraftTaps: Rod/Clean
03/03/2022	90996445	PM U2 Sec. Air Impulse Lines: Clean Out
03/07/2022	90998694	21B seal air bypass dmpr fan shorted
03/07/2022	90996235	PM SCE U2 Boiler Scanner
03/07/2022	90995876	PM U2 N and S O2 Probes; Monthly
03/10/2022	90997164	PM U2 Sec. Air Impulse Lines: Clean Out
03/14/2022	90999200	22 phosphate pp not always pumping
03/14/2022	90992801	U2 Warm-up gun on B corner not working
03/16/2022	90999892	lab phosphate analyzer needs calibrated
03/16/2022	90997055	PM U2 Furnace DraftTaps: Rod/Clean
03/16/2022	90998856	PM U2 N and S O2 Probes; Monthly
03/16/2022	90998420	WW tube leak H corner 8.5 lvl 02/22/22
03/17/2022	90997898	PM U2 Sec. Air Impulse Lines: Clean Out
03/24/2022	90998566	PM U2 Sec. Air Impulse Lines: Clean Out
03/28/2022	91001060	U2 Boiler WW tubeleak at IK 2 (03/21/22)
03/30/2022	90998465	PM U2 Furnace DraftTaps: Rod/Clean
03/31/2022	90999262	PM U2 Sec. Air Impulse Lines: Clean Out
03/31/2022	91000232	PM U2 Test Run Warm Up/Ignitors Mthly
04/01/2022	95056120	Owner's Facilities and Support
04/01/2022	90966176	PA/FD air duct leak up by 21 APH CE SBwr
04/04/2022	95055412	2021 U2 ID Fan Ducting I/R
04/04/2022	90966177	21 APH squeal/rub by 21 CE SBlower
04/04/2022	90962751	21E burner front coal patch leaking

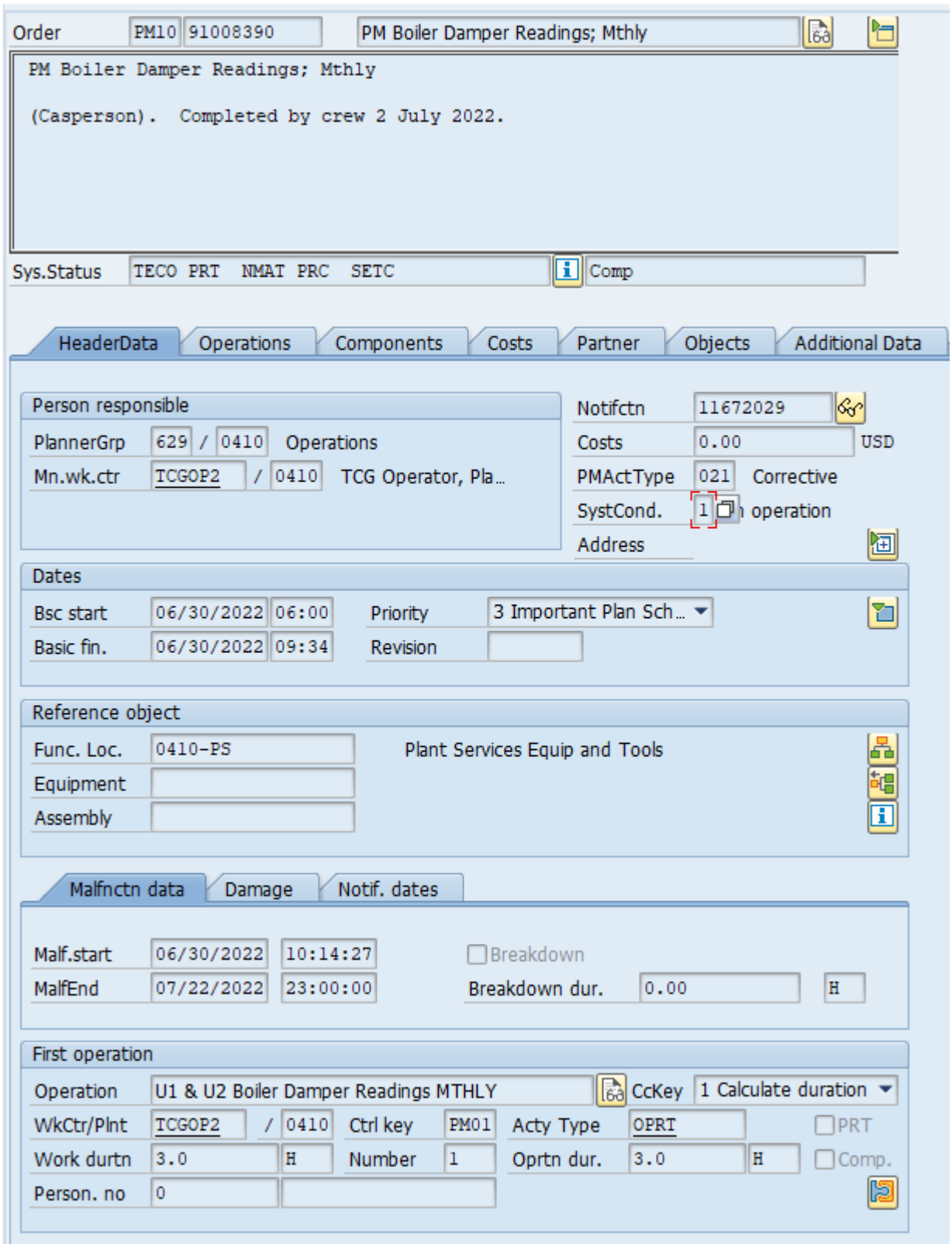
Bas. start date	Order	Description
04/04/2022	90957638	22A Coal pipe leak TRBS PATCH
04/04/2022	90965913	26 pulverizer discharge pipe coal leak
04/04/2022	90950142	26H coal pipe leak @burner clamp
04/04/2022	90962752	27A coal leak, east side next to I-beam
04/04/2022	90957609	coal lk 21E burner front 90 clamp
04/04/2022	90952727	coal pipe 21A 5th section thin pipe
04/04/2022	90965014	Coal pipe leak 23D abv riff distributer
04/04/2022	91001733	PM U2 N and S O2 Probes; Monthly
04/04/2022	90972993	PM U2 Steam Drum INSP - 2022
04/04/2022	90982258	Repair Inst air leak damper supply headr
04/04/2022	90962754	U2 coal leak above 27H riffle
04/04/2022	90945407	U2 coal pipe leak above 28E riffle dist
04/04/2022	90990033	U2 North Front RH misaligned tube 40' in
04/04/2022	90913248	U2 PA fan motor Inner Filters Replace
04/04/2022	90951421	U2 PA x-over not going full closed T/S
04/04/2022	90947922	U2 S. Rear drum safety vv 2rv2030 leakby
04/04/2022	90897809	U2 SOFA tilt repairs needed 2022
04/07/2022	90999942	PM U2 Sec. Air Impulse Lines: Clean Out
04/11/2022	95056224	2022 U2 Boiler Internal Clean
04/11/2022	91002994	21 B Seal air Fan OOS
04/11/2022	91002221	U2 A corner SOFA (mid) not moving
04/11/2022	91002219	U2 E corner SOFA (bottom) not moving
04/11/2022	91002280	U2 Hot Reheat line drain vv air in leak
04/13/2022	90999839	PM U2 Furnace DraftTaps: Rod/Clean
04/14/2022	91000636	PM U2 Sec. Air Impulse Lines: Clean Out
04/18/2022	95056284	PM APH Guide Bearing Temp Alarms Check
04/21/2022	91003875	Hole In Expansn Joint 22ID Scrubber Duct
04/21/2022	91001268	PM U2 Sec. Air Impulse Lines: Clean Out
04/23/2022	95056283	PM Scanners Prep For Washdown/Repair
04/25/2022	95056221	2022 Boiler Safety Valves (Section 1)
04/25/2022	90993870	21 APH cold end fails
04/25/2022	91000655	21 Electromatic relief valve leaking by
04/25/2022	90998966	21 Flue gas ducting shaking/vibration
04/25/2022	91001613	21 ID fan LO leak East - Replace Piping
04/25/2022	91003183	21 PA duct excessive leaks
04/25/2022	91001050	21 PA Fan Outboard Bearng Repar oil leak
04/25/2022	90995499	22 BCP suction Adjust vlv packing
04/25/2022	90995500	23 BCP suction Adjust vlv packing
04/25/2022	90999217	23 pulv coal leak Replace Spool Piece
04/25/2022	91002474	Coal leak F corner
04/25/2022	91002605	N SH spray control vv Replace Packing
04/25/2022	90995638	PA duct leak by 27 gravimetric feeder
04/25/2022	95056325	PM U2 EMA Operated Dampers/Vv's: Stroke
04/25/2022	95056293	PM U2 Fan Motors Heater: On while Down
04/25/2022	95056324	PM U2 Furnace Taps: Clean 1st Day Outage

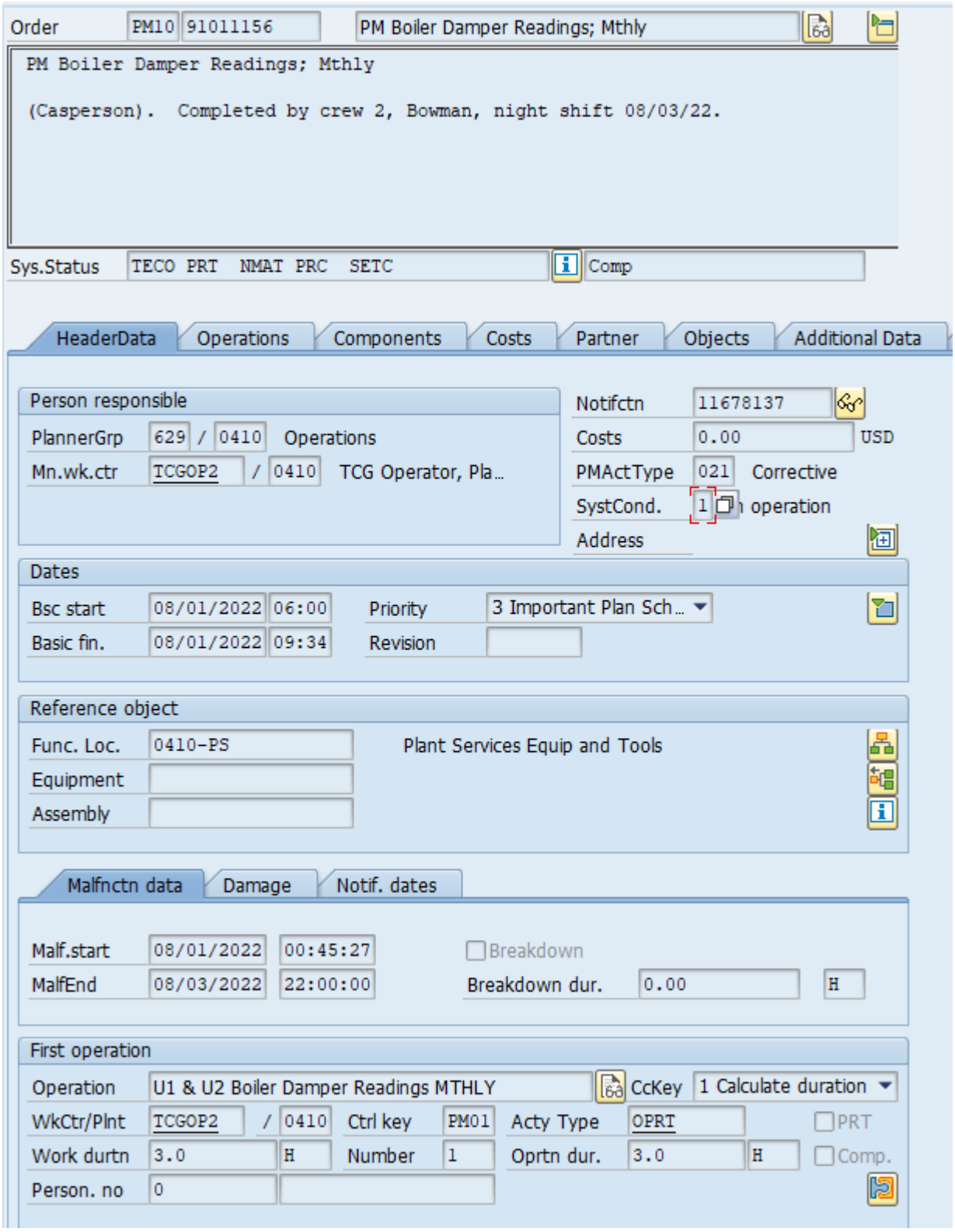
Bas. start date	Order	Description
04/25/2022	95056300	PM U2 Igniters: Rebuild
04/25/2022	91002234	S. SH spray dwnstream blk vv Rep Packing
04/25/2022	91003313	U2 27F coal pipe leak at burner front
04/25/2022	95056161	U2 Boiler Internal Clean
04/25/2022	90998507	U2 center drum vent Replace Valve
04/25/2022	90995614	U2 Economizer tube alignment 2022 Turn.
04/25/2022	91003161	U2 Hozontal SH/SB pipe 2nd leak @ condsr
04/25/2022	95056338	U2 Phosphate Analyzer; Shutdown Flushout
04/25/2022	90995496	U2 S Econo Inlet Repair damage seal ring
04/25/2022	95056391	U2 SH Pendants Rear [LTSH] Repair #S25
04/25/2022	95056337	U2 Silica Analyzer; Shutdown Flushout
04/25/2022	90993380	U2 Steam Trap Drain to ABT Rep Pipe Leak
04/25/2022	95056372	U2 Steam Trap Drain to ABT Rep Pipe Leak
04/27/2022	91001177	PM U2 Furnace DraftTaps: Rod/Clean
04/28/2022	91001818	PM U2 Sec. Air Impulse Lines: Clean Out
05/02/2022	91004700	22 ID fanflu gas duct leaks
05/02/2022	91004800	broken hand rail on top of 22ID fan duct
05/02/2022	95056329	PM U2 O2 Probes: Rebuild/Calibrate
05/05/2022	91005100	2 of 4 Flame Proven indication
05/05/2022	91002568	PM U2 Sec. Air Impulse Lines: Clean Out
05/09/2022	95056328	PM U2 Fuel & Aux Air Damper: Test/Repair
05/09/2022	95056311	PM U2 SOFA Damper: Test/Repair
05/10/2022	91004912	23 BCP suction vv act mtr noisy bearings
05/11/2022	91002438	PM U2 Furnace DraftTaps: Rod/Clean
05/12/2022	91003249	PM U2 Sec. Air Impulse Lines: Clean Out
05/15/2022	95056336	PM U2 CCOFA Damper: Test/Repair
05/16/2022	91004505	PM U2 N and S O2 Probes; Monthly
05/16/2022	95056275	U2 Boiler Unit Condition Assessment
05/17/2022	95056235	2022 U2 PA Duct Inspect & Repair
05/17/2022	95056236	2022 U2 TA Team Industrial Valve Repairs
05/19/2022	90993893	23 BCP Mechanical seal leak Replace Pump
05/19/2022	91003815	PM U2 Sec. Air Impulse Lines: Clean Out
05/23/2022	91004258	PM SCE U2 Boiler Scanner
05/23/2022	95056319	PM U2 Secondary Air Xmitters: Calibrate
05/25/2022	91003706	PM U2 Furnace DraftTaps: Rod/Clean
05/25/2022	91006270	U2 Calibrate boiler drum level Xmitters
05/26/2022	91006324	Calibrate drum press xmitters and switch
05/26/2022	91004432	PM U2 Sec. Air Impulse Lines: Clean Out
05/30/2022	91003107	PM U2 Scanner Air Filters: Replace
05/30/2022	91003108	PM U2 Scanner Blower Air Filters 6 Mth
06/02/2022	91005064	PM U2 Sec. Air Impulse Lines: Clean Out
06/06/2022	95056356	Arch Slope Refractory Repair #M56
06/06/2022	95056228	GE - Supervision/Overheads
06/06/2022	95056392	RH Front Pendant Assemblies Repair #S51
06/06/2022	95056355	SH Desuperheater Liner Inspection #S57

