

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

N676768943

FACILITY: New Covert Generating Company, LLC		SRN / ID: N6767
LOCATION: 26000 77th Street, COVERT		DISTRICT: Kalamazoo
CITY: COVERT		COUNTY: VAN BUREN
CONTACT: Chris Head , Operations Manager		ACTIVITY DATE: 07/19/2023
STAFF: Rachel Benaway	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On-site inspection to verify compliance with ROP MI-ROP-N6767-2020 and all state and federal air use regulations.		
RESOLVED COMPLAINTS:		

AQD staff, Rachel Benaway, conducted an unannounced air quality inspection of Covert Generating Station (N6767), an electric power generation plant, on 7/19/2023. The purpose of the inspection was to verify if Covert Generating Station is in compliance with their Renewable Operating Permit (ROP), MI-ROP-N6767-2020, and all state and federal air use regulations. Covert is considered a major source of emissions for HAPs, NOx, CO, GHG, and PM and a minor source of SOx, Pb, and VOC emissions. The facility is subject to New Source Performance Standard (NSPS) 40 CFR 60 Subparts A, Da, Dc, and GG and National Emissions Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subparts DDDDD, YYYY, and ZZZZ. The last inspection was completed at the facility on 6/29/2021. Norm Kapala is the Vice President of General Operations and Responsible Official for the facility. Chris Head, the Operations Manager, was present for the on-site inspection and is responsible for submitting requested records. Personal protection equipment includes a hard hat, safety glasses, ear protection, and safety shoes.

Ownership of the facility was transferred to Consumers Energy from the New Covert Generating Company, LLC on May 31, 2023. An Administrative Amendment to transfer ownership, accept all conditions and responsibilities of the ROP, and to change the facility name was issued on June 12, 2023.

#	Permitted Equipment	Unit ID
1	Diesel fired emergency generator	EU-EMERGENG
1	Diesel fired emergency fire pump engine	EU-EMERGFIRE
1	Natural gas fired auxiliary boiler	EU-AUXBOIL
3	Natural gas fired duct burners	EU-DB1-2-3
3	Natural gas fired combustion turbine w/ Heat Recovery Steam Generator	EU-TURBINE1-2-3
1	Parts washer	EU-COLDCLEAN
1	Natural gas heater	EU-GASHEATER
3	Cooling towers	EU-COOLTWR1-2-3
1	Natural gas fired portable boiler (NOT ON SITE)	EU-TEMPBOILER

The following is a summary of information obtained from the on-site inspection and the submittal of requested records. Where applicable, compliance determinations are indicated for each special condition established in the ROP, organized by emission unit or flexible group.

EUAUXBOIL

The natural gas fired Nebraska (auxiliary) boiler (Serial #D-4501) has a maximum steam flow of 66,110 pph and a heat rating of 90 MMBtu/hr on the Siemens 353 burner. The boiler is

equipped with a low NOx burner for pollution control. The unit is subject to the 5D MACT (40 CFR 63 Subpart DDDDD) and was last serviced on 9/19/22 and 9/20/22 with an upcoming service date of 9/19/23. A Combustion Data Report and a Service Report was submitted from that tune up. A report with the daily fuel use and monthly operating hours (with 12 month rolling average) was also submitted. Between July 2022 and June 2023, the unit ran for 32.46 hours.

SC	Condition	COMPLIANT?
II.1	Only burn pipeline quality natural gas	Y
III.1	Do not operate for more than 1,600 hours per 12MRT	Y
IV.1	Equip and maintain with flue gas recirculation	Y

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?
VI.2	Keep written log of monthly hours of operation	Y
VI.3	Keep daily natural gas use records	Y
VI.4	Calculate total hours of operation, 12MRT	Y

FG-MACTDDDDD_Large:

SC	Condition	COMPLIANT?
III.1	Conduct annual tune up	Y

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?
VI.3	Submit tune-up report if requested	Y

Reporting:

SC	Condition	COMPLIANT?
VI.6	Annual boiler tune-up compliance reports submitted by 3/15 for previous calendar year	Y

The auxiliary boiler appears to be in compliance with permit requirements at this time.

