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August 28, 2024
Mx. Mariah Scott
Michigan Department of Environment, Great Lakes, and Energy (EGLE)
Kalamazoo District – Air Quality Division (AQD)
7953 Adobe Road
Kalamazoo, MI 49009

**Subject: Response to Violation Notice, Dated August 7, 2024**
**Renewable Operating Permit No. MI-ROP-N6767-2020a,**
**FG-TURB/DB1-3: EU-TURBINE1 and EU-DB1 (Unit 1) Special Conditions I. 11., 12, and 14 and FG-TURB/DB1-3: EU-TURBINE3 and EU-DB3 (Unit 3) Special Conditions I. 11., 12, and 14**

Dear Mx. Mariah Scott,

Consumers Energy Company (CE) is providing this written response to the August 7, 2024, Michigan Department of Environment, Great Lakes, and Energy (EGLE) Violation Notice (VN), which was addressed to Mr. Norman Kapala, Vice President Generation Operations and Responsible Official for CE Covert Generating Station (CGS). The VN referenced the results from the May 20-21, 2024, stack testing event on CGS Units 1 and 3 and the subsequent test report submitted on July 20, 2024. Specifically, the VN notes that CE reported stack test results above the permit limits for sulfuric acid ($H_2SO_4$) and particulate matter ($PM_{10/2.5}$) emissions. For $PM_{10/2.5}$ emission test results, Unit 1 was cited for 20.0 pounds per hour (pph) and Unit 3 was cited for 16.7 pph, exceeding the 10.7 pph $PM_{10/2.5}$ emission limit applicable to each unit. For $H_2SO_4$ emission test results, Unit 1 was cited for 1.4 pph and Unit 3 for 2.4 pph, exceeding the 1.0 pph $H_2SO_4$ emission limit applicable to each unit.

As described in the remainder of this letter, CE does not believe the emission exceedances are accurate or representative of Units 1 and 3 actual emissions. Fuel sulfur content data for the May 2024 testing demonstrated insufficient levels of sulfur to support the $H_2SO_4$ emissions observed during testing, and subsequent stack testing in July readily demonstrated compliance with the $H_2SO_4$ emission limit. $PM_{10/2.5}$ testing results at Units 1 (full load with duct burners and evaporative cooler in service) and 3 (full load, no duct burners or evaporative cooler in service) in August using 4-hr durations for EPA Method 202 demonstrated compliance with the $PM_{10/2.5}$ emission limits. CGS further plans to demonstrate compliance with $PM_{10/2.5}$ emission limits with Unit 3 at full load, with duct burners and evaporative coolers in service, in future testing using 4-hr durations. The additional CGS Unit 3 testing cannot proceed until repairs can be

completed to allow it to operate at maximum conditions, which is currently expected to occur in September 2024.

**Immediate actions taken by CE**

Upon confirmation of the above noted results, CE notified EGLE and removed Units 1, 2, and 3 from service on July 9, 2024, and expedited retesting the units. As CGS is integral to CE providing electric generation to the State of Michigan, CE set up an Incident Command Structure (ICS) for a "whole of enterprise" approach in problem solving. The ICS initially met several times per day to resolve these issues, with the frequency tapering as answers became clear. Note that Unit 2 was not tested in May 2024, but CE took that unit down based on the concern that the primary source of elevated $H_2SO_4$ emissions may have been the fuel gas, as all three units share the same natural gas fuel supply. While the units were off-line, CE inspected portions of Units 1 and 3 specifically, the Heat Recovery Steam Generation (HRSG), the Selective Catalyst Reduction (SCR) including ammonia supply, and the Evaporative Cooler (EC) for any anomalies that may be contributing to these test results as well as initiated an investigation into potential process-related factors that may contribute to elevated emissions. Concurrently, CE was also exploring the anomalies from this May stack test event. As our investigation was focused on what can be contributing to elevated emissions for each pollutant separately, CE will discuss each pollutant individually below.

**Elevated Sulfuric Acid ($H_2SO_4$) Emissions Investigation**

As noted above, CE initially shut down the units except for necessary testing to avoid operating while potentially out of compliance. This shutdown allowed the opportunity to inspect the interior of portions of Units 1 and 3 on July 25, 2024. These inspections of the HRSG, SCR and EC portions of Unit 1 and 3 did not identify any sort of contamination in the process that would have introduced sulfur, and thus $H_2SO_4$ into the process. Our primary focus was to check the sulfur content of the fuel gas, as that is the expected source of sulfur in the process. This effort revealed that the then current sulfur content was compliant with the requirements of the ROP fuel limitation of 0.8 grain per 100 scf identified in Special Condition FG-TURB/DB1-3 II.2. CE also obtained data (as summarized in Attachment #1 and as included in May stack test report) from the fuel supplier (TC Energy) confirming the sulfur content of the natural gas was well below this level during the May 21-22 stack testing event. A mass balance (see Attachment 1) was conducted that showed based on the sulfur present in the natural gas, the $H_2SO_4$ emissions should be an order of magnitude below the May 21-22, 2024, stack testing results.