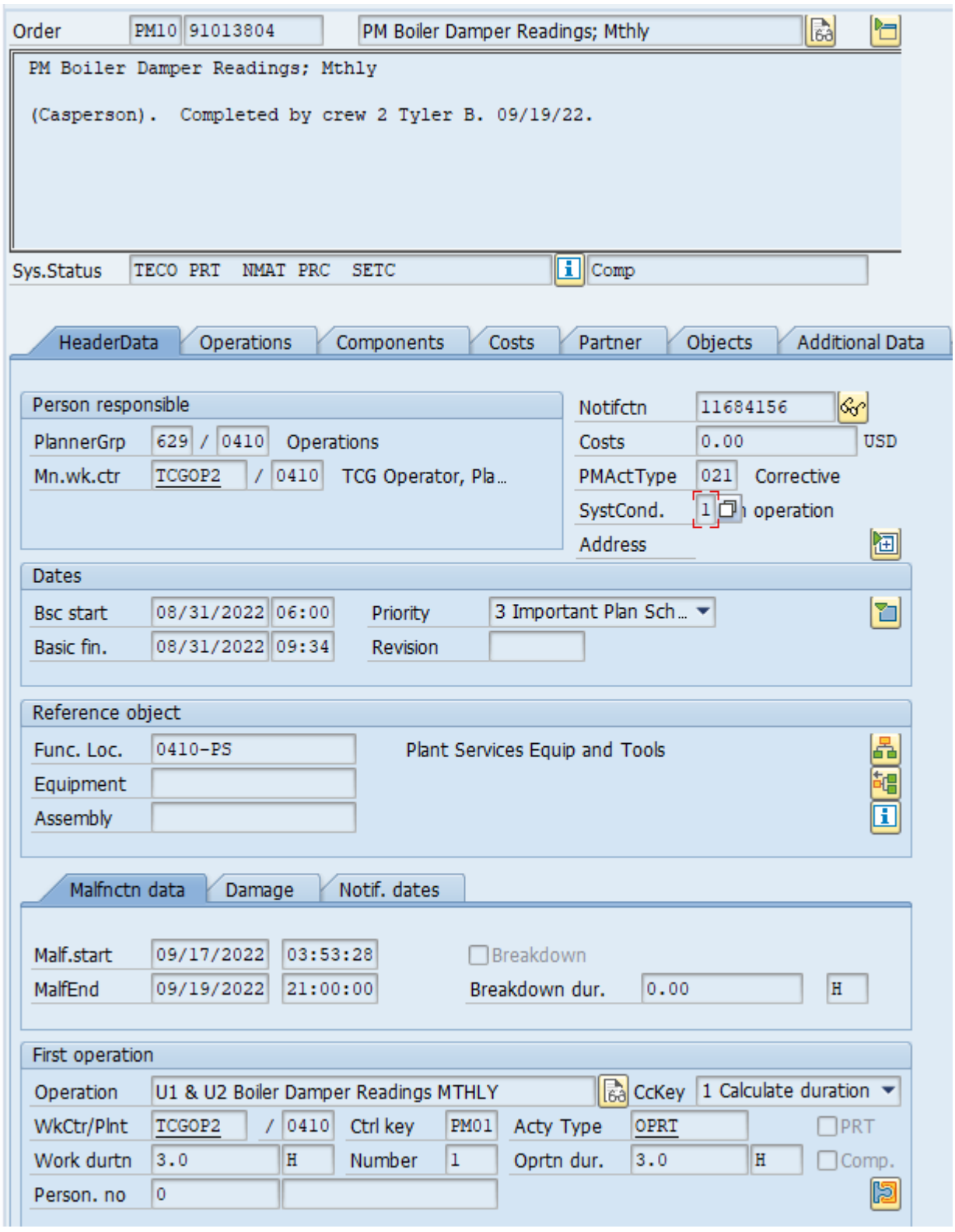
Bas. start date	Order	Description
06/06/2022	95056354	SH Front SCW Hanger Tubes Repair #S13
06/06/2022	95056394	U2 Blowdown Tank Repair #M51
06/06/2022	95056393	U2 Burner Corners & COFA Repairs
06/06/2022	95056395	U2 Penthouse Repair #M62
06/06/2022	95056357	U2 Upper & Lower Dead Air Space #M57
06/08/2022	91004958	PM U2 Furnace DraftTaps: Rod/Clean
06/09/2022	91005569	PM U2 Sec. Air Impulse Lines: Clean Out
06/12/2022	95056223	2022 U2 ID Fan Ducting Insp/Repair
06/12/2022	90924279	22 ID Fan Inbd Mtr bearing Inspect in TA
06/13/2022	91004504	PM U2 Warm-Up Guns 6 MTH BF001
06/14/2022	90982874	2" Hole in skin of boiler 8.5 level
06/14/2022	91007089	PM U2 N and S O2 Probes; Monthly
06/15/2022	95056226	APH Core Maintenance Inspect/Repair
06/16/2022	91006285	PM U2 Sec. Air Impulse Lines: Clean Out
06/20/2022	91008059	21 Inlet Duct rotten E. of 21 ID Fan
06/21/2022	95056371	U2 center drum vent Replace Valve
06/22/2022	91006200	PM U2 Furnace DraftTaps: Rod/Clean
06/23/2022	95056109	Boiler PM's & CM's #M10
06/23/2022	91006868	PM U2 Sec. Air Impulse Lines: Clean Out
06/27/2022	91002222	21A Flame Scanner Fan will not start
06/30/2022	91007502	PM U2 Sec. Air Impulse Lines: Clean Out
06/30/2022	91008391	PM U2 Test Run Warm Up/Ignitors Mthly
06/30/2022	95056106	U2 Economizer Assemblies Repair
07/04/2022	91000713	PM 21 FD Fan INSP/Repair/Align
07/04/2022	91000715	PM 21 ID Fan INSP/Repair/Align
07/04/2022	91000711	PM 21 PA Fan INSP/Repair/Align
07/04/2022	91000714	PM 22 FD Fan INSP/Repair/Align
07/04/2022	91000716	PM 22 ID Fan INSP/Repair/Align
07/04/2022	91000712	PM 22 PA Fan INSP/Repair/Align
07/04/2022	91002141	U2 FD/PA External Fan Filters Mthly
07/05/2022	91010272	22 ID Fan inboard linkage broke
07/05/2022	91010276	B Corner missin molasses vvs 21,22,23
07/06/2022	91010365	22 ID fan brkr racking assy broken
07/06/2022	91007366	PM U2 Furnace DraftTaps: Rod/Clean
07/07/2022	91008026	PM U2 Sec. Air Impulse Lines: Clean Out
07/07/2022	91010458	U2 "A"&"H" warm-up guns need new cord
07/11/2022	95056222	2022 U2 Coal Transport Piping Insp/Rep
07/14/2022	91009740	PM U2 N and S O2 Probes; Monthly
07/14/2022	91008603	PM U2 Sec. Air Impulse Lines: Clean Out
07/14/2022	91011224	U2 SB starter#2; trouble shoot no starts
07/19/2022	95056079	U2 Scaffold - Internal Boiler (MIC)
07/20/2022	91008502	PM U2 Furnace DraftTaps: Rod/Clean
07/21/2022	91009213	PM U2 Sec. Air Impulse Lines: Clean Out
07/25/2022	91004255	PM U2 Silica Analyzer: Yrly
07/25/2022	91011559	U2 Boiler H corner burner tilt sticking

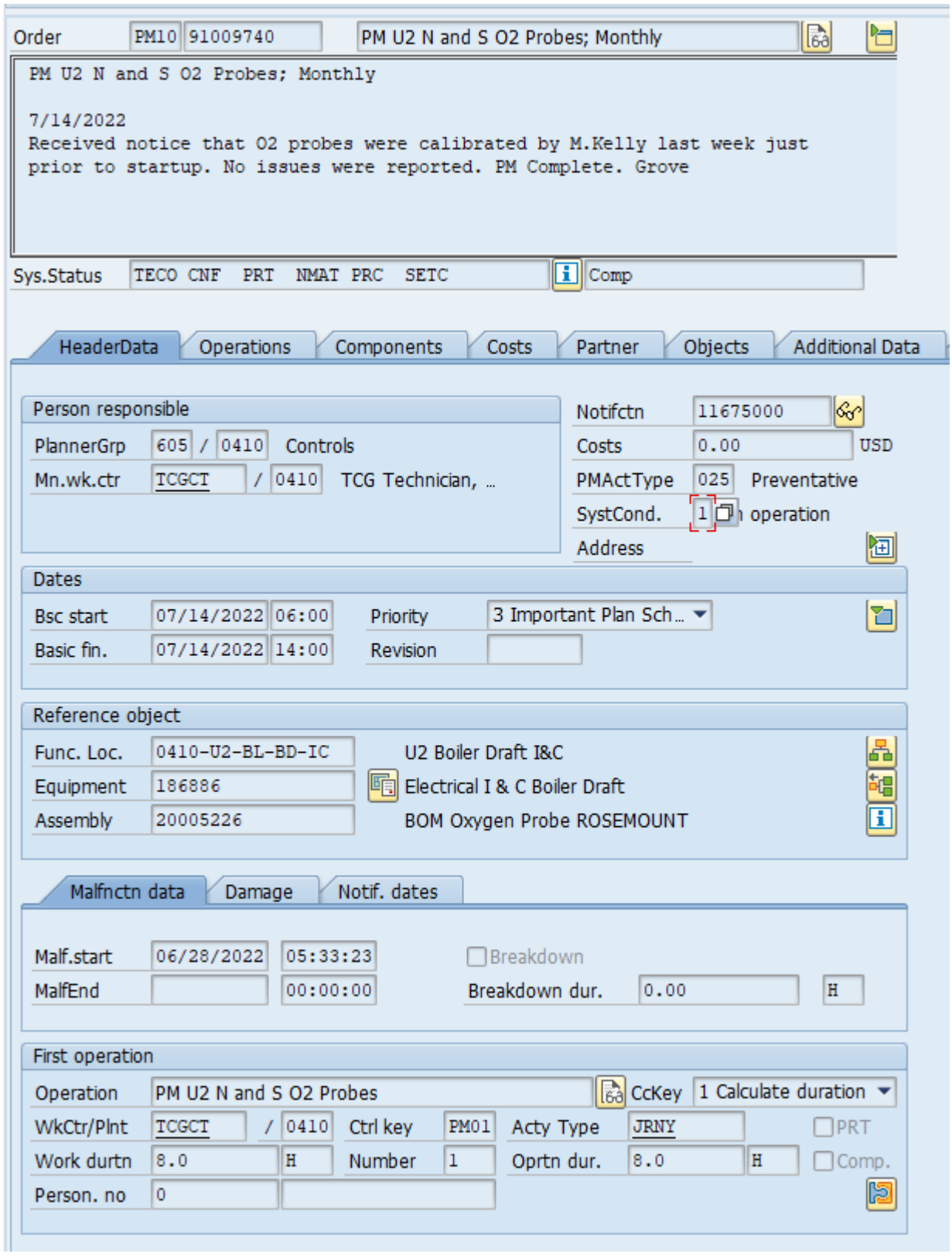
Bas. start date	Order	Description
07/25/2022	91011583	WU oil D AA Vv close fail in/out
07/28/2022	91009873	PM U2 Sec. Air Impulse Lines: Clean Out
08/01/2022	91004901	Navigation Light out on U2 Bypass Stack
08/01/2022	91009600	U2 FD/PA External Fan Filters Mthly
08/03/2022	91009803	PM U2 Furnace DraftTaps: Rod/Clean
08/04/2022	91010484	PM U2 Sec. Air Impulse Lines: Clean Out
08/11/2022	91011178	PM U2 Sec. Air Impulse Lines: Clean Out
08/15/2022	91011610	PM SCE U2 Boiler Scanner
08/15/2022	91012370	PM U2 N and S O2 Probes; Monthly
08/17/2022	91011020	PM U2 Furnace DraftTaps: Rod/Clean
08/18/2022	91011802	PM U2 Sec. Air Impulse Lines: Clean Out
08/25/2022	91012372	PM U2 Sec. Air Impulse Lines: Clean Out
08/30/2022	91011529	23 BCP local seal H2O temp indicator bad
08/31/2022	91012302	PM U2 Furnace DraftTaps: Rod/Clean
12/29/2022	90995376	2 in boiler drain not draining - Clear
12/29/2022	90998930	21 ID Fan Oil Flow transmitter/switch
12/29/2022	90999732	22 BCP Injection PP mech. seal leaking
12/29/2022	91011215	22 ID Fan Monitor oil lk So side of mtr
12/29/2022	90995501	24 BCP suction Adjust vlv packing
12/29/2022	90982379	APH 21 Cold End SB still faulting out
12/29/2022	95056384	Boiler Collecting Drum Repairs
12/29/2022	95056095	BOP Safety Valves (Section 8)
12/29/2022	95056108	Coal Nozzle Tips - Inspect & Repair
12/29/2022	91003315	External CRH steam leak at boiler front
12/29/2022	91006353	Hand wheel on valve broken CRH DP
12/29/2022	95056386	Rear Water Wall Arch Tubes (Bullnose)
12/29/2022	95056387	Rear Water Wall Hanger Tubes Repair #W28
12/29/2022	95056388	Rear Water Wall Screen Tubes #W29
12/29/2022	95056492	RH Radiant Front Wall Tubes #S47
12/29/2022	95056105	SH Ext. Side & Floor SCW Tubes #S14
12/29/2022	95056490	SH Front & Rear Division Panels #S32
12/29/2022	95056493	SH Front & Rear Platen Assemblies #S38
12/29/2022	95056383	SH Front Pendent Assemblies I/R
12/29/2022	95056104	SH Horizontal Assemblies Repair
12/29/2022	95056489	U2 Center WW Tubes #W24
12/29/2022	95056389	U2 Coutant Slope Repair #W43
12/29/2022	90987051	U2 D.O probe bad
12/29/2022	91003769	U2 drum level sync off
12/29/2022	90977131	U2 HJ blower fan change/clean air filter
12/29/2022	91011657	U2 N. SH spray vv Replace Packing
12/29/2022	90993891	U2 S. Econo Inlet MOV Adjust packing
12/29/2022	95056374	U2 SOFA Registers - I/R
12/29/2022	95056390	U2 Upper Coutant Bend Repair #44
12/29/2022	95056385	Upper Steam Drums - Liner Repair
05/10/2023	91006675	0410 PM U2 Steam Drum INSP