EU-TEMPBOILER

New Covert's ROP lists EU-TEMPBOILER as a natural gas fired 111.2 MMBtu/hr portable unit. The unit is not currently on site and the facility reported there are no current plans to install it.

FG-TURB/DB1-3

New Covert produces electricity for PJM Interconnection, LLC, by utilizing three natural gas fired combined cycle combustion turbines (CTs) and heat recovery steam generator (HRSG) trains. Each Mitsubishi model 501G KIA turbine has a maximum design heat input capacity of 2,829 MMBtu/hr and is equipped with dry low NOx combustor and inlet air evaporative cooling. Each HRSG has a natural gas fired duct burner with a 256 MMBtu/hr heat input capacity. Each CT has a dry low NOx combustor, each duct burner has a dry low NOx burner, and each CT/HRSG train uses a selective catalytic reduction (SCR) and oxidation catalyst system for pollution control. The turbines were upgraded in 2020.

Emission Limits:

SC	Pollutant	Limit	Time Period	Compliant?
I.1	NOx	2.0 ppmvd	24-hr rolling ave except startup/shutdown (SU/SD)	Yes- Stack Test

I.2	NOx	15 ppm at 15% O ₂	30-day rolling ave	Yes
I.3	NOx	22.4 pph	24-hr rolling ave except SU/SD	Yes
I.4	NOx	249.0 pph	Operating hour during SU/SD	Yes
I.5	NOx	116 tpy	12-month rolling time	Yes
I.6	CO	2.0 ppmvd	24-hr rolling ave except SU/SD	Yes- Stack Test
I.7	CO	1,164.0 pph	Operating hour during SU/SD	Yes
I.8	CO	357 tpy	12-month rolling time	Yes
I.9	VOC	1.0 ppmvd	Hourly	Yes- Stack Test
I.10	VOC	48 tpy	12-month rolling time	Yes
I.11	PM ₁₀	10.7 pph	Hourly	Yes- Stack Test
I.12	PM _{2.5}	10.7 pph	Hourly	Yes- Stack Test
I.13	SO ₂	0.060 lb/MMbtu heat input ²	Hourly	Yes-Fuel Supplier transportation contract
I.14	H ₂ SO ₄	1.0 pph	Hourly	Yes- Stack Test
I.15	NH ₃	10 ppmvd	Hourly	Yes- Stack Test
I.16	GHGs as CO ₂ e	1,425,081 tpy	12-month rolling time	Yes

The last stack test for NOx, CO, VOC, Sulfuric Acid Mist, PM, and NH₃ occurred on 6/4/2020. The test demonstrated compliance with SC I.1, I.6, I.9, I.11, I.12, I.14, and I.15. The facility is required to repeat this test every 5 years per SC V.2. Because the facility is subject to Compliance Assurance Monitoring Plan, they are required to conducted annual VOC emission tests to verify capacity of the catalyst bed (SC V.3). Typically, this testing is completed at the same time as the annual Relative Accuracy Test Audit (RATA) for the CEMS. These tests last occurred on 9/13/2022.

SC	Condition	Compliant?
II.1	Only burn natural gas	Yes
II.2	Sulfur content of gas shall not exceed 0.8 grains per 100 scf	Yes
III.1	Submit a MAP and update as needed	Yes
III.2	Do not operate without emissions minimization plan	Yes
III.3	Operate and maintain in a manner consistent with safety and good air pollution control practice	Yes
III.4	Do not operate more than 2 CTs in startup simultaneously	Yes
III.5	Total hours for startup and shutdown for each CT shall not exceed 692 hr per 12MRT 12-Month rolling times as of 6/2023: U1 16 hrs, U2 33 hrs, U3 33 hrs	Yes
III.6	Total hours of operation for each duct burner shall not exceed 3,308 hrs per 12MRT 12-Month rolling times as of 6/2023: U1 473 hrs, U2 245 hrs, U3 375 hrs	Yes
IV.1	Max design heat input capacity for each CT shall not exceed 2,829 MMBtu/hr	Yes
IV.2	Max design heat input capacity for each duct burner shall not exceed 256 MMBtu/hr	Yes
IV.3		Yes