In addition to CE requesting the sulfur content data from TC Energy on July 9, 2024, CE also had Mostardi Platt test the fuel gas supply at CGS on July 10, 2024, finding results of 0.016 grains/100 SCF which is normal and well below any level that would result in elevated $H_2SO_4$ results. CE tested the gas supply at CGS internally on July 11, 2024, using a hydrogen sulfide ($H_2S$) monitor and results of test were 0.012 grains/100 SCF, again below levels that would result in elevated $H_2SO_4$ results. Note the CE test differed from the Mostardi Platt test in that it only measured $H_2S$, which is normally the major chemical compound containing sulfur in natural gas, while the Mostardi Platt test was completed using ASTM D6228 and would identify multiple chemical compounds containing sulfur.

As noted in the test protocol, CE used EPA Method 8 to measure the $H_2SO_4$ emissions during the May 21-22, 2024, testing event. Based upon discussions with EPA's Emissions Measurement Center, CE has learned that EPA Method 8 is not recommended for the units at CGS as $H_2SO_4$ emissions measured by EPA Method 8 can be biased high when ammonia ($NH_3$) is present. All CGS combined-cycle units are equipped with selective catalyst reduction (SCR) systems. The SCR systems utilize $NH_3$ to remove $NO_x$ from the exhaust gases and thus the exhaust contains low levels of unreacted $NH_3$ (termed "$NH_3$ slip"). Lastly, preliminary Units 1 and 3 $H_2SO_4$ retest results from testing conducted July 15 and 16, 2024, using, EPA Conditional Test Method 013 (CTM-013), which is less susceptible to positive bias in the presence of $NH_3$, show emissions of 0.30 pph and 0.14 pounds per hour (pph), respectively, and these results demonstrate compliance with the 1.0 pound per hour $H_2SO_4$ emission limit. Between the May and July 2024 testing events for Units 1 and 3, there have been no known changes to the fuel supply or other process parameters that would have affected the available sulfur within the flue gas matrix.

After this detailed investigation of the fuel supply, equipment, testing procedures and considering other potential sulfur sources in the CGS process, it is CE's conclusion that the elevated May 2024 $H_2SO_4$ emission test results are not actual emission exceedances, but instead were caused by interferences with EPA Test Method 8 due to free $NH_3$ present in the CGS Units 1 and 3 exhaust gases, biasing the EPA Method 8 $H_2SO_4$ emission rates high. Further, a test report will be submitted on or before September 14, 2024, for the Unit 1 (July 15, 2024) and Unit 3 (July 16, 2024) tests completed using EPA Conditional Test Method 013 (CTM-013). CTM-013 employs a controlled condensation technique that reduces these interferences and those from sulfur dioxide, providing a more accurate measurement of sulfuric acid mist.

Unit 2 was brought back to service on July 12, 2024, once CE was confident that the sulfur content of our natural gas pipeline supply supported compliance with the $H_2SO_4$ emission limit. Also, Units 1 and 3 operations were no longer restricted based on the $H_2SO_4$ emission limit, but their

operations were curtailed and/or derated based on the continued investigation into the elevated $PM_{10/2.5}$ emissions, as discussed below.

**Elevated Particulate Matter $PM_{10/2.5}$ Emissions Investigation**

CE's investigation into the elevated $PM_{10/2.5}$ emissions were along two concurrent paths:

1) A review of any process elements that may contribute to the elevated $PM_{10/2.5}$ emissions; and
2) A review of testing and analytical elements underlying the test results.

Both paths involved consultation with internal subject matter experts, as well as the combustion turbine manufacturer and environmental testing and consulting firms. Regarding potential issue #1, there are limited contributors to elevated $PM_{10/2.5}$ emissions from a process that involves the firing of natural gas – that is why particulate matter control equipment is not generally required when a source goes through a Best Available Control (BACT) or Lowest Achievable Emission Rate (LAER) analysis. Our process related investigation involved evaluation of the potential sources of contamination, combustion efficiency, and material inputs.