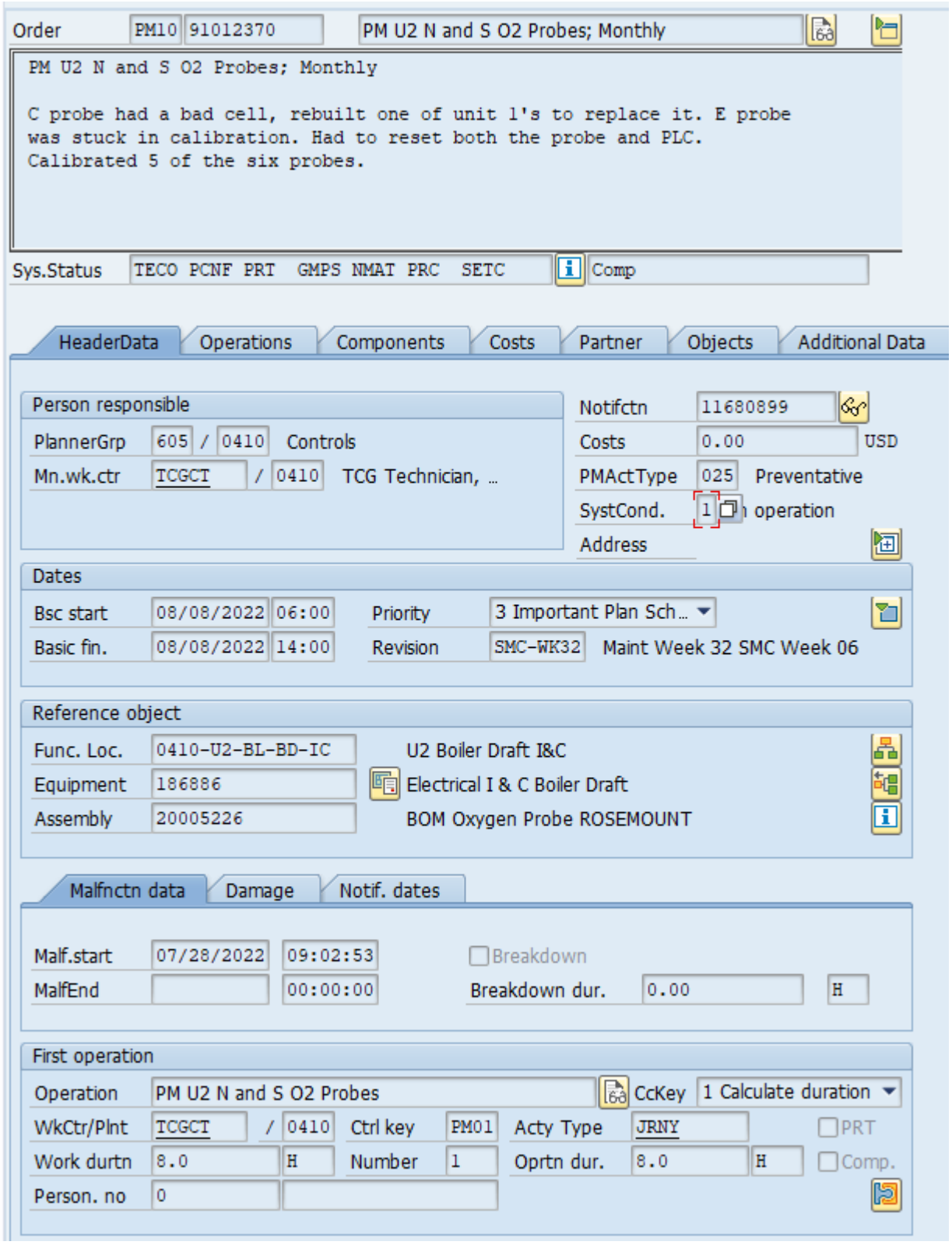
Attachment D

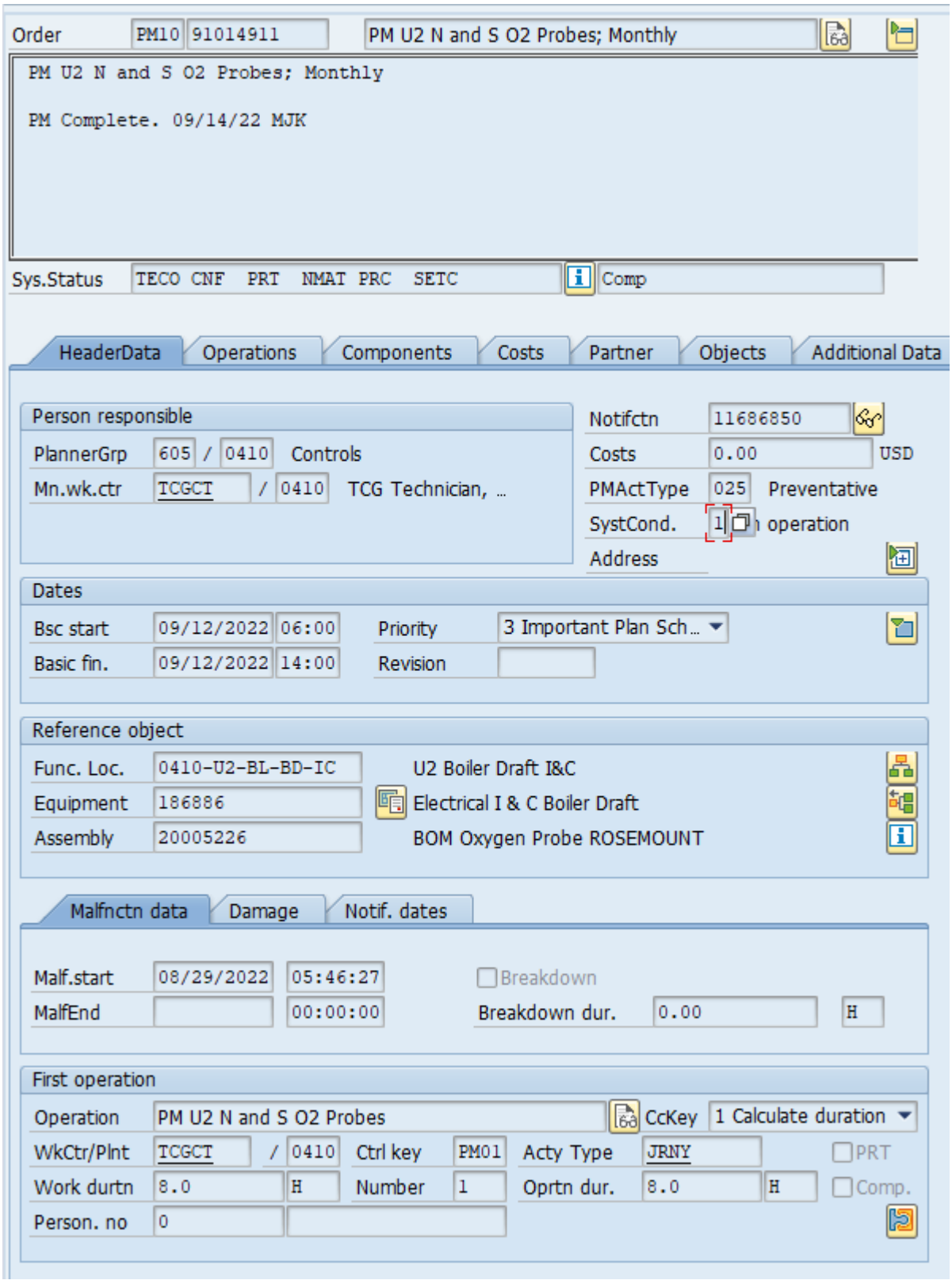

Order
PM10
91008390
PM Boiler Damper Readings; Mthly
PM Boiler Damper Readings; Mthly
(Casperson). Completed by crew 2 July 2022.
Sys.Status
TECO PRT NMAT PRC SETC
Comp
HeaderData
Operations
Components
Costs
Partner
Objects
Additional Data
Person responsible
PlannerGrp
629 / 0410
Operations
Mn.wk.ctr
TCGOP2 / 0410
TCG Operator, Pla…
Notifctn
11672029
Costs
0.00
USD
PMActType
021
Corrective
SystCond.
1
operation
Address
Dates
Bsc start
06/30/2022
06:00
Priority
3 Important Plan Sch…
Basic fin.
06/30/2022
09:34
Revision
Reference object
Func. Loc.
0410-PS
Plant Services Equip and Tools
Equipment
Assembly
Malfnctn data
Damage
Notif. dates
Malf.start
06/30/2022
10:14:27
Breakdown
MalfEnd
07/22/2022
23:00:00
Breakdown dur.
0.00
H
First operation
Operation
U1 & U2 Boiler Damper Readings MTHLY
CcKey
1 Calculate duration
WkCtr/Plnt
TCGOP2 / 0410
Ctrl key
PM01
Acty Type
OPRT
PRT
Work durtn
3.0
H
Number
1
Oprtn dur.
3.0
H
Comp.
Person. no
0


Order
PM10
91011156
PM Boiler Damper Readings; Mthly
PM Boiler Damper Readings; Mthly
(Casperson). Completed by crew 2, Bowman, night shift 08/03/22.
Sys.Status
TECO PRT NMAT PRC SETC
Comp
HeaderData
Operations
Components
Costs
Partner
Objects
Additional Data
Person responsible
PlannerGrp
629 / 0410
Operations
Mn.wk.ctr
TCGOP2 / 0410
TCG Operator, Pla...
Notifctn
11678137
Costs
0.00
USD
PMActType
021
Corrective
SystCond.
1
operation
Address
Dates
Bsc start
08/01/2022
06:00
Priority
3 Important Plan Sch...
Basic fin.
08/01/2022
09:34
Revision
Reference object
Func. Loc.
0410-PS
Plant Services Equip and Tools
Equipment
Assembly
Malfnctn data
Damage
Notif. dates
Malf.start
08/01/2022
00:45:27
Breakdown
MalfEnd
08/03/2022
22:00:00
Breakdown dur.
0.00
H
First operation
Operation
U1 & U2 Boiler Damper Readings MTHLY
CcKey
1 Calculate duration
WkCtr/Plnt
TCGOP2 / 0410
Ctrl key
PM01
Acty Type
OPRT
PRT
Work durtn
3.0
H
Number
1
Oprtn dur.
3.0
H
Comp.
Person. no
0


Order
PM10
91013804
PM Boiler Damper Readings; Mthly
PM Boiler Damper Readings; Mthly
(Casperson). Completed by crew 2 Tyler B. 09/19/22.
Sys.Status
TECO PRT NMAT PRC SETC
Comp
HeaderData
Operations
Components
Costs
Partner
Objects
Additional Data
Person responsible
PlannerGrp
629 / 0410
Operations
Mn.wk.ctr
TCGOP2 / 0410
TCG Operator, Pla…
Notifctn
11684156
Costs
0.00
USD
PMActType
021
Corrective
SystCond.
1
operation
Address
Dates
Bsc start
08/31/2022
06:00
Priority
3 Important Plan Sch…
Basic fin.
08/31/2022
09:34
Revision
Reference object
Func. Loc.
0410-PS
Plant Services Equip and Tools
Equipment
Assembly
Malfnctn data
Damage
Notif. dates
Malf.start
09/17/2022
03:53:28
Breakdown
MalfEnd
09/19/2022
21:00:00
Breakdown dur.
0.00
H
First operation
Operation
U1 & U2 Boiler Damper Readings MTHLY
CcKey
1 Calculate duration
WkCtr/Plnt
TCGOP2 / 0410
Ctrl key
PM01
Acty Type
OPRT
PRT
Work durtn
3.0
H
Number
1
Oprtn dur.
3.0
H
Comp.
Person. no
0


Order
PM10
91009740
PM U2 N and S O2 Probes; Monthly
PM U2 N and S O2 Probes; Monthly
7/14/2022
Received notice that O2 probes were calibrated by M.Kelly last week just prior to startup. No issues were reported. PM Complete. Grove
Sys.Status
TECO CNF PRT NMAT PRC SETC
Comp
HeaderData
Operations
Components
Costs
Partner
Objects
Additional Data
Person responsible
PlannerGrp
605 / 0410
Controls
Mn.wk.ctr
TCGCT / 0410
TCG Technician, ...
Notifctn
11675000
Costs
0.00
USD
PMActType
025
Preventative
SystCond.
1
operation
Address
Dates
Bsc start
07/14/2022
06:00
Priority
3 Important Plan Sch...
Basic fin.
07/14/2022
14:00
Revision
Reference object
Func. Loc.
0410-U2-BL-BD-IC
U2 Boiler Draft I&C
Equipment
186886
Electrical I & C Boiler Draft
Assembly
20005226
BOM Oxygen Probe ROSEMOUNT
Malfnctn data
Damage
Notif. dates
Malf.start
06/28/2022
05:33:23
Breakdown
MalfEnd
00:00:00
Breakdown dur.
0.00
H
First operation
Operation
PM U2 N and S O2 Probes
CcKey
1 Calculate duration
WkCtr/Plnt
TCGCT / 0410
Ctrl key
PM01
Acty Type
JRNY
PRT
Work durtn
8.0
H
Number
1
Oprtn dur.
8.0
H
Comp.
Person. no
0


Order PM10 91012370 PM U2 N and S O2 Probes; Monthly
PM U2 N and S O2 Probes; Monthly
C probe had a bad cell, rebuilt one of unit 1's to replace it. E probe was stuck in calibration. Had to reset both the probe and PLC. Calibrated 5 of the six probes.
Sys.Status TECO PCNF PRT GMPS NMAT PRC SETC Comp
HeaderData Operations Components Costs Partner Objects Additional Data
Person responsible
PlannerGrp 605 / 0410 Controls
Mn.wk.ctr TCGCT / 0410 TCG Technician, ...
Notifctn 11680899
Costs 0.00 USD
PMActType 025 Preventative
SystCond. 1 operation
Address
Dates
Bsc start 08/08/2022 06:00
Basic fin. 08/08/2022 14:00
Priority 3 Important Plan Sch...
Revision SMC-WK32 Maint Week 32 SMC Week 06
Reference object
Func. Loc. 0410-U2-BL-BD-IC U2 Boiler Draft I&C
Equipment 186886 Electrical I & C Boiler Draft
Assembly 20005226 BOM Oxygen Probe ROSEMOUNT
Malfnctn data Damage Notif. dates
Malf.start 07/28/2022 09:02:53
MalfEnd 00:00:00
Breakdown
Breakdown dur. 0.00 H
First operation
Operation PM U2 N and S O2 Probes
CcKey 1 Calculate duration
WkCtr/Plnt TCGCT / 0410
Ctrl key PM01
Acty Type JRNY
PRT
Work durtn 8.0 H
Number 1
Oprtn dur. 8.0 H
Comp.
Person. no 0


Order
PM10
91014911
PM U2 N and S O2 Probes; Monthly
PM U2 N and S O2 Probes; Monthly
PM Complete. 09/14/22 MJK
Sys.Status
TECO CNF PRT NMAT PRC SETC
Comp
HeaderData
Operations
Components
Costs
Partner
Objects
Additional Data
Person responsible
PlannerGrp
605 / 0410
Controls
Mn.wk.ctr
TCGCT / 0410
TCG Technician, ...
Notifctn
11686850
Costs
0.00
USD
PMActType
025
Preventative
SystCond.
1
operation
Address
Dates
Bsc start
09/12/2022
06:00
Priority
3 Important Plan Sch...
Basic fin.
09/12/2022
14:00
Revision
Reference object
Func. Loc.
0410-U2-BL-BD-IC
U2 Boiler Draft I&C
Equipment
186886
Electrical I & C Boiler Draft
Assembly
20005226
BOM Oxygen Probe ROSEMOUNT
Malfnctn data
Damage
Notif. dates
Malf.start
08/29/2022
05:46:27
Breakdown
MalfEnd
00:00:00
Breakdown dur.
0.00
H
First operation
Operation
PM U2 N and S O2 Probes
CcKey
1 Calculate duration
WkCtr/Plnt
TCGCT / 0410
Ctrl key
PM01
Acty Type
JRNY
PRT
Work durtn
8.0
H
Number
1
Oprtn dur.
8.0
H
Comp.
Person. no
0

Attachment E

Average Values Report
Generated: 9/20/2022 08:10

Company: TransAlta, Centralia Gen LLC
Plant: 913 Big Hanaford Road
City/St: Centralia, Wa 98531
Source: UNIT_2s

Period Start: 7/15/2022 00:00
Period End: 9/19/2022 23:59
Validation Type: 40CFR75 Subpart B
Averaging Period: 1 hr
Type: Block Avg

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
07/15/2022 00:00	0	76	8.7	293
07/15/2022 01:00	0	76	8.7	293
07/15/2022 02:00	0	76	8.8	289
07/15/2022 03:00	0	75	8.7	294
07/15/2022 04:00	0	76	8.8	295
07/15/2022 05:00	0	77	8.4	318
07/15/2022 06:00	1	78	8.3	347
07/15/2022 07:00	143	72	6.6	479
07/15/2022 08:00	N/A	N/A	N/A	617
07/15/2022 09:00	127	95	6.0	640
07/15/2022 10:00	319	83	5.9	579
07/15/2022 11:00	67	105	5.8	664
07/15/2022 12:00	82	99	5.8	658
07/15/2022 13:00	182	92	5.9	623
07/15/2022 14:00	113	92	6.1	586
07/15/2022 15:00	73	93	6.1	581
07/15/2022 16:00	69	93	6.1	581
07/15/2022 17:00	44	96	6.1	587
07/15/2022 18:00	144	88	6.3	559
07/15/2022 19:00	303	72	6.4	519
07/15/2022 20:00	6	72	7.9	371
07/15/2022 21:00	0	78	8.6	311
07/15/2022 22:00	0	80	8.6	308
07/15/2022 23:00	0	81	8.5	318
07/16/2022 00:00	0	82	8.5	318
07/16/2022 01:00	0	82	8.4	320
07/16/2022 02:00	0	83	8.4	319
07/16/2022 03:00	0	77	8.5	320
07/16/2022 04:00	0	78	8.5	318
07/16/2022 05:00	0	79	8.7	300
07/16/2022 06:00	2	74	8.1	360
07/16/2022 07:00	11	74	7.3	420
07/16/2022 08:00	27	78	7.1	434
07/16/2022 09:00	27	82	6.6	505
07/16/2022 10:00	18	107	6.3	628
07/16/2022 11:00	41	101	6.2	633
07/16/2022 12:00	38	106	5.9	640
07/16/2022 13:00	32	101	6.0	663
07/16/2022 14:00	40	100	6.1	594
07/16/2022 15:00	36	104	6.0	586
07/16/2022 16:00	34	104	6.0	594
07/16/2022 17:00	101	73	6.5	490
07/16/2022 18:00	6	67	7.0	432
07/16/2022 19:00	2	69	7.6	381
07/16/2022 20:00	1	78	8.3	337
07/16/2022 21:00	0	73	8.4	335
07/16/2022 22:00	0	74	8.3	335
07/16/2022 23:00	0	74	8.7	305
07/17/2022 00:00	0	75	8.8	297
07/17/2022 01:00	0	75	8.8	296
07/17/2022 02:00	0	76	8.8	292
07/17/2022 03:00	0	78	8.8	292
07/17/2022 04:00	0	83	8.8	291
07/17/2022 05:00	0	82	8.9	291
07/17/2022 06:00	0	83	8.9	292
07/17/2022 07:00	0	82	8.8	301
07/17/2022 08:00	0	77	7.8	375
07/17/2022 09:00	0	86	8.0	355
07/17/2022 10:00	40	79	7.2	421
07/17/2022 11:00	10	83	7.7	373
07/17/2022 12:00	69	86	6.4	508
07/17/2022 13:00	56	101	5.8	615
07/17/2022 14:00	162	80	6.1	538

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
07/17/2022 15:00	43	86	6.4	535
07/17/2022 16:00	10	82	7.6	384
07/17/2022 17:00	0	83	7.8	380
07/17/2022 18:00	0	87	8.2	342
07/17/2022 19:00	0	86	8.3	327
07/17/2022 20:00	0	84	8.2	327
07/17/2022 21:00	0	82	8.1	328
07/17/2022 22:00	4	79	8.0	337
07/17/2022 23:00	0	76	8.5	298
07/18/2022 00:00	0	77	8.5	295
07/18/2022 01:00	0	76	8.5	295
07/18/2022 02:00	0	79	8.5	295
07/18/2022 03:00	0	80	8.5	295
07/18/2022 04:00	3	82	8.4	303
07/18/2022 05:00	48	71	7.2	392
07/18/2022 06:00	169	67	6.5	440
07/18/2022 07:00	142	70	6.3	490
07/18/2022 08:00	29	89	6.5	554
07/18/2022 09:00	9	103	6.2	607
07/18/2022 10:00	18	114	6.1	661
07/18/2022 11:00	123	106	6.0	708
07/18/2022 12:00	168	95	5.8	708
07/18/2022 13:00	155	96	5.8	708
07/18/2022 14:00	159	98	5.8	711
07/18/2022 15:00	191	102	5.5	713
07/18/2022 16:00	119	107	5.5	712
07/18/2022 17:00	142	109	5.5	712
07/18/2022 18:00	149	110	5.5	713
07/18/2022 19:00	161	108	5.5	713
07/18/2022 20:00	172	107	5.6	707
07/18/2022 21:00	168	108	5.5	711
07/18/2022 22:00	136	109	5.5	713
07/18/2022 23:00	123	108	5.6	713
07/19/2022 00:00	114	110	5.6	712
07/19/2022 01:00	138	109	5.6	712
07/19/2022 02:00	164	108	5.5	713
07/19/2022 03:00	181	107	5.5	712
07/19/2022 04:00	195	108	5.5	712
07/19/2022 05:00	215	109	5.5	712
07/19/2022 06:00	224	109	5.5	712
07/19/2022 07:00	237	108	5.5	712
07/19/2022 08:00	198	109	5.5	711
07/19/2022 09:00	223	108	5.5	711
07/19/2022 10:00	243	104	5.4	711
07/19/2022 11:00	243	104	5.4	710
07/19/2022 12:00	193	107	5.4	710
07/19/2022 13:00	151	110	5.4	711
07/19/2022 14:00	280	104	5.4	692
07/19/2022 15:00	189	105	5.6	691
07/19/2022 16:00	195	108	5.4	709
07/19/2022 17:00	208	111	5.3	709
07/19/2022 18:00	231	111	5.2	711
07/19/2022 19:00	269	108	5.3	711
07/19/2022 20:00	333	104	5.6	663
07/19/2022 21:00	332	105	5.5	706
07/19/2022 22:00	267	104	5.7	660
07/19/2022 23:00	320	101	5.6	631
07/20/2022 00:00	389	100	5.6	627
07/20/2022 01:00	268	107	5.6	661
07/20/2022 02:00	319	104	5.6	632
07/20/2022 03:00	380	104	5.6	632
07/20/2022 04:00	353	105	5.7	632
07/20/2022 05:00	310	105	5.6	633
07/20/2022 06:00	245	103	5.7	632
07/20/2022 07:00	N/A	N/A	N/A	633
07/20/2022 08:00	N/A	N/A	N/A	633
07/20/2022 09:00	N/A	N/A	N/A	662
07/20/2022 10:00	N/A	N/A	N/A	707
07/20/2022 11:00	N/A	N/A	N/A	707
07/20/2022 12:00	N/A	N/A	N/A	707
07/20/2022 13:00	103	119	5.5	707
07/20/2022 14:00	164	113	5.5	676