	Shall not operate CT without dry low NOx burners, SCR, and oxidation catalyst	
IV.4	Shall install CEMS to record NOx emissions and O2 or CO2 content of exhaust gas from each CT/HRSG train and meet timelines, requirements, and reporting	Yes
IV.5	Shall install CEMS to record CO emissions and O2 or CO2 content of exhaust gas from each CT/HRSG train and meet timelines, requirements, and reporting	Yes
IV.6	Shall install device to record natural gas usage for each CT/HRSG train on continuous basis	Yes
IV.7	Net heat rate for each CT/HRSG train shall not exceed 7,978 Btu/kWh on 12MRT	Yes
IV.8	Shall install device to record net electric output from each CT/HRSG train on continuous basis	Yes
V.2	Verify PM10, PM2.5, VOC, H2SO4, and NH3 emission rates every 5 years Date of last test: 6/4/2020	Yes
V.3	Conduct annual VOC emission test to verify capacity of catalyst bed Date of last test: 9/13-15/2022 and 9/12/2023	Yes

The facility submitted hours of operation for the duct burner and turbines with startup and shutdown hours demonstrating compliance with the 12-month rolling time limits listed above. The facility records the NOx, CO, and O2 content of exhaust gas from each CT/HRSG train with a Continuous Emissions Monitor (CEMs) for which they meet all timelines and reporting requirements. The facility is tracking natural gas usage for each CT/HRSG train on a continuous basis and submitted reports with monthly totals for each unit. A report was submitted verifying compliance with the net heat rate limit for each unit.

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?		
		U1	U2	U3
VI.2	Continuously monitor/record NOx, CO, O2/CO2 emissions from each CT/HRSG (SC I.1-4, I.6-7) 2nd Quarter Monitor downtime: Unit 1: 5 hrs Unit 2: 13 hrs Unit 3: 4 hrs	Yes	Yes	Yes
VI.3	Monitor and Record natural gas usage for each CT and duct burner: Hourly / Monthly	Yes	Yes	Yes
VI.4	Record NOx concentration and mass emission records for each CT (SC I.1-3): Hourly / 24-hr rolling / Daily / 30-day rolling	Yes	Yes	Yes
VI.5	Record CO concentration and mass emission records for each CT (SC I.6-7): Hourly / 24-hr rolling average	Yes	Yes	Yes
VI.6	Calculate NOx, CO, VOC, and CO2e Monthly and 12 MRT emissions for each CT (SC I.5, I.8, I.10, I.16)	Yes	Yes	Yes
VI.7	Record total hours of startup and shutdown for each CT	Yes	Yes	Yes
VI.8	Total hours of operation for each duct burner: Monthly / 12MRT	Yes	Yes	Yes
VI.9	Calculate net heat rate for each CT (SC IV.7): Monthly / 12MRT	Yes	Yes	Yes
VI.11	Record outlet CO concentration as indicator of proper operation of catalytic oxidizer to prove compliance with VOC limit (SC I.12)	Yes	Yes	Yes

VI.13	Proper response to excursion	Yes
VI.14	Monitor continuously while emission units are operating	Yes
VI.15	Properly maintain monitors	Yes
VI.16	Maintain records of monitoring data, performance, and corrective actions	Yes

Reporting:

SC	Condition	COMPLIANT?
VII.7-9	Provide notification of excess emissions and monitor downtime	Yes

In June of 2023, the facility reported the following 12-month rolling totals:

(TONS)	Unit 1	Unit 2	Unit 3	ROP LIMIT
NOx:	55.68	57.56	49.68	116 tpy
CO:	6.47	9.80	12.30	357 tpy
VOCs:	1.90	1.60	1.60	48 tpy
GHGs as CO2e:	1,052,268.70	1,088,423.20	925,005.60	1,425,081 tpy

The facility tracks all downtime for the CEMs including failed quality assurance calibration times and submits the information in their quarterly reports. All excursions and corrective actions are reported according to the required timelines and delivery methods. The facility’s responsible official certified that no deviations from the requirements of their ROP or any other terms or conditions occurred during the first semi-annual period of 2023. The facility has a record of good communication and attention to corrective actions when necessary.

The CT/HRSO trains appear to be in compliance with permit requirements at this time.

FG-COOLTWRS

Each of the three 6-cell mechanical draft evaporative cooling towers are equipped with high efficiency drift eliminators. The facility submitted maintenance records for 2022 to present, listing preventative inspections, corrective actions, monthly PH calibrations, yearly PH probe replacements, and recommendations for future repair actions. A vendor certification sheet was submitted for the Brentwood CF80Max Counterflow Cellular Drift Eliminators listing a drift loss of 0.0005%.

The ROP lists a TDS content limit for the circulating water of 3,144 ppmw monthly for each tower. A submitted semi-annual Total Dissolved Solids (TDS) Report demonstrated that Trace Analytical (third party laboratory) determined the following average TDS rates for each tower:

Tower	Jan	Feb	March	April	May	June
1:	2525	2525	2325	2800	1718	2275
2:	2275	2075	1950	2350	2080	1975
3:	2550	2025	2150	2450	1980	2250

SC	Condition	COMPLIANT?
II.1	Total Dissolved solids content limit of the circulating water per tower 3,144 ppmw per month	Yes
III.1	Submit inspection and maintenance program	Yes
IV.1	Equip and maintain vendor certified mist/drift eliminators w/ max drift rate of 0.0005% or less	Yes
IV.1	If no vendor certification of drift, verify drift with test upon request	NA

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?
VI.1	Keep vendor certification of drift rate	Yes

VI.2	Keep record of maintenance conducted			Yes
VI.3	Monitor and record weekly parameters to determine TDS content of circulating water and monthly parameters to determine water recirculation rate	Yes	Yes	Yes
VI.4	Calculate monthly TDS of circulating water for each cooling tower	Yes	Yes	Yes
VI.5	Keep test reports on file			Yes

The cooling towers appear to be in compliance with permit requirements at this time.

FG-EMERGENCY

The emergency engines at the facility include a 14.9 MMBTU/hr heat input capacity, diesel fuel-fired emergency generator (G) and a 3.8 MMBTU/hr heat input capacity, diesel fuel-fired emergency fire pump engine (F). Condition compliance verification is listed below.

EU-EMERGENG, EU-EMERGFIRE

SC	Condition	COMPLIANT?	
III.1	Do not operate for more than 500 hours per 12MRT		Yes
III.3	Only burn diesel fuel and keep fuel specification sheet from each delivery		Yes

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?	
III.3	Keep fuel spec sheet for each delivery of diesel		Yes
VI.1	Keep log of monthly hours of operation for each engine	G Yes	F Yes
VI.2	Calculate 12MRT total hours of operation for each engine	Yes	Yes

The facility submitted reports including hours of operation for both engines, 12-month rolling time operating hours, and fuel specifications sheets from the supplier for each delivery of diesel. The facility also submitted a report listing service actions and a work order list for preventative and corrective actions on both engines.

FG-MACTZZZZ_ENG

Both emergency engines are subject to 40 CFR 63 Subpart ZZZZ. Conditions and compliance verification during this inspection are listed below.