Potential sources of contamination that may contribute to elevated $PM_{10/2.5}$ emissions may come from fine material inadvertently left in the combustion turbine or HRSG from outage work or existing material flaking off from interior parts. Although the units were in outage prior to the May testing, they had run for a sufficient time that fine material, if any, left from that work would have already been exhausted through the system. The inspections of the HRSG, SCR, and EC portions of Units 1 and 3 when they were down on July 25, 2024, also did not indicate that there were materials flaking off from interior sections of the flue gas path. Thus, CE concluded that sources of filterable particulate contamination were not a significant contributor to elevated $PM_{10/2.5}$ emissions.

It is well documented that inefficient combustion can lead to higher rates of $PM_{10/2.5}$ emissions in the form of organic condensable emissions. As CE noted in the July 20, 2024, test cover letter for the May test events, in EPA's AP-42 Chapter 4.1 Natural Gas Combustion and Chapter Subsection 1:4.3 titled "Particulate Matter"[1], EPA discusses natural gas combustion in a boiler.

[1] https://www.epa.gov/sites/default/files/2020-09/documents/1.4_natural_gas_combustion.pdf

> ***Because natural gas is a gaseous fuel, filterable PM emissions are typically low***. Particulate matter from natural gas combustion has been estimated to be less than 1 micrometer in size and has filterable and condensable fractions. ***Particulate matter in natural gas combustion are usually larger molecular weight hydrocarbons that are not fully combusted. Increased PM emissions may result from poor air/fuel mixing or maintenance problems.*** (Emphasis added).

Thus, any indication that CGS had poor combustion would be considered a significant contributor to elevated $PM_{10/2.5}$ emissions. However, all indications during the May 2024 test as well as subsequent analysis indicates that the CGS units are maintaining very efficient combustion. During the May 2024 testing events, the Volatile Organic Compounds (VOC) emissions measured and presented in the submitted report were very low (the highest VOC measured across both units was 0.3 PPMvd at 15% oxygen), and the carbon monoxide (CO) Continuous Emission Monitoring Systems (CEMS) indicated that the highest CO emissions measured across both units during the May 2024 test were less than 0.1 PPMvd at 15% oxygen. These very low CO and VOC concentrations observed during testing indicate that complete combustion was occurring at both units.

On July 29, 2024, as part of the ongoing investigations, Covert Units 1 and 3 had their respective uncontrolled gas turbine (GT) exhaust gases tested for CO between the outlet of the GT and the inlet oxidation catalyst which converts CO to carbon dioxide ($CO_2$). The testing was completed using appropriate analytical instruments as part of an engineering test (EPA test methods were not utilized for these CO measurements), and the tests showed low CO concentrations in line with turbine vendor expectations. Low CO concentrations are an indicator of complete and efficient combustion, and complete combustion is also generally considered a surrogate for low $PM_{10/2.5}$ emissions when natural gas is the fuel being fired.

The CO concentrations measured were in the range of 0-12 ppmv across both Units 1 and 3 between the GT outlets and oxidation catalysts. The "uncontrolled" CO concentrations measured were less than 1 ppmv when the Units 1 and 3 GTs were operated at loads of 230 MW gross or greater, and the CO concentration was 12 ppmv CO when the Unit 3 GT was operating at a load of 143 MW gross (Unit 1 was not also tested at this low load level). Further, on July 30, 2024, the same CO concentration testing was conducted at CGS Unit 2 and the uncontrolled CO concentrations were in the range of 0-18.2 ppmv. Specifically, uncontrolled Unit 2 CO concentrations were also less than 1 ppmv at loads of 230 MW gross or greater and the CO concentrations were 18.2 ppmv when the Unit 2 GT was operating at a low load of 150 MW gross. In summary, the combustion process may be contributing to the $PM_{10/2.5}$ emissions,

but not at a level that would explain the elevated $PM_{10/2.5}$ emissions - all the evidence reviewed shows that the combustion process is highly efficient.

In addition to the natural gas combustion, the material inputs to the process include the intake air, which is sometimes cooled by evaporative coolers that add moisture to the process, and the injection of $NH_3$ to create the required reaction to reduce $NO_x$ emissions in conjunction with the catalyst as part of the Selective Catalyst Reduction (SCR) system. The ambient air entering the CT air intake may include background $PM_{10/2.5}$, contaminants such as wildfire smoke. Also, the dissolved solids from the water added through the evaporative coolers have been identified as a potential source of $PM_{10/2.5}$ emissions. Additionally, unreacted $NH_3$ from the SCR can later react and form condensable particulate and the total dissolved solids (TDS) in the $NH_3$ water mixture can be source of $PM_{10/2.5}$. Finally, the GT was evaluated for GT lube oil leaks. These material inputs will contribute or have the potential to contribute to the $PM_{10/2.5}$ emissions.