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
07/20/2022 15:00	206	112	5.5	687
07/20/2022 16:00	182	110	5.6	673
07/20/2022 17:00	122	115	5.6	686
07/20/2022 18:00	241	112	5.5	693
07/20/2022 19:00	283	113	5.4	712
07/20/2022 20:00	250	109	5.5	712
07/20/2022 21:00	237	111	5.7	712
07/20/2022 22:00	219	113	5.7	712
07/20/2022 23:00	287	111	5.7	712
07/21/2022 00:00	427	101	5.7	650
07/21/2022 01:00	156	107	5.9	632
07/21/2022 02:00	127	108	5.9	633
07/21/2022 03:00	96	106	5.9	630
07/21/2022 04:00	139	104	5.9	627
07/21/2022 05:00	193	101	5.8	628
07/21/2022 06:00	115	104	5.9	680
07/21/2022 07:00	43	106	6.0	661
07/21/2022 08:00	N/A	N/A	N/A	633
07/21/2022 09:00	163	107	5.8	662
07/21/2022 10:00	68	111	5.8	711
07/21/2022 11:00	96	112	5.7	699
07/21/2022 12:00	198	111	5.8	631
07/21/2022 13:00	138	111	5.9	637
07/21/2022 14:00	67	110	6.0	680
07/21/2022 15:00	200	107	5.8	697
07/21/2022 16:00	210	109	5.6	675
07/21/2022 17:00	206	109	5.7	663
07/21/2022 18:00	252	110	5.5	711
07/21/2022 19:00	219	110	5.5	711
07/21/2022 20:00	222	108	5.5	711
07/21/2022 21:00	226	106	5.6	711
07/21/2022 22:00	399	98	5.6	668
07/21/2022 23:00	202	105	6.0	605
07/22/2022 00:00	120	109	6.1	607
07/22/2022 01:00	69	86	6.7	493
07/22/2022 02:00	3	78	8.0	362
07/22/2022 03:00	7	77	7.2	439
07/22/2022 04:00	21	75	6.8	475
07/22/2022 05:00	25	90	6.7	529
07/22/2022 06:00	17	80	7.1	457
07/22/2022 07:00	17	77	6.8	474
07/22/2022 08:00	17	86	6.7	528
07/22/2022 09:00	35	100	6.7	549
07/22/2022 10:00	70	115	6.1	638
07/22/2022 11:00	79	114	5.8	710
07/22/2022 12:00	170	102	5.7	703
07/22/2022 13:00	202	98	5.9	632
07/22/2022 14:00	80	108	5.9	664
07/22/2022 15:00	140	104	5.8	710
07/22/2022 16:00	165	101	5.8	684
07/22/2022 17:00	119	96	6.0	638
07/22/2022 18:00	98	93	6.0	631
07/22/2022 19:00	120	91	6.0	626
07/22/2022 20:00	70	105	6.0	690
07/22/2022 21:00	61	106	6.0	711
07/22/2022 22:00	63	104	6.0	712
07/22/2022 23:00	62	104	6.0	710
07/23/2022 00:00	79	104	6.0	712
07/23/2022 01:00	87	105	6.0	711
07/23/2022 02:00	80	106	6.0	713
07/23/2022 03:00	81	106	6.0	711
07/23/2022 04:00	92	108	6.0	711
07/23/2022 05:00	111	105	6.0	703
07/23/2022 06:00	112	103	6.0	710
07/23/2022 07:00	88	104	5.9	709
07/23/2022 08:00	207	95	6.0	653
07/23/2022 09:00	94	100	6.0	633
07/23/2022 10:00	54	103	6.0	632
07/23/2022 11:00	54	105	6.0	632
07/23/2022 12:00	99	105	6.0	633
07/23/2022 13:00	90	105	6.0	633
07/23/2022 14:00	85	107	6.0	642

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
07/23/2022 15:00	66	108	6.0	658
07/23/2022 16:00	72	103	5.9	626
07/23/2022 17:00	52	104	6.0	632
07/23/2022 18:00	42	104	6.0	632
07/23/2022 19:00	51	105	6.0	631
07/23/2022 20:00	57	111	5.9	688
07/23/2022 21:00	98	102	6.0	657
07/23/2022 22:00	97	104	6.0	630
07/23/2022 23:00	86	105	6.0	632
07/24/2022 00:00	99	104	6.0	630
07/24/2022 01:00	158	102	6.1	597
07/24/2022 02:00	94	109	6.1	618
07/24/2022 03:00	58	107	6.0	688
07/24/2022 04:00	40	106	6.1	709
07/24/2022 05:00	47	107	6.1	710
07/24/2022 06:00	135	105	6.0	711
07/24/2022 07:00	129	103	5.8	711
07/24/2022 08:00	88	102	5.9	711
07/24/2022 09:00	109	104	5.8	710
07/24/2022 10:00	145	106	5.6	710
07/24/2022 11:00	106	112	5.5	710
07/24/2022 12:00	170	109	5.3	710
07/24/2022 13:00	169	113	5.4	710
07/24/2022 14:00	190	112	5.4	711
07/24/2022 15:00	174	111	5.3	711
07/24/2022 16:00	154	114	5.4	710
07/24/2022 17:00	197	114	5.4	708
07/24/2022 18:00	257	113	5.4	711
07/24/2022 19:00	246	112	5.5	711
07/24/2022 20:00	190	112	5.6	710
07/24/2022 21:00	274	107	5.5	711
07/24/2022 22:00	271	106	5.5	712
07/24/2022 23:00	141	111	5.6	712
07/25/2022 00:00	208	108	5.5	714
07/25/2022 01:00	218	109	5.5	712
07/25/2022 02:00	186	112	5.6	712
07/25/2022 03:00	284	111	5.6	713
07/25/2022 04:00	332	112	5.6	713
07/25/2022 05:00	307	111	5.6	711
07/25/2022 06:00	261	N/A	5.6	711
07/25/2022 07:00	244	N/A	5.6	712
07/25/2022 08:00	182	109	5.6	711
07/25/2022 09:00	187	106	5.6	711
07/25/2022 10:00	258	105	5.4	712
07/25/2022 11:00	341	108	5.4	711
07/25/2022 12:00	414	104	5.4	710
07/25/2022 13:00	290	102	5.5	700
07/25/2022 14:00	321	103	5.4	700
07/25/2022 15:00	494	102	5.3	700
07/25/2022 16:00	579	102	5.3	701
07/25/2022 17:00	680	102	5.3	700
07/25/2022 18:00	210	113	5.4	700
07/25/2022 19:00	242	114	5.4	701
07/25/2022 20:00	278	112	5.3	712
07/25/2022 21:00	292	112	5.3	714
07/25/2022 22:00	304	114	5.3	714
07/25/2022 23:00	299	112	5.4	713
07/26/2022 00:00	252	111	5.4	713
07/26/2022 01:00	208	113	5.5	713
07/26/2022 02:00	211	113	5.5	713
07/26/2022 03:00	197	110	5.5	713
07/26/2022 04:00	187	112	5.5	713
07/26/2022 05:00	289	109	5.6	710
07/26/2022 06:00	257	110	5.6	710
07/26/2022 07:00	303	107	5.5	711
07/26/2022 08:00	432	105	5.4	710
07/26/2022 09:00	359	108	5.4	710
07/26/2022 10:00	417	106	5.3	710
07/26/2022 11:00	312	109	5.4	701
07/26/2022 12:00	338	108	5.4	699
07/26/2022 13:00	188	111	5.5	691
07/26/2022 14:00	210	106	5.4	691

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
07/26/2022 15:00	240	107	5.4	690
07/26/2022 16:00	232	109	5.4	690
07/26/2022 17:00	174	111	5.4	690
07/26/2022 18:00	185	107	5.4	690
07/26/2022 19:00	251	105	5.4	690
07/26/2022 20:00	340	103	5.4	691
07/26/2022 21:00	191	104	5.5	697
07/26/2022 22:00	104	111	5.5	709
07/26/2022 23:00	198	106	5.4	710
07/27/2022 00:00	177	105	5.4	710
07/27/2022 01:00	150	105	5.5	710
07/27/2022 02:00	50	111	5.7	710
07/27/2022 03:00	85	110	5.7	710
07/27/2022 04:00	89	110	5.7	711
07/27/2022 05:00	142	104	5.7	710
07/27/2022 06:00	184	N/A	5.6	710
07/27/2022 07:00	N/A	N/A	N/A	710
07/27/2022 08:00	117	N/A	5.6	711
07/27/2022 09:00	242	114	5.5	707
07/27/2022 10:00	239	118	5.5	708
07/27/2022 11:00	390	112	5.4	694
07/27/2022 12:00	599	107	5.3	687
07/27/2022 13:00	501	105	5.4	684
07/27/2022 14:00	313	112	5.3	695
07/27/2022 15:00	276	114	5.3	695
07/27/2022 16:00	288	112	5.4	695
07/27/2022 17:00	302	113	5.5	695
07/27/2022 18:00	310	112	5.5	695
07/27/2022 19:00	316	108	5.5	695
07/27/2022 20:00	377	106	5.4	710
07/27/2022 21:00	292	112	5.4	711
07/27/2022 22:00	267	112	5.4	712
07/27/2022 23:00	143	112	5.5	711
07/28/2022 00:00	199	110	5.5	710
07/28/2022 01:00	181	112	5.6	710
07/28/2022 02:00	220	109	5.6	711
07/28/2022 03:00	236	106	5.5	711
07/28/2022 04:00	190	108	5.6	710
07/28/2022 05:00	261	106	5.6	710
07/28/2022 06:00	244	107	5.6	711
07/28/2022 07:00	236	105	5.6	710
07/28/2022 08:00	216	105	5.6	710
07/28/2022 09:00	274	105	5.4	710
07/28/2022 10:00	282	105	5.3	709
07/28/2022 11:00	212	105	5.5	695
07/28/2022 12:00	295	106	5.4	695
07/28/2022 13:00	407	105	5.3	695
07/28/2022 14:00	451	102	5.2	695
07/28/2022 15:00	383	103	5.3	692
07/28/2022 16:00	369	106	5.3	692
07/28/2022 17:00	429	104	5.2	692
07/28/2022 18:00	319	108	5.2	692
07/28/2022 19:00	290	114	5.3	692
07/28/2022 20:00	298	112	5.3	692
07/28/2022 21:00	371	108	5.3	693
07/28/2022 22:00	266	111	5.4	701
07/28/2022 23:00	263	103	6.0	622
07/29/2022 00:00	215	113	5.5	707
07/29/2022 01:00	256	109	5.4	710
07/29/2022 02:00	243	112	5.4	709
07/29/2022 03:00	297	111	5.5	709
07/29/2022 04:00	290	109	5.5	710
07/29/2022 05:00	273	108	5.5	709
07/29/2022 06:00	263	108	5.5	710
07/29/2022 07:00	280	110	5.5	711
07/29/2022 08:00	300	109	5.4	711
07/29/2022 09:00	356	107	5.3	710
07/29/2022 10:00	466	106	5.2	709
07/29/2022 11:00	394	106	5.1	701
07/29/2022 12:00	155	110	5.6	676
07/29/2022 13:00	251	108	5.5	689
07/29/2022 14:00	367	106	5.4	689

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
07/29/2022 15:00	332	107	5.3	690
07/29/2022 16:00	380	108	5.3	689
07/29/2022 17:00	259	112	5.4	690
07/29/2022 18:00	320	111	5.3	690
07/29/2022 19:00	255	110	5.4	690
07/29/2022 20:00	194	109	5.6	676
07/29/2022 21:00	171	108	5.9	620
07/29/2022 22:00	124	106	6.0	621
07/29/2022 23:00	102	107	6.0	622
07/30/2022 00:00	95	107	6.1	623
07/30/2022 01:00	112	106	6.1	629
07/30/2022 02:00	245	108	5.7	696
07/30/2022 03:00	302	110	5.5	712
07/30/2022 04:00	256	112	5.5	711
07/30/2022 05:00	263	108	5.5	711
07/30/2022 06:00	323	106	5.5	712
07/30/2022 07:00	283	107	5.5	712
07/30/2022 08:00	325	109	5.4	711
07/30/2022 09:00	469	109	5.2	711
07/30/2022 10:00	385	111	5.1	707
07/30/2022 11:00	359	105	5.3	690
07/30/2022 12:00	265	108	5.4	691
07/30/2022 13:00	228	109	5.6	680
07/30/2022 14:00	151	109	5.8	680
07/30/2022 15:00	155	108	5.8	680
07/30/2022 16:00	324	106	5.5	689
07/30/2022 17:00	282	110	5.5	690
07/30/2022 18:00	229	108	5.5	690
07/30/2022 19:00	222	106	5.8	636
07/30/2022 20:00	93	88	6.7	470
07/30/2022 21:00	104	99	6.6	529
07/30/2022 22:00	180	104	6.3	596
07/30/2022 23:00	253	108	5.7	707
07/31/2022 00:00	238	106	5.8	669
07/31/2022 01:00	103	104	6.2	633
07/31/2022 02:00	92	105	6.3	635
07/31/2022 03:00	117	103	6.2	639
07/31/2022 04:00	231	110	5.7	710
07/31/2022 05:00	252	110	5.7	710
07/31/2022 06:00	219	109	5.7	711
07/31/2022 07:00	307	104	5.6	711
07/31/2022 08:00	379	106	5.5	710
07/31/2022 09:00	288	110	5.4	710
07/31/2022 10:00	276	112	5.4	710
07/31/2022 11:00	185	109	5.6	691
07/31/2022 12:00	158	105	5.8	690
07/31/2022 13:00	167	103	5.7	690
07/31/2022 14:00	218	104	5.7	690
07/31/2022 15:00	203	103	5.7	690
07/31/2022 16:00	115	109	5.7	688
07/31/2022 17:00	249	110	5.5	689
07/31/2022 18:00	246	107	5.7	690
07/31/2022 19:00	193	106	5.8	691
07/31/2022 20:00	248	107	5.6	700
07/31/2022 21:00	265	107	5.7	700
07/31/2022 22:00	154	105	6.0	651
07/31/2022 23:00	69	102	6.3	632
08/01/2022 00:00	187	107	5.8	699
08/01/2022 01:00	251	106	5.6	711
08/01/2022 02:00	212	105	5.7	699
08/01/2022 03:00	128	106	6.1	655
08/01/2022 04:00	114	110	5.9	688
08/01/2022 05:00	87	109	6.0	702
08/01/2022 06:00	152	105	5.8	709
08/01/2022 07:00	189	105	5.7	710
08/01/2022 08:00	210	101	5.6	710
08/01/2022 09:00	237	100	5.6	710
08/01/2022 10:00	347	98	5.6	699
08/01/2022 11:00	282	102	5.5	708
08/01/2022 12:00	423	99	5.3	709
08/01/2022 13:00	466	99	5.4	695
08/01/2022 14:00	433	103	5.1	710

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/01/2022 15:00	277	106	5.2	710
08/01/2022 16:00	253	105	5.3	707
08/01/2022 17:00	136	105	5.6	697
08/01/2022 18:00	128	101	6.0	651
08/01/2022 19:00	68	105	5.8	698
08/01/2022 20:00	98	104	5.7	710
08/01/2022 21:00	83	99	6.2	638
08/01/2022 22:00	53	107	6.0	679
08/01/2022 23:00	105	103	5.8	709
08/02/2022 00:00	81	99	6.3	632
08/02/2022 01:00	59	102	6.3	633
08/02/2022 02:00	61	100	6.3	633
08/02/2022 03:00	44	107	6.1	688
08/02/2022 04:00	56	104	5.9	711
08/02/2022 05:00	71	100	5.9	710
08/02/2022 06:00	117	92	6.0	669
08/02/2022 07:00	248	87	6.0	650
08/02/2022 08:00	278	93	6.0	631
08/02/2022 09:00	118	102	5.8	702
08/02/2022 10:00	207	95	6.0	638
08/02/2022 11:00	195	98	5.9	682
08/02/2022 12:00	71	109	5.8	711
08/02/2022 13:00	96	104	5.8	712
08/02/2022 14:00	114	100	5.7	710
08/02/2022 15:00	171	98	5.5	711
08/02/2022 16:00	168	98	5.6	693
08/02/2022 17:00	235	99	5.6	699
08/02/2022 18:00	120	105	5.7	709
08/02/2022 19:00	114	107	5.7	707
08/02/2022 20:00	196	101	5.7	705
08/02/2022 21:00	182	102	5.7	713
08/02/2022 22:00	151	100	5.7	711
08/02/2022 23:00	123	99	5.8	701
08/03/2022 00:00	208	99	6.0	656
08/03/2022 01:00	82	104	6.0	685
08/03/2022 02:00	87	102	6.0	685
08/03/2022 03:00	83	103	6.0	681
08/03/2022 04:00	261	91	6.1	624
08/03/2022 05:00	150	102	6.0	670
08/03/2022 06:00	34	109	6.0	702
08/03/2022 07:00	65	109	5.9	708
08/03/2022 08:00	171	103	5.7	710
08/03/2022 09:00	173	103	5.7	710
08/03/2022 10:00	162	104	5.6	711
08/03/2022 11:00	146	106	5.7	709
08/03/2022 12:00	159	103	5.5	712
08/03/2022 13:00	238	97	5.6	707
08/03/2022 14:00	366	88	5.7	654
08/03/2022 15:00	247	94	5.6	712
08/03/2022 16:00	197	89	5.8	654
08/03/2022 17:00	99	104	5.8	706
08/03/2022 18:00	96	108	5.9	712
08/03/2022 19:00	90	108	5.9	712
08/03/2022 20:00	87	105	5.9	711
08/03/2022 21:00	58	94	6.1	636
08/03/2022 22:00	43	92	6.2	632
08/03/2022 23:00	60	104	6.1	694
08/04/2022 00:00	68	103	6.1	699
08/04/2022 01:00	119	90	6.0	652
08/04/2022 02:00	34	101	6.1	680
08/04/2022 03:00	31	101	6.1	680
08/04/2022 04:00	47	94	6.2	659
08/04/2022 05:00	96	86	6.1	643
08/04/2022 06:00	46	98	6.0	705
08/04/2022 07:00	147	84	6.0	656
08/04/2022 08:00	244	82	6.0	627
08/04/2022 09:00	95	100	6.0	692
08/04/2022 10:00	78	102	6.2	711
08/04/2022 11:00	95	101	5.9	707
08/04/2022 12:00	63	97	6.0	687
08/04/2022 13:00	101	95	6.1	655
08/04/2022 14:00	79	103	5.8	692