EU-EMERGENG HOURS METER READING: 700 hours

SC	Condition	COMPLIANT?	
II.1	Only burn diesel fuel w/ max sulfur content of 15 ppm by weight and min Cetane index of 40 or max aromatic content volume of 35 volume %		Yes
III.1	a) change oil and filter every 500 hours of operation or annually b) inspect air cleaner every 1,000 hours of op or annually c) inspect hoses and belts every 500 hours of operation or annually		Yes
III.6	Operate for no more than 100 hrs per year for maintenance		Yes
III.7	May operate up to 50 hrs per year in non-emergency situations- counting towards 100 hrs total annually		Yes
IV.1	Install non-resettable hours meter		Yes

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?	

VI.1-4	Records of any malfunction of unit or air pollution control or monitoring devices	Yes
VI.5	Total number of hours of operation per year: -# hours spent in emergency and non-emergency use, what emergency was, date, start/end time	Yes

Reporting:

SC	Condition	COMPLIANT?
VII.4	Semi-annual compliance report (40 CFR 63.6650)	Yes

FG-MACTZZZZ_FP

EU-EMERGFIRE HOURS METER READING: 653.3 hours

SC	Condition	COMPLIANT?
II.1	Only burn diesel fuel w/ max sulfur content of 15 ppm by wt and min Cetane index of 40 or max aromatic content volume of 35 volume %	Yes
III.1	a) change oil and filter every 500 hours of operation or annually b) inspect air cleaner every 1,000 hours of op or annually c) inspect hoses and belts every 500 hours of operation or annually	Yes
III.6	Operate for no more than 100 hrs per year for maintenance	Yes
III.7	May operate up to 50 hrs per year in non-emergency situations- counting towards 100 hrs total annually	Yes
IV.1	Install non-resettable hours meter	Yes

SC	Condition	COMPLIANT?
VI.1-4	Records of any malfunction of unit or air pollution control or monitoring devices	Yes
VI.5	Total number of hours of operation per year: -# hours spent in emergency and non-emergency use, what emergency was, date, start/end time	Yes

Reporting:

SC	Condition	COMPLIANT?
VII.4	Semi-annual compliance report (40 CFR 63.6650)	Yes

The facility submitted a Generator System Preventative Maintenance Report listing service actions and a work order list for preventative and corrective actions on the fire pump. **Both emergency engines appear to be in compliance with permit requirements at this time.**

FG-COLDCLEANERS

The facility has one parts washer in the maintenance area that is a heated unit. The washer had the mechanically assisted lid down at the time of inspection. The facility submitted an MSDS for the ZOK27 cleaning solvent. The facility also submitted a log sheet listing the weekly solvent bath temperature.

SC	Condition	COMPLIANT?
II.1	Shall not use cleaning solvents w more than 5% by wt listed halogenated compounds	Yes

III.1	Drain parts for no less than 15 sec or until not dripping	Yes
IV.2	Must be equipped with device for draining cleaned parts	Yes
IV.3	Equipped with cover, closed	Yes
IV.4	Is cover mechanically assisted?	Yes

Monitoring/Recordkeeping:

SC	Condition	COMPLIANT?
VI.1	If heated- solvent temp shall be monitored and recorded at least once each week	Yes
VI.4	Waste solvent is stored in closed containers unless no more than 20% by wt is allowed to evaporate and records are kept to verify disposal practices	Yes

The parts washer appears to be in compliance with permit requirements at this time.

FG-MACTDDDDD_Small

EU-GASHEATER

The 1.074 MMBtu/hr natural gas heater has not run since 2004. The facility indicated they have no plans to utilize the gas heater in the near future. No tune-up, maintenance, or corrective action records are available as the unit is not operating at this time.

The facility appears to be in compliance with all ROP conditions and requirements as well as all State and Federal air use regulations at this time. All records submitted to demonstrate compliance with permit requirements and emissions limits are included with this report.

NAME Rachel Senaway

DATE 9/21/23

SUPERVISOR 