To estimate the contribution to the $PM_{10/2.5}$ emissions from the combustion process and the material inputs identified above, a PM mass balance analysis was conducted (see Attachment 2 details). Table 1 below summarizes mass balance results detailed in Attachment 2.

**Table 1**

| $PM_{10/2.5}$ Source List Evaluated | % | lbs/hr |
|---|---|---|
| Combustion of Natural Gas | 8.07 | 0.267 |
| Combustion Air Intake (ambient air) | 13.61 | 0.450 |
| Evaporator Cooler (TDS carry over) | 55.91 | 1.85 |
| SCR Ammonia Water Mixture (TDS carry over) | 12.08 | 0.400 |
| Fuel Gas Sulfur Content reacting with Ammonia (Ammonium Sulfate)* | 10.34 | 0.684 |
| Lube Oil from GT | 0.00 | 0.000 |
| **Total** | **100.00** | **3.65** |

* While Ammonium Sulfate can form as a particulate in the ambient air, there is strong evidence that artifact formation in the Method 202 impinger water can result in a high bias in the CPM result due to unrepresentative ammonium sulfate formation.

The mass balance analyses were conducted with available data and in a conservative manner. When the sources of potential $PM_{10/2.5}$ were summed, the total amount available was approximately 3.65 lb/hr, nearly an order of magnitude below some of the elevated $PM_{10/2.5\ test}$ results generated by EPA Test Method 202.

Concurrent with CE's investigation into the potential of process-related contributions to the $PM_{10/2.5}$ emissions, CE has been reviewing possible bias in the May 2024 stack test events, as well as the inherent variability with EPA Method 202 itself as noted in issue #2 above. A large part of this effort has been an extensive retesting of the units under different conditions. Table 2 below provides a summary of the final (May 2024) and preliminary (July and August 2024) test results for Units 1 and 3 testing conducted to date, except for the July 29 and July 30 testing at Unit 1 since the test could not be completed at a consistent load due to mechanical issues with the Unit 1 dumper valve. The preliminary results from these efforts have reinforced our conclusion of bias affecting $PM_{10/2.5}$ test attempts since the mass balance roughly aligns with the August results in Table 2. A discussion on the variability in the EPA Method 202 testing is provided in Attachment 3.

The May 2024 $PM_{10/2.5}$ emission test results are a historic anomaly, and on that basis alone, they warranted further diligent review. Additionally, there were elevated amounts of inorganic and organic condensable particulate matter (CPM) measured in the field train recovery blank, as well as organic CPM in the hexane reagent blank. CE believes that inadvertent contamination of testing equipment used to determine CPM $PM_{10/2.5}$ emissions is a contributing factor to the elevated $PM_{10/2.5}$ emission test results from the May 21-22, 2024, testing. As discussed in the Stack Test Report for the May 2024 test at Units 1 and 3, the field train recovery blank was 9.54 mg, well above the 2.0 mg or less suggested by EPA for accurate Method 202 emission estimates. Further, the field train recovery blank reported for the July 15, 2024 and July 16, 2024 testing completed by Alliance was 3.2 mg, which is again above the EPA recommended levels. Eastern Research Group's Method 201A and 202 Best Practices to Reduce Blanks[2] states that:

> Issues of primary concern for elevated blank concentrations are the contributions to the total field sample results from filters, reagents, and sampling trains, the probe extensions in particular. **The blank contribution to sample mass needs to be very low to ensure that results for the CPM measurement from Method 202 source tests are attributable to the source and not to the materials used in the sample collection, recovery, and analysis**. (*Emphasis Added)*

EPA Method 202 can be performed under various configurations with appropriate approvals from either EGLE or EPA to improve precision and accuracy. Some enhancements that can be made to EPA Method 202 include using reagents with residual after evaporation at levels lower than those specified, which may reduce the bias measured by the field train recovery blank.

[2] m202-appa-best-practice-reduce-blanks.pdf (epa.gov), Executive Summary pg. 1

Also, the duration of the Method 202 sampling time can be extended. The purpose of extending the test duration is to increase the volume of the material being sampled, which reduces the relative impact of high bias caused by background contamination in the sampling train equipment, and to decrease the detection limit of EPA Method 202. EGLE personnel stated during the July 25, 2024 meeting that there may be some value in extending $PM_{10/2.5}$ test runs from 2-hr duration to a 4-hr duration.