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/04/2022 15:00	36	108	5.9	711
08/04/2022 16:00	28	96	9.4	710
08/04/2022 17:00	6	56	20.1	710
08/04/2022 18:00	N/A	N/A	N/A	669
08/04/2022 19:00	84	109	5.9	711
08/04/2022 20:00	154	107	5.8	711
08/04/2022 21:00	180	102	6.0	665
08/04/2022 22:00	86	110	5.9	708
08/04/2022 23:00	92	106	5.9	701
08/05/2022 00:00	186	93	6.2	627
08/05/2022 01:00	111	105	6.1	686
08/05/2022 02:00	72	107	6.1	701
08/05/2022 03:00	174	95	5.8	702
08/05/2022 04:00	149	101	6.0	700
08/05/2022 05:00	73	107	6.1	708
08/05/2022 06:00	98	107	6.1	711
08/05/2022 07:00	157	105	5.9	711
08/05/2022 08:00	186	104	5.9	711
08/05/2022 09:00	178	106	5.9	710
08/05/2022 10:00	231	110	5.8	710
08/05/2022 11:00	304	112	5.7	711
08/05/2022 12:00	276	110	5.7	711
08/05/2022 13:00	260	111	5.7	710
08/05/2022 14:00	287	111	5.6	710
08/05/2022 15:00	287	110	5.5	711
08/05/2022 16:00	260	108	5.6	711
08/05/2022 17:00	264	108	5.6	711
08/05/2022 18:00	263	108	5.5	711
08/05/2022 19:00	256	106	5.6	711
08/05/2022 20:00	196	107	5.7	711
08/05/2022 21:00	107	111	5.9	704
08/05/2022 22:00	70	112	6.1	703
08/05/2022 23:00	60	106	6.1	703
08/06/2022 00:00	63	107	6.1	702
08/06/2022 01:00	77	109	6.1	702
08/06/2022 02:00	141	105	6.0	703
08/06/2022 03:00	113	101	5.9	701
08/06/2022 04:00	93	105	5.9	701
08/06/2022 05:00	92	108	5.9	711
08/06/2022 06:00	101	105	5.7	711
08/06/2022 07:00	92	108	5.7	710
08/06/2022 08:00	161	107	5.6	710
08/06/2022 09:00	185	112	5.4	711
08/06/2022 10:00	180	107	5.4	710
08/06/2022 11:00	226	111	5.4	710
08/06/2022 12:00	306	112	5.3	710
08/06/2022 13:00	315	110	5.3	711
08/06/2022 14:00	297	110	5.3	710
08/06/2022 15:00	333	114	5.3	710
08/06/2022 16:00	392	114	5.2	711
08/06/2022 17:00	408	110	5.2	711
08/06/2022 18:00	319	112	5.4	710
08/06/2022 19:00	310	109	5.4	711
08/06/2022 20:00	245	106	5.6	711
08/06/2022 21:00	164	106	5.7	711
08/06/2022 22:00	129	107	5.7	710
08/06/2022 23:00	109	108	5.8	711
08/07/2022 00:00	81	108	5.8	711
08/07/2022 01:00	82	107	5.9	710
08/07/2022 02:00	92	106	5.8	711
08/07/2022 03:00	125	102	5.8	711
08/07/2022 04:00	120	100	5.8	711
08/07/2022 05:00	70	106	6.0	710
08/07/2022 06:00	96	105	5.9	710
08/07/2022 07:00	104	105	5.8	710
08/07/2022 08:00	126	109	5.6	710
08/07/2022 09:00	200	110	5.5	710
08/07/2022 10:00	224	111	5.4	711
08/07/2022 11:00	251	112	5.2	710
08/07/2022 12:00	301	112	5.3	701
08/07/2022 13:00	378	112	5.2	701
08/07/2022 14:00	324	109	5.3	697

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/07/2022 15:00	123	110	5.6	689
08/07/2022 16:00	139	111	5.6	690
08/07/2022 17:00	138	109	5.6	691
08/07/2022 18:00	139	106	5.6	689
08/07/2022 19:00	115	108	5.7	690
08/07/2022 20:00	137	106	5.7	691
08/07/2022 21:00	137	107	5.6	708
08/07/2022 22:00	159	105	5.6	712
08/07/2022 23:00	171	104	5.6	713
08/08/2022 00:00	174	102	5.6	712
08/08/2022 01:00	171	102	5.5	710
08/08/2022 02:00	189	100	5.8	663
08/08/2022 03:00	56	108	6.1	660
08/08/2022 04:00	45	106	6.0	661
08/08/2022 05:00	48	105	6.1	660
08/08/2022 06:00	43	107	6.1	660
08/08/2022 07:00	77	102	6.1	661
08/08/2022 08:00	272	97	5.7	661
08/08/2022 09:00	336	97	5.6	661
08/08/2022 10:00	167	105	6.0	661
08/08/2022 11:00	157	103	6.1	662
08/08/2022 12:00	181	105	6.1	662
08/08/2022 13:00	245	103	5.9	660
08/08/2022 14:00	30	105	6.5	546
08/08/2022 15:00	42	98	6.6	545
08/08/2022 16:00	138	98	6.4	537
08/08/2022 17:00	278	93	6.4	543
08/08/2022 18:00	53	104	6.0	649
08/08/2022 19:00	68	102	6.0	671
08/08/2022 20:00	105	106	5.7	709
08/08/2022 21:00	226	101	5.6	713
08/08/2022 22:00	202	102	5.6	713
08/08/2022 23:00	196	103	5.6	711
08/09/2022 00:00	232	102	5.6	712
08/09/2022 01:00	230	102	5.7	712
08/09/2022 02:00	175	108	5.7	713
08/09/2022 03:00	218	107	5.7	713
08/09/2022 04:00	326	103	5.6	713
08/09/2022 05:00	289	105	5.7	712
08/09/2022 06:00	261	105	5.6	712
08/09/2022 07:00	235	106	5.6	713
08/09/2022 08:00	465	103	5.5	711
08/09/2022 09:00	332	105	5.4	711
08/09/2022 10:00	334	106	5.3	712
08/09/2022 11:00	236	109	5.4	711
08/09/2022 12:00	182	105	5.6	673
08/09/2022 13:00	N/A	N/A	N/A	710
08/09/2022 14:00	N/A	N/A	N/A	711
08/09/2022 15:00	398	110	5.2	713
08/09/2022 16:00	485	108	5.2	711
08/09/2022 17:00	335	110	5.5	698
08/09/2022 18:00	371	106	5.5	697
08/09/2022 19:00	200	104	5.8	654
08/09/2022 20:00	426	108	5.6	700
08/09/2022 21:00	526	108	5.4	708
08/09/2022 22:00	392	111	5.5	708
08/09/2022 23:00	282	109	5.8	697
08/10/2022 00:00	336	103	5.9	698
08/10/2022 01:00	284	103	5.7	704
08/10/2022 02:00	137	107	5.7	711
08/10/2022 03:00	133	107	5.7	711
08/10/2022 04:00	151	106	5.7	711
08/10/2022 05:00	179	103	5.6	709
08/10/2022 06:00	96	107	5.7	709
08/10/2022 07:00	111	107	5.7	705
08/10/2022 08:00	170	104	5.6	711
08/10/2022 09:00	197	98	5.6	711
08/10/2022 10:00	251	99	5.5	710
08/10/2022 11:00	277	100	5.5	711
08/10/2022 12:00	212	100	5.5	710
08/10/2022 13:00	202	100	5.5	711
08/10/2022 14:00	152	105	5.5	710

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/10/2022 15:00	142	109	5.6	710
08/10/2022 16:00	113	106	5.6	690
08/10/2022 17:00	28	107	6.0	668
08/10/2022 18:00	34	104	6.0	667
08/10/2022 19:00	75	107	5.7	695
08/10/2022 20:00	95	107	5.7	709
08/10/2022 21:00	84	104	5.7	711
08/10/2022 22:00	56	109	5.7	711
08/10/2022 23:00	66	102	6.0	657
08/11/2022 00:00	72	98	6.1	637
08/11/2022 01:00	47	100	6.1	632
08/11/2022 02:00	29	104	6.2	632
08/11/2022 03:00	28	103	6.2	633
08/11/2022 04:00	32	100	6.2	633
08/11/2022 05:00	55	107	5.9	699
08/11/2022 06:00	93	103	5.9	701
08/11/2022 07:00	102	102	5.8	705
08/11/2022 08:00	137	98	5.7	704
08/11/2022 09:00	179	100	5.6	710
08/11/2022 10:00	264	100	5.5	710
08/11/2022 11:00	417	100	5.2	711
08/11/2022 12:00	474	98	5.2	712
08/11/2022 13:00	437	100	5.2	710
08/11/2022 14:00	320	105	5.3	711
08/11/2022 15:00	229	102	5.3	703
08/11/2022 16:00	119	99	5.4	704
08/11/2022 17:00	129	105	5.4	707
08/11/2022 18:00	138	110	5.5	710
08/11/2022 19:00	83	109	5.6	701
08/11/2022 20:00	102	102	6.0	632
08/11/2022 21:00	83	106	6.1	634
08/11/2022 22:00	124	106	5.8	689
08/11/2022 23:00	144	100	5.9	659
08/12/2022 00:00	87	104	6.1	631
08/12/2022 01:00	72	107	6.1	629
08/12/2022 02:00	88	107	6.1	635
08/12/2022 03:00	41	110	5.8	708
08/12/2022 04:00	32	106	6.0	707
08/12/2022 05:00	38	106	6.0	707
08/12/2022 06:00	54	101	5.9	705
08/12/2022 07:00	57	100	5.8	710
08/12/2022 08:00	73	99	5.7	710
08/12/2022 09:00	97	97	5.7	711
08/12/2022 10:00	96	96	5.7	710
08/12/2022 11:00	101	97	5.7	710
08/12/2022 12:00	130	98	5.6	708
08/12/2022 13:00	157	96	5.6	708
08/12/2022 14:00	142	94	5.9	647
08/12/2022 15:00	84	100	6.0	633
08/12/2022 16:00	75	102	6.0	639
08/12/2022 17:00	39	109	5.9	704
08/12/2022 18:00	66	105	5.9	702
08/12/2022 19:00	239	88	6.1	621
08/12/2022 20:00	230	85	6.2	599
08/12/2022 21:00	92	96	6.1	627
08/12/2022 22:00	64	101	6.1	629
08/12/2022 23:00	100	100	6.1	622
08/13/2022 00:00	58	101	6.2	629
08/13/2022 01:00	88	99	6.2	622
08/13/2022 02:00	131	97	6.1	623
08/13/2022 03:00	127	97	6.1	624
08/13/2022 04:00	136	94	6.1	621
08/13/2022 05:00	87	97	6.1	630
08/13/2022 06:00	69	100	6.1	632
08/13/2022 07:00	56	N/A	6.1	633
08/13/2022 08:00	67	N/A	6.2	632
08/13/2022 09:00	51	N/A	5.9	683
08/13/2022 10:00	64	N/A	5.9	709
08/13/2022 11:00	61	N/A	6.0	708
08/13/2022 12:00	72	N/A	5.8	708
08/13/2022 13:00	93	N/A	5.7	709
08/13/2022 14:00	83	N/A	5.7	708

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/13/2022 15:00	66	N/A	5.7	707
08/13/2022 16:00	83	106	5.7	701
08/13/2022 17:00	163	99	5.9	646
08/13/2022 18:00	168	100	6.0	622
08/13/2022 19:00	71	106	5.7	694
08/13/2022 20:00	59	108	5.7	701
08/13/2022 21:00	59	110	5.7	698
08/13/2022 22:00	67	108	5.7	698
08/13/2022 23:00	172	101	6.0	630
08/14/2022 00:00	294	95	6.2	588
08/14/2022 01:00	174	101	6.0	643
08/14/2022 02:00	63	105	5.8	710
08/14/2022 03:00	77	106	5.8	710
08/14/2022 04:00	78	108	5.8	710
08/14/2022 05:00	129	100	5.8	696
08/14/2022 06:00	108	102	5.7	710
08/14/2022 07:00	134	99	6.1	623
08/14/2022 08:00	44	107	6.1	648
08/14/2022 09:00	65	101	6.1	647
08/14/2022 10:00	41	107	6.0	654
08/14/2022 11:00	62	108	6.1	639
08/14/2022 12:00	142	99	6.1	649
08/14/2022 13:00	173	102	5.9	680
08/14/2022 14:00	154	103	5.6	714
08/14/2022 15:00	165	102	5.5	711
08/14/2022 16:00	152	103	5.6	712
08/14/2022 17:00	137	108	5.5	711
08/14/2022 18:00	167	108	5.4	711
08/14/2022 19:00	164	104	5.5	694
08/14/2022 20:00	124	106	5.5	707
08/14/2022 21:00	137	108	5.5	712
08/14/2022 22:00	155	109	5.5	711
08/14/2022 23:00	200	103	5.6	683
08/15/2022 00:00	109	106	6.1	632
08/15/2022 01:00	109	108	6.1	632
08/15/2022 02:00	153	105	5.8	671
08/15/2022 03:00	74	107	5.7	710
08/15/2022 04:00	79	109	5.7	709
08/15/2022 05:00	108	111	5.7	709
08/15/2022 06:00	182	106	5.8	679
08/15/2022 07:00	162	105	5.7	699
08/15/2022 08:00	95	109	5.7	709
08/15/2022 09:00	98	105	5.6	709
08/15/2022 10:00	131	101	5.5	711
08/15/2022 11:00	157	102	5.4	709
08/15/2022 12:00	183	105	5.4	710
08/15/2022 13:00	189	105	5.4	710
08/15/2022 14:00	223	106	5.3	710
08/15/2022 15:00	286	109	5.3	709
08/15/2022 16:00	323	104	5.2	711
08/15/2022 17:00	260	109	5.2	712
08/15/2022 18:00	174	110	5.3	712
08/15/2022 19:00	198	112	5.4	710
08/15/2022 20:00	252	111	5.3	710
08/15/2022 21:00	136	113	5.6	711
08/15/2022 22:00	132	111	5.7	695
08/15/2022 23:00	194	106	6.1	633
08/16/2022 00:00	128	105	6.3	636
08/16/2022 01:00	162	98	6.3	635
08/16/2022 02:00	164	98	6.3	635
08/16/2022 03:00	126	100	6.3	636
08/16/2022 04:00	111	101	5.8	691
08/16/2022 05:00	149	101	5.5	711
08/16/2022 06:00	148	102	5.5	711
08/16/2022 07:00	138	102	5.5	710
08/16/2022 08:00	130	101	5.5	709
08/16/2022 09:00	219	96	5.6	674
08/16/2022 10:00	203	104	5.6	673
08/16/2022 11:00	242	95	5.3	711
08/16/2022 12:00	330	93	5.3	712
08/16/2022 13:00	341	93	5.3	711
08/16/2022 14:00	424	94	5.4	710