Note that extending test runs is not suggested in the EPA's Method 202 Best Practices Handbook; instead EPA's Method 202 Best Practices Handbook advises that the duration of test runs be kept to 2-hr periods to avoid artifact formation that can bias Method 202 results high. However, EPA's Method 202 Best Practices Handbook guidance recommending EPA Method 202 test runs be limited to a duration of 2-hr needs to be placed into context.

For instance, in situations where sulfur trioxide ($SO_3$) and $NH_3$ are present in the exhaust stream, it is prudent to limit the test run duration to mitigate the formation of ammonium sulfate within the EPA Method 202 sampling train. The preceding can bias the test results high as a sampling artifact, not actual condensable particulate matter that would form in the atmosphere. At natural gas-fired combined-cycle plants such as CGS that have low concentrations of $SO_3$ and $NH_3$ in their exhaust stream, extending the run duration to 4-hr appears to be beneficial since it reduces bias introduced by residual materials in the sampling equipment and, as a second benefit, reduces the detection limit. These two benefits appear to outweigh the negative impact from possible salts or other artifact formation biasing the test results high. The more recent EPA Method 202 enhancements being employed at CGS are as follows:

1) Extending the test duration to minimize the systematic zero bias associated with gravimetric mass contributed by all possible sources of non-flue gas related particulates associated with the performance of EPA Method 202. Extending the sample duration better averages temporal variations, increases the volume of sampled gas and reduces the method detection limit.
2) Avoiding the use of a probe extension to minimize a potential source of contamination.
3) Utilizing reagents such as water, hexane, and acetone with residual after evaporation levels lower than those specified in EPA's Method 202 Best Practices Handbook.

The utilization of 4-hr test runs was implemented in the testing conducted at CGS Units 1 and 3 following the July 15 and 16, 2024 PM tests. Note that 4-hr test runs were planned during the

July 29 and 30, 2024 tests at Unit 1, but because of process upsets the test runs were 2-hrs in duration. A Teflon™ sample line connecting the exit of the heated EPA Method 5 filter to the Method 202 glassware was used for all the testing prior to the August testing at Units 1 and 3 whereas the August 2024 testing utilized a short piece of glassware in place of the Teflon™ tube. The July 29 and 30, 2024 2-hr EPA Method 202 test at Unit 1 demonstrated compliance with the PM10/2.5 limit but is not discussed in detail here since this testing was conducted while Unit 1 was not operating at maximum routine operating conditions and the duct burners and inlet air evaporative coolers were off.

Note per EPA's Method 202 Best Practices Handbook the lowest level detection EPA achieved with EPA Method 202 is 2 mg or ~1 mg/m$^3$ during 2-hr runs (during 4-hr tests the detection limit for EPA Method 202 would drop to the 0.4-0.5 mg/m$^3$ range).

> Therefore, the method detection limit (MDL) provided in this handbook is an estimate that is based on experiments performed in the laboratory using Other Test Method (OTM) 28, a precursor to Method 202. The Method 202 analytical detection limit—the lowest amount of CPM that can be measured after correcting for the systematic bias, was experimentally determined from seven replicate analyses to be *approximately 2 mg*. This value comes from a laboratory report that was generated to support the 2010 revision to Method 202[3] (*Emphasis Added)*

In addition, EPA Method 202 Section 13.0, Method Performance states that, "An EPA field evaluation of the revised Method 202 showed the following precision in the results: approximately 4 mg for total CPM, approximately 0.5 mg for organic CPM, and approximately 3.5 mg for inorganic CPM." Thus the 2 mg detection limit and 4 mg precision of EPA Method 202 contributes to test result variability and uncertainty that is observed upon review of the $PM_{10/2.5}$ measurements at CGS.

3 U.S. EPA, 2009. Draft Project Report: Evaluation and Improvement of Condensable Particulate Matter Measurement. Prepared by Eastern Research Group and E. H. Pechan & Associates for EPA. March 5, 2009.