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/16/2022 15:00	347	94	5.4	710
08/16/2022 16:00	240	98	5.4	711
08/16/2022 17:00	173	108	5.4	710
08/16/2022 18:00	171	111	5.4	710
08/16/2022 19:00	144	112	5.4	712
08/16/2022 20:00	171	107	5.4	711
08/16/2022 21:00	128	109	5.5	710
08/16/2022 22:00	85	111	5.5	710
08/16/2022 23:00	84	109	5.5	712
08/17/2022 00:00	73	108	5.5	710
08/17/2022 01:00	82	110	5.6	711
08/17/2022 02:00	79	110	5.6	710
08/17/2022 03:00	73	108	5.6	710
08/17/2022 04:00	73	111	5.6	710
08/17/2022 05:00	62	109	5.7	710
08/17/2022 06:00	111	107	5.6	706
08/17/2022 07:00	199	98	5.9	574
08/17/2022 08:00	196	102	6.0	570
08/17/2022 09:00	146	103	6.0	571
08/17/2022 10:00	588	93	5.9	570
08/17/2022 11:00	169	96	6.3	564
08/17/2022 12:00	161	102	6.3	572
08/17/2022 13:00	149	100	6.5	573
08/17/2022 14:00	154	96	6.5	572
08/17/2022 15:00	154	97	6.5	572
08/17/2022 16:00	154	102	6.4	576
08/17/2022 17:00	166	102	6.3	581
08/17/2022 18:00	171	98	6.2	581
08/17/2022 19:00	162	99	6.2	581
08/17/2022 20:00	190	97	6.3	578
08/17/2022 21:00	116	99	6.3	581
08/17/2022 22:00	152	95	6.2	580
08/17/2022 23:00	109	97	6.2	581
08/18/2022 00:00	127	95	6.2	581
08/18/2022 01:00	146	96	6.3	581
08/18/2022 02:00	140	96	6.3	581
08/18/2022 03:00	137	96	6.3	580
08/18/2022 04:00	169	99	6.3	581
08/18/2022 05:00	154	97	6.3	571
08/18/2022 06:00	164	95	6.3	565
08/18/2022 07:00	74	77	6.8	451
08/18/2022 08:00	25	82	7.0	446
08/18/2022 09:00	40	87	7.2	447
08/18/2022 10:00	56	83	6.8	447
08/18/2022 11:00	78	81	7.0	447
08/18/2022 12:00	37	81	7.2	447
08/18/2022 13:00	41	81	7.2	448
08/18/2022 14:00	43	80	7.3	456
08/18/2022 15:00	37	81	7.2	457
08/18/2022 16:00	41	80	7.1	458
08/18/2022 17:00	37	81	7.2	457
08/18/2022 18:00	34	80	7.2	455
08/18/2022 19:00	26	80	7.2	457
08/18/2022 20:00	46	82	7.3	440
08/18/2022 21:00	1	59	9.3	278
08/18/2022 22:00	53	28	19.5	82
08/18/2022 23:00	N/A	N/A	N/A	N/A
08/19/2022 00:00	N/A	N/A	N/A	N/A
08/19/2022 01:00	N/A	N/A	N/A	N/A
08/19/2022 02:00	N/A	N/A	N/A	N/A
08/19/2022 03:00	N/A	N/A	N/A	N/A
08/19/2022 04:00	N/A	N/A	N/A	N/A
08/19/2022 05:00	N/A	N/A	N/A	N/A
08/19/2022 06:00	N/A	N/A	N/A	N/A
08/19/2022 07:00	N/A	N/A	N/A	N/A
08/19/2022 08:00	N/A	N/A	N/A	N/A
08/19/2022 09:00	N/A	N/A	N/A	N/A
08/19/2022 10:00	N/A	N/A	N/A	N/A
08/19/2022 11:00	N/A	N/A	N/A	N/A
08/19/2022 12:00	N/A	N/A	N/A	N/A
08/19/2022 13:00	N/A	N/A	N/A	N/A
08/19/2022 14:00	N/A	N/A	N/A	N/A

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/19/2022 15:00	N/A	N/A	N/A	N/A
08/19/2022 16:00	N/A	N/A	N/A	N/A
08/19/2022 17:00	N/A	N/A	N/A	N/A
08/19/2022 18:00	N/A	N/A	N/A	N/A
08/19/2022 19:00	N/A	N/A	N/A	N/A
08/19/2022 20:00	N/A	N/A	N/A	N/A
08/19/2022 21:00	N/A	N/A	N/A	N/A
08/19/2022 22:00	N/A	N/A	N/A	N/A
08/19/2022 23:00	N/A	N/A	N/A	N/A
08/20/2022 00:00	N/A	N/A	N/A	N/A
08/20/2022 01:00	N/A	N/A	N/A	N/A
08/20/2022 02:00	N/A	N/A	N/A	N/A
08/20/2022 03:00	N/A	N/A	N/A	N/A
08/20/2022 04:00	N/A	N/A	N/A	N/A
08/20/2022 05:00	N/A	N/A	N/A	N/A
08/20/2022 06:00	N/A	N/A	N/A	N/A
08/20/2022 07:00	N/A	N/A	N/A	N/A
08/20/2022 08:00	N/A	N/A	N/A	N/A
08/20/2022 09:00	N/A	N/A	N/A	N/A
08/20/2022 10:00	N/A	N/A	N/A	N/A
08/20/2022 11:00	N/A	N/A	N/A	N/A
08/20/2022 12:00	N/A	N/A	N/A	N/A
08/20/2022 13:00	N/A	N/A	N/A	N/A
08/20/2022 14:00	N/A	N/A	N/A	N/A
08/20/2022 15:00	N/A	N/A	N/A	N/A
08/20/2022 16:00	N/A	N/A	N/A	N/A
08/20/2022 17:00	N/A	N/A	N/A	N/A
08/20/2022 18:00	N/A	N/A	N/A	N/A
08/20/2022 19:00	N/A	N/A	N/A	N/A
08/20/2022 20:00	N/A	N/A	N/A	N/A
08/20/2022 21:00	N/A	N/A	N/A	1
08/20/2022 22:00	N/A	N/A	N/A	1
08/20/2022 23:00	N/A	N/A	N/A	1
08/21/2022 00:00	N/A	N/A	N/A	1
08/21/2022 01:00	N/A	N/A	N/A	1
08/21/2022 02:00	N/A	N/A	N/A	1
08/21/2022 03:00	1	79	12.7	106
08/21/2022 04:00	2	89	9.8	284
08/21/2022 05:00	2	76	8.6	366
08/21/2022 06:00	8	81	7.9	413
08/21/2022 07:00	6	76	7.2	461
08/21/2022 08:00	7	76	7.2	461
08/21/2022 09:00	8	77	7.2	463
08/21/2022 10:00	16	87	6.9	509
08/21/2022 11:00	43	94	6.5	561
08/21/2022 12:00	19	101	6.2	613
08/21/2022 13:00	18	100	6.2	612
08/21/2022 14:00	19	108	6.2	652
08/21/2022 15:00	86	104	5.9	674
08/21/2022 16:00	151	97	5.7	672
08/21/2022 17:00	145	100	5.8	671
08/21/2022 18:00	160	102	5.7	685
08/21/2022 19:00	190	100	5.7	689
08/21/2022 20:00	177	96	5.8	640
08/21/2022 21:00	76	99	5.9	672
08/21/2022 22:00	108	97	5.7	690
08/21/2022 23:00	108	96	5.7	691
08/22/2022 00:00	112	97	5.8	691
08/22/2022 01:00	143	96	5.8	666
08/22/2022 02:00	94	96	6.0	623
08/22/2022 03:00	119	97	5.8	685
08/22/2022 04:00	147	96	5.8	662
08/22/2022 05:00	156	96	6.0	607
08/22/2022 06:00	108	100	6.0	607
08/22/2022 07:00	125	101	5.9	609
08/22/2022 08:00	161	95	5.8	686
08/22/2022 09:00	167	94	6.0	619
08/22/2022 10:00	155	92	6.0	610
08/22/2022 11:00	147	102	5.9	663
08/22/2022 12:00	176	104	5.9	690
08/22/2022 13:00	179	104	5.8	689
08/22/2022 14:00	182	100	5.9	684

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/22/2022 15:00	150	99	5.9	686
08/22/2022 16:00	232	96	6.0	635
08/22/2022 17:00	96	94	6.2	610
08/22/2022 18:00	50	94	6.8	512
08/22/2022 19:00	137	94	6.1	605
08/22/2022 20:00	108	96	6.0	621
08/22/2022 21:00	134	91	6.2	573
08/22/2022 22:00	96	91	6.1	606
08/22/2022 23:00	99	95	6.0	707
08/23/2022 00:00	142	92	5.9	712
08/23/2022 01:00	121	93	5.8	713
08/23/2022 02:00	95	94	5.8	712
08/23/2022 03:00	104	93	5.8	712
08/23/2022 04:00	96	92	5.8	713
08/23/2022 05:00	130	91	5.8	709
08/23/2022 06:00	155	92	5.9	710
08/23/2022 07:00	124	94	5.9	712
08/23/2022 08:00	161	93	5.8	711
08/23/2022 09:00	157	96	5.9	701
08/23/2022 10:00	104	99	5.9	701
08/23/2022 11:00	192	97	5.6	712
08/23/2022 12:00	251	103	5.5	711
08/23/2022 13:00	312	105	5.4	711
08/23/2022 14:00	152	111	5.4	711
08/23/2022 15:00	141	110	5.3	711
08/23/2022 16:00	167	112	5.3	709
08/23/2022 17:00	206	110	5.4	711
08/23/2022 18:00	207	106	5.4	712
08/23/2022 19:00	209	107	5.5	711
08/23/2022 20:00	250	108	5.5	711
08/23/2022 21:00	249	106	5.4	711
08/23/2022 22:00	211	105	5.4	711
08/23/2022 23:00	173	107	5.6	710
08/24/2022 00:00	146	109	5.6	710
08/24/2022 01:00	117	111	5.7	711
08/24/2022 02:00	152	106	5.7	711
08/24/2022 03:00	146	107	5.7	711
08/24/2022 04:00	167	108	5.7	710
08/24/2022 05:00	91	106	5.9	711
08/24/2022 06:00	65	105	5.9	710
08/24/2022 07:00	107	106	5.9	709
08/24/2022 08:00	136	107	5.9	711
08/24/2022 09:00	179	105	5.8	710
08/24/2022 10:00	228	105	5.6	710
08/24/2022 11:00	255	106	5.4	711
08/24/2022 12:00	258	111	5.3	710
08/24/2022 13:00	306	112	5.2	710
08/24/2022 14:00	283	112	5.3	701
08/24/2022 15:00	376	114	5.4	701
08/24/2022 16:00	384	117	5.4	701
08/24/2022 17:00	428	114	5.4	701
08/24/2022 18:00	320	115	5.4	701
08/24/2022 19:00	333	111	5.4	702
08/24/2022 20:00	200	114	5.6	702
08/24/2022 21:00	412	112	5.4	710
08/24/2022 22:00	429	111	5.4	711
08/24/2022 23:00	502	105	5.3	711
08/25/2022 00:00	236	108	5.5	711
08/25/2022 01:00	246	109	5.6	710
08/25/2022 02:00	252	109	5.6	711
08/25/2022 03:00	261	107	5.7	711
08/25/2022 04:00	175	110	5.8	710
08/25/2022 05:00	206	107	5.8	710
08/25/2022 06:00	211	107	5.8	711
08/25/2022 07:00	192	105	5.8	710
08/25/2022 08:00	226	106	5.8	710
08/25/2022 09:00	284	104	5.6	710
08/25/2022 10:00	306	105	5.5	711
08/25/2022 11:00	311	105	5.4	711
08/25/2022 12:00	328	110	5.4	712
08/25/2022 13:00	432	113	5.3	711
08/25/2022 14:00	384	107	5.4	701

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/25/2022 15:00	255	110	5.5	701
08/25/2022 16:00	235	109	5.4	701
08/25/2022 17:00	237	106	5.4	703
08/25/2022 18:00	237	103	5.4	702
08/25/2022 19:00	171	103	5.6	701
08/25/2022 20:00	186	102	5.6	701
08/25/2022 21:00	136	104	5.6	709
08/25/2022 22:00	72	109	5.8	709
08/25/2022 23:00	106	110	5.7	710
08/26/2022 00:00	152	107	5.7	712
08/26/2022 01:00	133	106	5.8	711
08/26/2022 02:00	131	108	5.9	711
08/26/2022 03:00	135	111	5.9	712
08/26/2022 04:00	201	105	5.7	711
08/26/2022 05:00	226	104	5.8	705
08/26/2022 06:00	229	106	5.8	707
08/26/2022 07:00	194	104	5.8	708
08/26/2022 08:00	245	97	5.8	673
08/26/2022 09:00	142	96	6.0	626
08/26/2022 10:00	207	101	5.9	687
08/26/2022 11:00	238	105	5.8	707
08/26/2022 12:00	240	104	5.8	706
08/26/2022 13:00	238	103	5.7	695
08/26/2022 14:00	195	98	5.9	628
08/26/2022 15:00	177	101	6.0	629
08/26/2022 16:00	161	97	6.2	613
08/26/2022 17:00	145	102	6.1	681
08/26/2022 18:00	217	99	5.8	601
08/26/2022 19:00	N/A	N/A	N/A	N/A
08/26/2022 20:00	N/A	N/A	N/A	1
08/26/2022 21:00	N/A	N/A	N/A	1
08/26/2022 22:00	N/A	N/A	N/A	1
08/26/2022 23:00	N/A	N/A	N/A	1
08/27/2022 00:00	2	107	10.0	129
08/27/2022 01:00	1	94	9.3	277
08/27/2022 02:00	N/A	N/A	N/A	232
08/27/2022 03:00	N/A	N/A	N/A	1
08/27/2022 04:00	N/A	N/A	N/A	1
08/27/2022 05:00	N/A	N/A	N/A	1
08/27/2022 06:00	N/A	N/A	N/A	1
08/27/2022 07:00	N/A	N/A	N/A	1
08/27/2022 08:00	N/A	N/A	N/A	1
08/27/2022 09:00	N/A	N/A	N/A	1
08/27/2022 10:00	N/A	N/A	N/A	N/A
08/27/2022 11:00	N/A	N/A	N/A	N/A
08/27/2022 12:00	N/A	N/A	N/A	N/A
08/27/2022 13:00	N/A	N/A	N/A	N/A
08/27/2022 14:00	N/A	N/A	N/A	N/A
08/27/2022 15:00	N/A	N/A	N/A	N/A
08/27/2022 16:00	N/A	N/A	N/A	N/A
08/27/2022 17:00	N/A	N/A	N/A	N/A
08/27/2022 18:00	N/A	N/A	N/A	N/A
08/27/2022 19:00	N/A	N/A	N/A	N/A
08/27/2022 20:00	N/A	N/A	N/A	N/A
08/27/2022 21:00	N/A	N/A	N/A	N/A
08/27/2022 22:00	N/A	N/A	N/A	N/A
08/27/2022 23:00	N/A	N/A	N/A	N/A
08/28/2022 00:00	N/A	N/A	N/A	N/A
08/28/2022 01:00	N/A	N/A	N/A	N/A
08/28/2022 02:00	N/A	N/A	N/A	1
08/28/2022 03:00	N/A	N/A	N/A	1
08/28/2022 04:00	N/A	N/A	N/A	1
08/28/2022 05:00	N/A	N/A	N/A	1
08/28/2022 06:00	N/A	N/A	N/A	1
08/28/2022 07:00	N/A	N/A	N/A	1
08/28/2022 08:00	N/A	N/A	N/A	1
08/28/2022 09:00	N/A	N/A	N/A	3
08/28/2022 10:00	3	82	10.8	122
08/28/2022 11:00	3	74	9.6	266
08/28/2022 12:00	10	84	8.0	387
08/28/2022 13:00	91	91	7.3	433
08/28/2022 14:00	114	92	7.2	438

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/28/2022 15:00	322	103	6.1	555
08/28/2022 16:00	648	100	5.8	557
08/28/2022 17:00	246	73	6.6	437
08/28/2022 18:00	133	72	6.7	433
08/28/2022 19:00	34	74	7.1	433
08/28/2022 20:00	4	81	7.4	433
08/28/2022 21:00	4	82	7.5	434
08/28/2022 22:00	4	83	7.4	449
08/28/2022 23:00	7	83	7.3	455
08/29/2022 00:00	21	89	7.1	469
08/29/2022 01:00	23	94	7.0	472
08/29/2022 02:00	42	92	6.7	520
08/29/2022 03:00	66	93	6.6	523
08/29/2022 04:00	116	99	6.4	567
08/29/2022 05:00	93	94	6.4	572
08/29/2022 06:00	99	107	6.1	620
08/29/2022 07:00	225	103	6.1	622
08/29/2022 08:00	148	100	6.2	624
08/29/2022 09:00	94	101	6.0	673
08/29/2022 10:00	151	100	5.8	675
08/29/2022 11:00	133	99	5.8	686
08/29/2022 12:00	135	99	5.8	683
08/29/2022 13:00	135	100	5.8	684
08/29/2022 14:00	169	102	5.8	685
08/29/2022 15:00	167	103	5.8	682
08/29/2022 16:00	164	102	5.7	685
08/29/2022 17:00	168	105	5.8	685
08/29/2022 18:00	203	103	5.8	685
08/29/2022 19:00	303	107	5.7	704
08/29/2022 20:00	155	108	5.7	704
08/29/2022 21:00	251	105	5.6	710
08/29/2022 22:00	289	105	5.5	711
08/29/2022 23:00	217	105	5.5	713
08/30/2022 00:00	207	108	5.6	712
08/30/2022 01:00	231	107	5.6	712
08/30/2022 02:00	225	105	5.5	711
08/30/2022 03:00	197	105	5.6	711
08/30/2022 04:00	192	107	5.6	711
08/30/2022 05:00	139	110	5.7	709
08/30/2022 06:00	153	107	5.6	710
08/30/2022 07:00	152	102	5.6	710
08/30/2022 08:00	150	104	5.6	709
08/30/2022 09:00	134	106	5.6	709
08/30/2022 10:00	251	102	5.3	709
08/30/2022 11:00	262	108	5.2	699
08/30/2022 12:00	193	112	5.3	700
08/30/2022 13:00	170	112	5.3	700
08/30/2022 14:00	207	110	5.3	699
08/30/2022 15:00	235	111	5.3	699
08/30/2022 16:00	363	108	5.2	700
08/30/2022 17:00	487	105	5.4	698
08/30/2022 18:00	442	107	5.5	699
08/30/2022 19:00	376	106	5.3	710
08/30/2022 20:00	230	109	5.4	712
08/30/2022 21:00	202	107	5.4	712
08/30/2022 22:00	198	108	5.4	713
08/30/2022 23:00	181	109	5.4	713
08/31/2022 00:00	171	106	5.4	713
08/31/2022 01:00	197	107	5.5	710
08/31/2022 02:00	233	110	5.6	711
08/31/2022 03:00	306	106	5.6	713
08/31/2022 04:00	267	104	5.6	711
08/31/2022 05:00	304	102	5.5	709
08/31/2022 06:00	260	103	5.6	709
08/31/2022 07:00	268	102	5.6	709
08/31/2022 08:00	260	103	5.6	708
08/31/2022 09:00	332	104	5.5	708
08/31/2022 10:00	201	110	5.4	709
08/31/2022 11:00	239	110	5.2	708
08/31/2022 12:00	205	116	5.2	709
08/31/2022 13:00	246	117	5.1	709
08/31/2022 14:00	250	114	5.1	709