## Table 2*

| Unit | Date | PM Emission type (lb/hr) | R1 | R2 | R3 | Avg | Dur |
|---|---|---|---|---|---|---|---|
| U1 | 5/22 | PM-Condensable | 24.4 | 19.6 | 11.7 | 18.5 | 2-hr |
| | | PM-Filterable | 1.5 | 2.7 | 0 | 1.4 | 2-hr |
| | | PM-Total | 25.8 | 22.3 | 11.7 | 19.9 | 2-hr |
| | | | | | | | |
| U3 | 5/21 | PM-Condensable | 15.0 | 20.3 | 13.7 | 16.4 | 2-hr |
| | | PM-Filterable | 0 | 0 | 0.9 | 0.3 | 2-hr |
| | | PM-Total | 15.0 | 20.3 | 14.6 | 16.7 | 2-hr |
| | | | | | | | |
| U1 | 7/15 | PM-Condensable | 12.3 | 15 | 14.5 | 13.9 | 2-hr |
| | | PM-Filterable | 4.7 | 6.0 | 4.9 | 5.2 | 2-hr |
| | | PM-Total | 17 | 21 | 19.4 | 19.1 | 2-hr |
| | | | | | | | |
| U3 | 7/16 | PM-Condensable | 5.7 | 7.9 | 5.2 | 6.2 | 2-hr |
| | | PM-Filterable | 6.8 | 4.3 | 5.8 | 5.6 | 2-hr |
| | | PM-Total | 12.5 | 12.2 | 10.9 | 11.9 | 2-hr |
| | | | R2 | R4 | R5 | Avg | |
| U1 | 8/1, 8/2, & 8/5 | PM-Condensable | 1.9 | 2.6 | 2.0 | 2.2 | 4-hr |
| | | PM-Filterable | 1.4 | 0.6 | 0.3 | 0.8 | 4-hr |
| | | PM-Total | 3.3 | 3.1 | 2.4 | 3.0 | 4-hr |
| | | | R2 | R4 | R5 | Avg | |
| U3 | 8/7, 8/8, & 8/9 | PM-Condensable | 2.6 | 2.6 | 6.0 | 3.7 | 4-hr |
| | | PM-Filterable | 1.2 | 0.2 | 3.5 | 1.6 | 4-hr |
| | | PM-Total | 3.8 | 2.8 | 9.4 | 5.3 | 4-hr |

*The test results that are grayed out represent preliminary results. All tests included in Table 2 were conducted with the unit at maximum routine operating conditions and with both the Duct Burner and Evaporative Cooler operating, except for two of the Unit 3 tests. The Unit 3 test conducted on 7/16/2024 was conducted at maximum operating conditions with Duct Burner operating but the Evaporator not operating. The Unit 3 tests conducted on 8/7, 8/8, & 8/9/2024 were completed at maximum operating conditions with the Duct Burner and Evaporative Cooler both not operating. Values are rounded to the nearest tenth for summary purposes; any small discrepancies are due to rounding.

**Conclusions**

In regards to $PM_{10/2.5}$, it is CE's conclusion, after reviewing a large assortment of data from the CGS and related scientific literature, that the elevated $PM_{10/2.5}$ test results reported for the May 2024 tests at CGS Units 1 and 3 and the preliminary elevated $PM_{10/2.5}$ emission test results from July 15, 2024 and July 16, 2024 for Units 1 and 3, respectively, were largely attributable to the inherent measurement error known to be present in EPA's Method 202 for the measurement of CPM at very low levels.

In summary, CE believes there were no excess $H_2SO_4$ or $PM_{10/2.5}$ emissions from CGS Units 1 and 3 in either May or July of 2024 for the reasons outlined in this letter. Both mass balances surrounding the May 2024 $H_2SO_4$ test results and subsequent testing in July 2024 indicate compliance with the $H_2SO_4$ emission limit. Subsequent preliminary $PM_{10/2.5}$ testing results at Units 1 (full load with duct burners and EC in service) and 3 (full load, no duct burners or EC in service) in August using 4-hr durations for EPA Method 202 demonstrate compliance with the emission $PM_{10/2.5}$ limits. CGS plans to demonstrate compliance with $PM_{10/2.5}$ emission limits with Unit 3 at full load, with duct burners and ECs in service, in future testing using 4-hr durations. CGS Unit 3 cannot be tested until repairs are completed to allow it to operate at maximum conditions, which is currently expected to occur in September 2024.

CE is ready and willing to meet with EGLE to discuss the VN and CE's investigation and response. If you have any questions or require further information, please contact me at (231) 690-7252 or Michael Gruber II at Michael.GruberII@cmsenergy.com or at (989)-493-3363.

Sincerely,

Kenneth Tomaski

Kenneth Tomaski
Senior Manager Plant Operations
Covert Generating Station

**Attachments:**

cc: Mr. Chris Head