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
08/31/2022 15:00	180	120	5.2	708
08/31/2022 16:00	216	119	5.2	709
08/31/2022 17:00	287	108	5.3	711
08/31/2022 18:00	228	107	5.3	711
08/31/2022 19:00	218	108	5.4	711
08/31/2022 20:00	249	106	5.4	712
08/31/2022 21:00	231	101	5.5	712
08/31/2022 22:00	233	101	5.6	712
08/31/2022 23:00	228	103	5.5	712
09/01/2022 00:00	196	102	5.6	711
09/01/2022 01:00	205	102	5.6	710
09/01/2022 02:00	222	105	5.6	711
09/01/2022 03:00	233	105	5.6	712
09/01/2022 04:00	183	103	5.6	712
09/01/2022 05:00	163	102	5.7	709
09/01/2022 06:00	177	102	5.6	709
09/01/2022 07:00	172	102	5.6	709
09/01/2022 08:00	166	99	5.5	708
09/01/2022 09:00	188	100	5.5	710
09/01/2022 10:00	201	103	5.6	709
09/01/2022 11:00	203	104	5.6	709
09/01/2022 12:00	212	104	5.5	707
09/01/2022 13:00	315	105	5.4	709
09/01/2022 14:00	379	105	5.3	710
09/01/2022 15:00	373	105	5.3	711
09/01/2022 16:00	303	106	5.4	706
09/01/2022 17:00	366	108	5.3	707
09/01/2022 18:00	419	108	5.3	708
09/01/2022 19:00	363	104	5.5	709
09/01/2022 20:00	294	108	5.5	710
09/01/2022 21:00	343	109	5.5	710
09/01/2022 22:00	295	104	5.5	712
09/01/2022 23:00	274	107	5.5	711
09/02/2022 00:00	260	109	5.5	711
09/02/2022 01:00	257	105	5.5	711
09/02/2022 02:00	172	104	5.6	711
09/02/2022 03:00	159	107	5.6	710
09/02/2022 04:00	206	108	5.6	710
09/02/2022 05:00	226	103	5.6	710
09/02/2022 06:00	141	107	5.6	709
09/02/2022 07:00	191	107	5.5	709
09/02/2022 08:00	189	108	5.5	710
09/02/2022 09:00	159	108	5.6	709
09/02/2022 10:00	170	111	5.6	709
09/02/2022 11:00	224	109	5.4	709
09/02/2022 12:00	247	107	5.4	695
09/02/2022 13:00	358	113	5.2	709
09/02/2022 14:00	490	113	5.1	709
09/02/2022 15:00	499	117	5.0	707
09/02/2022 16:00	312	119	5.1	709
09/02/2022 17:00	296	114	5.2	709
09/02/2022 18:00	222	112	5.4	709
09/02/2022 19:00	179	107	5.5	710
09/02/2022 20:00	94	107	5.7	709
09/02/2022 21:00	102	110	5.8	710
09/02/2022 22:00	140	105	5.7	711
09/02/2022 23:00	141	102	5.7	711
09/03/2022 00:00	161	101	5.8	710
09/03/2022 01:00	122	102	5.8	710
09/03/2022 02:00	116	101	5.7	711
09/03/2022 03:00	120	98	5.8	711
09/03/2022 04:00	117	101	5.8	710
09/03/2022 05:00	137	106	5.7	709
09/03/2022 06:00	171	105	5.7	709
09/03/2022 07:00	168	104	5.7	708
09/03/2022 08:00	167	108	5.7	708
09/03/2022 09:00	217	105	5.6	709
09/03/2022 10:00	240	107	5.6	710
09/03/2022 11:00	239	105	5.6	709
09/03/2022 12:00	242	105	5.5	710
09/03/2022 13:00	219	107	5.5	710
09/03/2022 14:00	174	108	5.5	709

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
09/03/2022 15:00	147	111	5.5	709
09/03/2022 16:00	160	110	5.5	709
09/03/2022 17:00	153	106	5.5	710
09/03/2022 18:00	158	106	5.5	709
09/03/2022 19:00	128	109	5.5	710
09/03/2022 20:00	187	106	5.5	710
09/03/2022 21:00	120	105	5.7	708
09/03/2022 22:00	167	97	5.9	662
09/03/2022 23:00	49	117	5.8	708
09/04/2022 00:00	130	102	5.7	711
09/04/2022 01:00	107	102	5.7	711
09/04/2022 02:00	103	103	5.8	711
09/04/2022 03:00	131	103	5.7	711
09/04/2022 04:00	168	101	5.7	711
09/04/2022 05:00	66	109	5.8	709
09/04/2022 06:00	104	108	5.8	710
09/04/2022 07:00	93	105	5.7	710
09/04/2022 08:00	78	106	5.7	706
09/04/2022 09:00	111	110	5.6	712
09/04/2022 10:00	175	109	5.4	711
09/04/2022 11:00	172	108	5.5	711
09/04/2022 12:00	212	111	5.5	710
09/04/2022 13:00	257	108	5.4	709
09/04/2022 14:00	286	109	5.4	709
09/04/2022 15:00	347	107	5.5	706
09/04/2022 16:00	363	111	5.5	709
09/04/2022 17:00	379	111	5.4	710
09/04/2022 18:00	274	109	5.5	711
09/04/2022 19:00	161	107	5.7	711
09/04/2022 20:00	139	106	5.7	711
09/04/2022 21:00	200	99	5.6	704
09/04/2022 22:00	393	87	5.7	676
09/04/2022 23:00	166	98	5.8	705
09/05/2022 00:00	130	100	5.8	707
09/05/2022 01:00	119	98	5.8	707
09/05/2022 02:00	125	97	5.8	707
09/05/2022 03:00	134	98	5.8	707
09/05/2022 04:00	136	100	5.8	708
09/05/2022 05:00	118	95	5.8	708
09/05/2022 06:00	138	94	5.7	708
09/05/2022 07:00	130	N/A	5.7	707
09/05/2022 08:00	137	N/A	5.7	698
09/05/2022 09:00	157	102	5.7	707
09/05/2022 10:00	199	103	5.6	709
09/05/2022 11:00	251	105	5.6	710
09/05/2022 12:00	195	103	5.5	710
09/05/2022 13:00	216	105	5.6	708
09/05/2022 14:00	295	108	5.4	709
09/05/2022 15:00	320	108	5.4	709
09/05/2022 16:00	239	109	5.5	709
09/05/2022 17:00	187	108	5.7	708
09/05/2022 18:00	228	109	5.6	709
09/05/2022 19:00	196	107	5.6	710
09/05/2022 20:00	217	106	5.7	709
09/05/2022 21:00	234	109	5.8	709
09/05/2022 22:00	257	111	5.7	708
09/05/2022 23:00	217	106	5.9	689
09/06/2022 00:00	197	106	6.0	689
09/06/2022 01:00	179	109	6.0	693
09/06/2022 02:00	192	104	6.1	693
09/06/2022 03:00	174	105	6.1	694
09/06/2022 04:00	270	109	5.8	710
09/06/2022 05:00	264	112	5.8	705
09/06/2022 06:00	251	113	5.8	708
09/06/2022 07:00	163	104	5.7	709
09/06/2022 08:00	204	105	5.5	708
09/06/2022 09:00	270	106	5.5	710
09/06/2022 10:00	237	106	5.5	709
09/06/2022 11:00	206	107	5.5	705
09/06/2022 12:00	338	108	5.5	708
09/06/2022 13:00	450	105	5.3	711
09/06/2022 14:00	363	106	5.3	710

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
09/06/2022 15:00	340	112	5.3	709
09/06/2022 16:00	357	108	5.3	707
09/06/2022 17:00	250	114	5.4	708
09/06/2022 18:00	187	109	5.5	708
09/06/2022 19:00	193	108	5.6	704
09/06/2022 20:00	167	102	5.9	641
09/06/2022 21:00	157	110	5.6	708
09/06/2022 22:00	113	109	5.7	709
09/06/2022 23:00	127	109	5.8	709
09/07/2022 00:00	113	107	5.8	709
09/07/2022 01:00	152	101	5.7	709
09/07/2022 02:00	76	106	5.8	708
09/07/2022 03:00	73	106	5.9	708
09/07/2022 04:00	70	106	5.9	709
09/07/2022 05:00	82	105	5.8	708
09/07/2022 06:00	107	106	5.8	708
09/07/2022 07:00	131	106	5.8	708
09/07/2022 08:00	98	105	5.8	709
09/07/2022 09:00	81	108	5.8	708
09/07/2022 10:00	148	100	5.9	685
09/07/2022 11:00	74	104	5.8	708
09/07/2022 12:00	121	98	5.6	709
09/07/2022 13:00	116	100	5.6	709
09/07/2022 14:00	117	103	5.7	706
09/07/2022 15:00	205	87	6.3	589
09/07/2022 16:00	67	85	6.9	523
09/07/2022 17:00	56	85	6.9	529
09/07/2022 18:00	81	84	6.9	541
09/07/2022 19:00	136	87	6.4	615
09/07/2022 20:00	142	88	6.2	628
09/07/2022 21:00	69	106	6.0	705
09/07/2022 22:00	87	105	6.0	711
09/07/2022 23:00	73	104	6.0	711
09/08/2022 00:00	68	104	6.0	710
09/08/2022 01:00	57	104	6.0	711
09/08/2022 02:00	67	100	6.0	709
09/08/2022 03:00	58	104	6.0	709
09/08/2022 04:00	54	106	6.0	709
09/08/2022 05:00	65	102	6.0	710
09/08/2022 06:00	58	99	5.9	710
09/08/2022 07:00	62	N/A	5.9	710
09/08/2022 08:00	49	114	5.9	708
09/08/2022 09:00	129	107	5.9	708
09/08/2022 10:00	114	107	5.8	708
09/08/2022 11:00	70	111	5.9	707
09/08/2022 12:00	118	110	5.8	707
09/08/2022 13:00	132	106	5.7	707
09/08/2022 14:00	137	108	5.6	709
09/08/2022 15:00	156	110	5.6	709
09/08/2022 16:00	157	111	5.6	709
09/08/2022 17:00	155	106	5.7	707
09/08/2022 18:00	173	106	5.7	706
09/08/2022 19:00	147	107	5.8	707
09/08/2022 20:00	135	105	5.8	707
09/08/2022 21:00	114	106	5.8	709
09/08/2022 22:00	113	109	5.9	709
09/08/2022 23:00	335	105	5.6	711
09/09/2022 00:00	163	103	5.7	710
09/09/2022 01:00	165	104	5.8	710
09/09/2022 02:00	137	106	5.9	709
09/09/2022 03:00	147	105	5.9	711
09/09/2022 04:00	92	106	5.9	710
09/09/2022 05:00	99	108	5.9	708
09/09/2022 06:00	115	108	5.9	709
09/09/2022 07:00	175	N/A	5.7	709
09/09/2022 08:00	128	N/A	5.8	708
09/09/2022 09:00	144	N/A	5.8	708
09/09/2022 10:00	151	N/A	5.8	709
09/09/2022 11:00	190	N/A	5.7	709
09/09/2022 12:00	279	93	5.6	708
09/09/2022 13:00	292	95	5.6	709
09/09/2022 14:00	430	93	5.4	710

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
09/09/2022 15:00	428	94	5.4	707
09/09/2022 16:00	278	97	5.6	703
09/09/2022 17:00	316	103	5.6	700
09/09/2022 18:00	291	105	5.6	704
09/09/2022 19:00	296	106	5.6	708
09/09/2022 20:00	244	109	5.6	708
09/09/2022 21:00	359	104	5.5	700
09/09/2022 22:00	376	104	5.5	710
09/09/2022 23:00	247	107	5.7	708
09/10/2022 00:00	257	108	5.6	709
09/10/2022 01:00	297	105	5.6	710
09/10/2022 02:00	262	103	5.7	711
09/10/2022 03:00	295	103	5.7	709
09/10/2022 04:00	294	101	5.9	680
09/10/2022 05:00	240	107	5.9	709
09/10/2022 06:00	202	106	5.8	711
09/10/2022 07:00	256	108	5.8	710
09/10/2022 08:00	364	109	5.8	710
09/10/2022 09:00	164	111	5.7	711
09/10/2022 10:00	182	112	5.6	710
09/10/2022 11:00	264	112	5.5	710
09/10/2022 12:00	364	107	5.3	711
09/10/2022 13:00	272	111	5.3	710
09/10/2022 14:00	279	114	5.4	711
09/10/2022 15:00	336	113	5.3	710
09/10/2022 16:00	387	108	5.3	711
09/10/2022 17:00	363	108	5.3	709
09/10/2022 18:00	276	111	5.4	709
09/10/2022 19:00	274	108	5.5	709
09/10/2022 20:00	278	104	5.5	708
09/10/2022 21:00	273	104	5.5	708
09/10/2022 22:00	244	104	5.5	709
09/10/2022 23:00	247	103	5.6	710
09/11/2022 00:00	170	107	5.8	709
09/11/2022 01:00	143	109	5.8	709
09/11/2022 02:00	119	105	5.7	709
09/11/2022 03:00	116	102	5.7	708
09/11/2022 04:00	87	104	5.8	707
09/11/2022 05:00	62	109	5.8	709
09/11/2022 06:00	65	105	5.8	710
09/11/2022 07:00	81	100	5.7	709
09/11/2022 08:00	64	104	5.7	709
09/11/2022 09:00	61	107	5.7	710
09/11/2022 10:00	102	101	5.6	710
09/11/2022 11:00	94	102	5.5	710
09/11/2022 12:00	91	107	5.5	710
09/11/2022 13:00	89	109	5.5	710
09/11/2022 14:00	153	104	5.4	710
09/11/2022 15:00	128	106	5.4	710
09/11/2022 16:00	119	106	5.4	710
09/11/2022 17:00	108	105	5.5	710
09/11/2022 18:00	113	104	5.5	709
09/11/2022 19:00	142	103	5.4	709
09/11/2022 20:00	154	102	5.4	710
09/11/2022 21:00	143	101	5.4	710
09/11/2022 22:00	81	106	5.6	709
09/11/2022 23:00	92	108	5.6	710
09/12/2022 00:00	67	107	5.6	710
09/12/2022 01:00	89	107	5.6	709
09/12/2022 02:00	101	107	5.6	709
09/12/2022 03:00	78	110	5.6	710
09/12/2022 04:00	103	107	5.6	710
09/12/2022 05:00	105	107	5.7	709
09/12/2022 06:00	112	110	5.7	709
09/12/2022 07:00	78	111	5.7	710
09/12/2022 08:00	142	107	5.7	681
09/12/2022 09:00	100	108	5.8	656
09/12/2022 10:00	105	108	5.8	657
09/12/2022 11:00	78	108	5.7	709
09/12/2022 12:00	104	110	5.6	708
09/12/2022 13:00	113	113	5.6	708
09/12/2022 14:00	195	109	5.5	709

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
09/12/2022 15:00	244	106	5.5	710
09/12/2022 16:00	223	106	5.5	710
09/12/2022 17:00	264	105	5.4	710
09/12/2022 18:00	258	104	5.5	710
09/12/2022 19:00	264	102	5.5	709
09/12/2022 20:00	186	106	5.6	708
09/12/2022 21:00	183	108	5.6	709
09/12/2022 22:00	193	105	5.6	708
09/12/2022 23:00	222	106	5.5	707
09/13/2022 00:00	223	107	5.5	708
09/13/2022 01:00	231	107	5.6	709
09/13/2022 02:00	217	106	5.6	709
09/13/2022 03:00	246	108	5.5	708
09/13/2022 04:00	178	109	5.6	709
09/13/2022 05:00	186	107	5.6	708
09/13/2022 06:00	131	110	5.6	708
09/13/2022 07:00	173	109	5.6	708
09/13/2022 08:00	160	109	5.6	710
09/13/2022 09:00	221	109	5.5	708
09/13/2022 10:00	223	112	5.6	708
09/13/2022 11:00	286	111	5.6	703
09/13/2022 12:00	228	110	5.5	710
09/13/2022 13:00	231	109	5.5	709
09/13/2022 14:00	173	113	5.5	709
09/13/2022 15:00	263	109	5.4	710
09/13/2022 16:00	416	99	5.6	659
09/13/2022 17:00	498	93	5.7	630
09/13/2022 18:00	142	112	5.9	631
09/13/2022 19:00	137	111	5.9	633
09/13/2022 20:00	164	110	5.9	632
09/13/2022 21:00	237	106	5.9	644
09/13/2022 22:00	146	110	5.8	709
09/13/2022 23:00	167	106	5.8	709
09/14/2022 00:00	219	105	5.9	659
09/14/2022 01:00	195	108	5.8	695
09/14/2022 02:00	138	109	5.8	710
09/14/2022 03:00	244	103	5.7	709
09/14/2022 04:00	230	104	5.7	709
09/14/2022 05:00	231	105	5.7	709
09/14/2022 06:00	211	106	5.7	708
09/14/2022 07:00	165	109	5.7	706
09/14/2022 08:00	154	110	5.8	705
09/14/2022 09:00	442	98	5.4	708
09/14/2022 10:00	307	101	5.5	708
09/14/2022 11:00	186	105	5.6	708
09/14/2022 12:00	199	105	5.6	708
09/14/2022 13:00	194	108	5.6	709
09/14/2022 14:00	198	109	5.5	710
09/14/2022 15:00	164	110	5.6	708
09/14/2022 16:00	190	109	5.6	709
09/14/2022 17:00	238	105	5.5	710
09/14/2022 18:00	267	99	5.6	684
09/14/2022 19:00	99	105	5.9	631
09/14/2022 20:00	96	111	5.8	685
09/14/2022 21:00	184	93	6.6	542
09/14/2022 22:00	56	96	6.9	535
09/14/2022 23:00	47	93	6.9	536
09/15/2022 00:00	50	91	6.9	536
09/15/2022 01:00	52	90	6.9	536
09/15/2022 02:00	52	89	6.9	536
09/15/2022 03:00	70	91	6.9	542
09/15/2022 04:00	79	105	6.0	684
09/15/2022 05:00	119	103	6.0	709
09/15/2022 06:00	141	102	6.0	710
09/15/2022 07:00	178	101	5.9	710
09/15/2022 08:00	169	100	5.9	710
09/15/2022 09:00	117	106	5.9	710
09/15/2022 10:00	137	108	5.9	710
09/15/2022 11:00	262	106	5.7	709
09/15/2022 12:00	325	101	5.6	710
09/15/2022 13:00	345	100	5.6	710
09/15/2022 14:00	353	100	5.6	710

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
09/15/2022 15:00	371	102	5.6	709
09/15/2022 16:00	349	95	5.8	650
09/15/2022 17:00	164	100	5.9	626
09/15/2022 18:00	121	103	6.0	626
09/15/2022 19:00	126	111	5.9	696
09/15/2022 20:00	117	103	6.0	708
09/15/2022 21:00	108	102	6.0	707
09/15/2022 22:00	111	104	6.0	708
09/15/2022 23:00	117	104	6.0	708
09/16/2022 00:00	100	100	5.9	708
09/16/2022 01:00	122	102	5.9	707
09/16/2022 02:00	196	97	6.0	709
09/16/2022 03:00	131	97	6.1	711
09/16/2022 04:00	132	98	6.1	710
09/16/2022 05:00	149	99	6.1	709
09/16/2022 06:00	148	99	6.1	709
09/16/2022 07:00	303	87	6.0	664
09/16/2022 08:00	181	94	6.1	661
09/16/2022 09:00	169	93	6.1	658
09/16/2022 10:00	94	92	6.1	664
09/16/2022 11:00	161	91	6.1	666
09/16/2022 12:00	138	90	6.1	665
09/16/2022 13:00	150	94	6.1	665
09/16/2022 14:00	126	104	5.8	707
09/16/2022 15:00	200	99	5.7	709
09/16/2022 16:00	153	103	5.8	709
09/16/2022 17:00	137	105	5.8	708
09/16/2022 18:00	90	106	5.8	709
09/16/2022 19:00	53	107	5.9	709
09/16/2022 20:00	59	108	5.9	709
09/16/2022 21:00	79	107	5.9	709
09/16/2022 22:00	65	102	6.1	665
09/16/2022 23:00	50	105	6.1	629
09/17/2022 00:00	53	105	6.1	629
09/17/2022 01:00	123	109	5.9	695
09/17/2022 02:00	135	107	5.9	709
09/17/2022 03:00	188	107	5.8	708
09/17/2022 04:00	215	107	5.7	696
09/17/2022 05:00	225	110	5.6	708
09/17/2022 06:00	292	108	5.6	708
09/17/2022 07:00	234	N/A	5.6	708
09/17/2022 08:00	210	N/A	5.6	709
09/17/2022 09:00	205	102	5.6	708
09/17/2022 10:00	138	104	5.7	707
09/17/2022 11:00	230	99	5.8	675
09/17/2022 12:00	179	105	5.7	698
09/17/2022 13:00	123	108	5.7	705
09/17/2022 14:00	223	109	5.7	704
09/17/2022 15:00	255	109	5.6	707
09/17/2022 16:00	254	109	5.6	707
09/17/2022 17:00	299	107	5.6	696
09/17/2022 18:00	259	108	5.8	703
09/17/2022 19:00	312	107	5.7	703
09/17/2022 20:00	209	108	5.9	700
09/17/2022 21:00	278	111	5.8	708
09/17/2022 22:00	309	113	5.7	710
09/17/2022 23:00	248	111	5.7	710
09/18/2022 00:00	259	110	5.7	709
09/18/2022 01:00	257	111	5.6	709
09/18/2022 02:00	282	110	5.5	711
09/18/2022 03:00	230	108	5.6	711
09/18/2022 04:00	187	108	5.6	710
09/18/2022 05:00	175	106	5.6	700
09/18/2022 06:00	179	105	5.7	694
09/18/2022 07:00	288	101	5.7	643
09/18/2022 08:00	220	110	5.6	704
09/18/2022 09:00	202	108	5.6	709
09/18/2022 10:00	244	108	5.6	710
09/18/2022 11:00	240	109	5.5	710
09/18/2022 12:00	276	110	5.4	709
09/18/2022 13:00	349	112	5.4	709
09/18/2022 14:00	435	110	5.3	704

Period Start:	Average CO_2S ppm	Average NOx_2S ppm	Average O2_2S %	Average MW_2S mw(g)
09/18/2022 15:00	407	111	5.3	708
09/18/2022 16:00	398	113	5.4	709
09/18/2022 17:00	326	112	5.4	709
09/18/2022 18:00	307	111	5.4	708
09/18/2022 19:00	266	112	5.5	707
09/18/2022 20:00	332	112	5.4	709
09/18/2022 21:00	267	110	5.4	710
09/18/2022 22:00	230	107	5.6	687
09/18/2022 23:00	220	110	5.6	704
09/19/2022 00:00	304	110	5.5	711
09/19/2022 01:00	191	108	5.6	710
09/19/2022 02:00	194	108	5.6	709
09/19/2022 03:00	190	108	5.6	710
09/19/2022 04:00	202	107	5.6	711
09/19/2022 05:00	178	106	5.6	709
09/19/2022 06:00	185	107	5.7	708
09/19/2022 07:00	295	108	5.8	709
09/19/2022 08:00	198	106	5.7	709
09/19/2022 09:00	180	105	5.6	709
09/19/2022 10:00	217	107	5.4	710
09/19/2022 11:00	316	106	5.3	710
09/19/2022 12:00	269	106	5.4	709
09/19/2022 13:00	300	105	5.4	710
09/19/2022 14:00	143	110	5.4	710
09/19/2022 15:00	141	109	5.4	711
09/19/2022 16:00	171	106	5.4	710
09/19/2022 17:00	217	107	5.5	709
09/19/2022 18:00	188	110	5.5	709
09/19/2022 19:00	208	105	5.5	710
09/19/2022 20:00	173	109	5.6	709
09/19/2022 21:00	147	110	5.6	709
09/19/2022 22:00	102	111	5.7	710
09/19/2022 23:00	67	109	5.7	709
Final Average*	**176**	**103**	**5.9**	**656**
Maximum*	**680**	**120**	**20.1**	**714**
	07/25/2022 17:00	08/31/2022 15:00	08/04/2022 17:00	08/14/2022 14:00
Minimum*	**0**	**28**	**5.0**	**1**
	07/18/2022 3:00	08/18/2022 22:00	09/02/2022 15:00	08/28/2022 8:00

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

Attachment F

Requirement (8)(ii) notes "Include a description of any corrective actions taken as a part of the combustion adjustment."

As noted in various sections of this report, numerous calibrations/inspections were conducted, and equipment noted to be in good working order. This included calibrations and inspections of dampers, pulverizers, O_2 probes, and boiler conditions while operating. The GE Steam Power and Taber International reports give detail to adjustments and improvements that were made to optimize both boiler and pulverizer performance during the tune-up.

No repairs or adjustments were required after our most recent boiler tuning observation on U2.

Attachment G

Requirement (8)(iii) notes "The type(s) and amount(s) of fuel used over the 12 calendar months prior to an adjustment, but only if the unit was physically and legally capable of using more than one type of fuel during that period."

TransAlta Centralia Generation LLC (TransAlta Centralia or TCG) is designed and permitted as a sub-bituminous coal facility. The facility currently burns coal from the Powder River Basin (PRB) area. Since the facility is not capable of using more than one type of fuel, this information is not contained in this report.

EXHIBIT 11-14

NOTICE OF VIOLATION
No. 10642

SWCAA Southwest Clean Air Agency

5101 NE 82nd Avenue, Suite 102, Vancouver WA 98662 | 360-574-3058 / 800-633-0709 | www.swcleanair.gov

DATE OF VIOLATION:	TIME OF VIOLATION: *(if applicable)*
October 23, 2025	09:25

LOCATION OF VIOLATION:
Flyash Unloading Baghouse - 913 Big Hanaford Road, Centralia, WA 98531

RESPONSIBLE PARTY / PROPERTY OWNER / FACILITY NAME:
TransAlta Centralia Generation, LLc

MAILING ADDRESS:
913 Big Hanaford Road, Centralia, WA 98531

PHONE NUMBER:	EMAIL ADDRESS:	SWCAA ID:
360-330-2306	Sam_Bocook@transalta.com	754

Description of Violation(s)

IN VIOLATION OF (REGULATION/PERMIT/ORDER):	DID CAUSE OR ALLOW:
Condition 2 of ADP 12-3016, Req.-79 of AOP SW98-8-R5-A SWCAA 400-040(1), Req.-1 of AOP SW98-8-R5-A SWCAA 400-116(2)	Failure to maintain the Fly Ash Weigh Bin Baghouse properly, resulting in excess visible emissions.

DETAILS / EVIDENCE:

On October 23, 2025 Abraham Apfel and I visited TransAlta Centralia Generation for an unannounced inspection. Before entering the plant we drove past on Big Hanaford Road and observed a dense plume of ash from the Fly Ash Weigh Bin Baghouse and took a photograph and video. No trucks were being loading at the time. When I returned for a follow-up visit on November 4, 2025 the issue had been resolved and I spoke to maintenance personell who indicated the filters had been "plugged". This does not explain the excess emissions, but no further explanation was available. During an inspection on September 28, 2024 visible emissions could be seen from the fly ash weigh bin baghouse when viewed from the elevator to the west, but not from a legal Method 9 observation point. Fly ash loading was not occurring at the time. TransAlta reportedly replaced the filter cartridges in the unit later the same day to correct the problem.

Notice of Violation issued by

SWCAA REPRESENTATIVE:	DATE ISSUED:
Clint Lamoreaux	December 2, 2025
PHONE NUMBER:	**EMAIL ADDRESS:**
360-574-3058 ext. 131	clint@swcleanair.gov

Delivery Method

☐ IN PERSON
☒ USPS CERTIFIED MAIL
☐ ELECTRONIC MAIL

IF DELIVERED IN PERSON
NAME / TITLE OF RECIPIENT:

(SIGNING NOTICE DOES NOT CONSTITUTE AN ADMISSION OF GUILT)

Important Information – Please Read

You may provide additional information for the Southwest Clean Air Agency (SWCAA) to consider when addressing the above referenced alleged violation(s). You are also welcome to provide evidence of any corrective actions you have taken, or will take, as evidence of prompt and effective corrective actions may reduce your penalty if a penalty is assessed. If you wish to provide additional information, or schedule a meeting with the Agency, please do so within thirty (30) days of receiving this notice. Depending on the circumstances, you typically will receive one of the following: (1) Notice of Corrective Order (NCO), a (2) Notice of Civil Penalty (NCP) or (3) a Notice of Civil Penalty and Corrective Order (NCPCO), unless the information you submit to SWCAA indicates that a violation did not occur. An NCO orders prescribed corrective actions but assesses no civil penalty. An NCP assesses a penalty not to exceed $17,000 for each day of non-compliance. An NCPCO orders both corrective actions and a civil penalty. A civil penalty may be issued no sooner than thirty (30) days after your receipt of this Notice of Violation. For any of these actions you will receive further notification from the Southwest Clean Air Agency. Civil penalties and corrective orders may be appealed to the Pollution Control Hearings Board (PCHB) within thirty (30) days of the date of receipt of an NCO, NCP or NCPCO issued by SWCAA. For more information about appeals see RCW 43.21B, RCW 70A.15, and WAC 371-08 or visit https://eluho.wa.gov/boards/pollution- control-hearings-board.

SWCAA NOTICE OF VIOLATION ENFORCEMENT PROCESS

Step 1	Step 2	Step 3	Step 4	Step 5
Notice of Violation (NOV) issued by SWCAA for permit and/or regulation-based violations recorded by the Agency.	Within thirty (30) days of receipt of the NOV, provide SWCAA with information to show that the violation did not occur, or that you were not responsible for the violation recorded by the Agency.	Unless you have shown that a violation did not occur, or that you were not responsible for the violation, and after at least thirty (30) days have passed from the date the NOV was received, SWCAA will typically issue a Notice of Corrective Order (NCO)[1], a Notice of Civil Penalty (NCP)[2] or a Notice of Civil Penalty and Corrective Order (NCPCO)[3].	Within thirty (30) days of receipt of an NCO, NCP or NCPCO issued to you by SWCAA, you may request remission or mitigation, or appeal the civil penalties and/ or corrective orders to the Pollution Control Hearings Board (PCHB).	Unless you have been provided with relief by PCHB, remit any penalties to SWCAA and/or complete the prescribed corrective actions within the timelines provided in the NCO, NCP or NCPCO letter.

[1] *Notice of Corrective Order (NCO) - order prescribes corrective actions but no civil penalty.*

[2] *Notice of Civil Penalty (NCP) - assesses a penalty not to exceed $17,000 for each day of non-compliance.*

[3] *Notice of Civil Penalty and Corrective Order (NCPCO) - assesses both a penalty, not to exceed $17,000 for each day of non-compliance, as well as an order prescribing corrective actions.*

EXHIBIT 11-15

NOTICE OF VIOLATION
No. 10643

SWCAA Southwest Clean Air Agency

5101 NE 82nd Avenue, Suite 102, Vancouver WA 98662 | 360-574-3058 / 800-633-0709 | www.swcleanair.gov

DATE OF VIOLATION:	TIME OF VIOLATION: *(if applicable)*
1/11/25, 3/4/25, 6/6/25, 6/11/25, 8/26/2025	Various

LOCATION OF VIOLATION:
Unit #2 - 913 Big Hanaford Road, Centralia, WA 98531

RESPONSIBLE PARTY / PROPERTY OWNER / FACILITY NAME:
TransAlta Centralia Generation, LLC

MAILING ADDRESS:
913 Big Hanaford Road, Centralia, WA 98531

PHONE NUMBER:	EMAIL ADDRESS:	SWCAA ID:
360-330-2306	Sam_Bocook@transalta.com	754

Description of Violation(s)

IN VIOLATION OF (REGULATION/PERMIT/ORDER):	DID CAUSE OR ALLOW:
40 CFR 63.10042 definition of "Startup" and Table 3, Section 3 of 40 CFR 63 Subpart UUUUU SWCAA 400-075	Firing of coal during startup before fully engaging the wet scrubber.

DETAILS / EVIDENCE:

Individual startup reports and quarterly reports submitted in accordance with 40 CFR 63 Subpart UUUUU detail when the flue gas desulfurization (FGD) system (scrubber) was online and when coal firing began.

Effective July 8, 2024 EPA set a deadline (January 2, 2025) by which facilities could no longer use the second definition of "startup" in 40 CFR 63.10042. The effect of this change was that the scrubber must be online before coal is fired during startup.

Notice of Violation issued by

SWCAA REPRESENTATIVE:	DATE ISSUED:
Clint Lamoreaux	December 16, 2025
PHONE NUMBER:	EMAIL ADDRESS:
360-574-3058 ext. 131	clint@swcleanair.gov

Delivery Method

☐ IN PERSON
☒ USPS CERTIFIED MAIL
☐ ELECTRONIC MAIL

IF DELIVERED IN PERSON
NAME / TITLE OF RECIPIENT:

(SIGNING NOTICE DOES NOT CONSTITUTE AN ADMISSION OF GUILT)

Important Information – Please Read

You may provide additional information for the Southwest Clean Air Agency (SWCAA) to consider when addressing the above referenced alleged violation(s). You are also welcome to provide evidence of any corrective actions you have taken, or will take, as evidence of prompt and effective corrective actions may reduce your penalty if a penalty is assessed. If you wish to provide additional information, or schedule a meeting with the Agency, please do so within thirty (30) days of receiving this notice. Depending on the circumstances, you typically will receive one of the following: (1) Notice of Corrective Order (NCO), a (2) Notice of Civil Penalty (NCP) or (3) a Notice of Civil Penalty and Corrective Order (NCPCO), unless the information you submit to SWCAA indicates that a violation did not occur. An NCO orders prescribed corrective actions but assesses no civil penalty. An NCP assesses a penalty not to exceed $17,000 for each day of non-compliance. An NCPCO orders both corrective actions and a civil penalty. A civil penalty may be issued no sooner than thirty (30) days after your receipt of this Notice of Violation. For any of these actions you will receive further notification from the Southwest Clean Air Agency. Civil penalties and corrective orders may be appealed to the Pollution Control Hearings Board (PCHB) within thirty (30) days of the date of receipt of an NCO, NCP or NCPCO issued by SWCAA. For more information about appeals see RCW 43.21B, RCW 70A.15, and WAC 371-08 or visit https://eluho.wa.gov/boards/pollution- control-hearings-board.

SWCAA NOTICE OF VIOLATION ENFORCEMENT PROCESS

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[1] *Notice of Corrective Order (NCO) - order prescribes corrective actions but no civil penalty.*

[2] *Notice of Civil Penalty (NCP) - assesses a penalty not to exceed $17,000 for each day of non-compliance.*

[3] *Notice of Civil Penalty and Corrective Order (NCPCO) - assesses both a penalty, not to exceed $17,000 for each day of non-compliance, as well as an order prescribing corrective actions.*