



DESAUTEL LAW

Marisa A. Desautel  
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July 15, 2019

VIA USPS AND E-MAIL:

Rhode Island Department of Environmental Management  
Office of Air Resources  
235 Promenade Street  
Providence, Rhode Island 02908

**RE: Major Source Permit- Clean River Energy Center**

To whom it may concern,

This office represents the Town of Burrillville with respect to the above-referenced matter.

Enclosed please find a copy of the Town of Burrillville's written comments on Clear River Energy Center's draft permit and application materials. These objections are submitted as part of the public comment period and for inclusion in the administrative record.

In the interest of transparency, the Town of Burrillville is contemporaneously filing a Petition for Review of a relevant Access to Public Records Act document review denial, issued by RIDEM, for records related to the subject permit.

If you have any questions or concerns, please do not hesitate to contact this office. Thank you for your anticipated consideration in this regard.

Respectfully,

Marisa A. Desautel, Esq.  
ec: client

**1. The Town objects to the Applicant's failure to provide detailed information regarding methodologies, preventing the public comment and review required by federal law.**

A primary issue with the Applicant's permit application is the inability for meaningful public review and comment. 42 USC §7470(5) states that the congressional declaration of purpose is "to assure that any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision-making process."

The application process in this case resulted in the absence of adequate procedural opportunities for the Town to participate in the decision-making process. The draft permit application process here was lengthy, yet several of the Applicant's methodologies were not subject to public review and comment. These methodologies, if made public in a timely manner, would have provided for informed participation by the Town.

The Town was never provided an opportunity to review the Applicant's Risk Assessment Protocol, which was never released for review. Without the ability to review the Risk Assessment Protocol methodology, the Town cannot undertake the meaningful review mandated by the Clean Air Act ("CAA"). This forces the Town to accept unnecessary risks to public health, public safety and the environment.

The Applicant has also withheld information related to the specific equipment it proposes for this project. In its application materials, the Applicant states that:

"the final selection for the make, model and design of the CREC auxiliary boiler, dew point heater, emergency generator, and fire pump emergency engine will be made by the EPC contractor for the project, which has not been selected yet. The EPC Contractor will be selected once the project has received its permits to proceed with construction, as is customary for the construction of a power plant such as CREC."



It is questionable whether this practice is customary, as the Applicant has stated, and it does not allow for the Town to engage in the informed public participation and meaningful participation required by the CAA. Under 42 USC §7470(5) “any decision to permit increased air pollution in any area to which this section applies is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decision-making process.”

The Town has concerns about the equipment used in the proposed Clean River Energy facility, as past facilities constructed by the Applicant have had several equipment malfunctions, leading to air emission violations.

**2. RIDEM should not issue the Major Source Permit because EPA has not determined that RIDEM’s State Implementation Plan is approved.**

A State is required to submit reasonable available control technology (RACT) in order for the EPA to determine whether an SIP is being adequately implemented and RIDEM has not submitted a 2008 ozone-8Hr RACT NOx for Major Sources and RACT non-CTG VOC for Major Sources.

Under 42 U.S.C §7502(c)(1), the CAA requires that SIPs for nonattainment areas “provide for the implementation of all reasonably available control measures [RACM] as expeditiously as practicable (including such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology.” RACT is required for all criteria pollutants “not only if necessary to attainment.” Sierra Club v. U.S. Envtl. Prot. Agency, 781 F.3d 299, 313 (6th Cir.), opinion amended and superseded sub nom. Club v. U.S. E.P.A., 793 F.3d 669 (6th Cir. 2015); 42 U.S.C.S. §7407(d)(3)(E)(ii). “[R]easonably available” is construed as “control technology [that] is necessary to advance attainment.” Nat. Res. Def. Council v. E.P.A., 571 F.3d 1245, 1253 (D.C. Cir. 2009).

In order to meet the RACT requirement, states have the discretion to use the EPA's control technique guidelines (CTG) or the alternative control techniques (ACT). Id. at 1254. A state can also choose to create its own RACT guidelines and then submit it to the EPA for a reasonable "case-specific determination[]." Id. at 1255 (citing Notice of Final Determination and Availability of Final Control Techniques Guidelines, 71 Fed. Reg. 58,745, 58,747 (Oct. 5, 2006)).

The Town asserts that RIDEM's failure to submit an SIP constitutes the current RACT as being inadequate for the purposes of reviewing the controlled measure, GE 7HA.02 gas turbine, submitted by the Clear River Energy Center. It would be unreasonable to approve a Major Source Permit without the proper guidelines being approved by the EPA. In Sierra Club, the court held that the EPA's approval to redesignate a State's area to attainment without the State submitting an SIP for RACT measures was illegal. Sierra Club, 793 F.3d at 656. The court reasoned that submission and review of RACT was required before the area is redesignated and therefore the EPA acted unlawfully. Id. The Town asserts that RIDEM finds itself in a similar predicament because there is no SIP for RACT, and to approve of a Major Source Permit would vitiate the purpose of the CAA. Id. at 313.

The subject facility's cold starts will contribute to air emissions, but it is difficult to assess the amount of emissions that will contribute to the area because RIDEM has not submitted its RACT SIPs. If the SIPs were submitted, the EPA would have been able to determine the current status of Rhode Island and whether the RACT guidelines were adequate or whether more stringent parameters are necessary to meet attainment status.

In addition, the Town asserts that it is reasonable to infer that the Town's residents will be impacted by physical injuries from the lack of RACT guidelines. In Sierra Club, the court found standing because of a reasonable inference that the lack of an RACT is a "causal connection" to



“adverse environmental effects.” Sierra Club v. EPA, 793 F.3d 656, 664 (6th Cir. 2015) (citing Natural Res. Def. Council v. EPA, 542 F.3d 1235, 1248 (9th Cir. 2008)). The court reasoned that plaintiff’s assertion that if an RACT was in place for the specific criteria pollutant, it “would directly reduce emissions at sources already known to exist and to influence Cincinnati’s air quality.” Club, 793 F.3d at 664 (citing Sierra Club v. EPA, 294 F.3d 155, 162-63, 352 (D.C. Cir. 2002)). The assertions in Sierra Club are similar to those of the Town in this case - a reasonable inference of actual and imminent physical injuries is drawn here because RIDEM has not submitted an RACT. Therefore, there will be an increase in the emissions of ozone-8hr in the Town.

Moreover, this additional major source will certainly do nothing to improve Rhode Island’s non-attainment status. Therefore, RIDEM should await an EPA approval regarding RACT guidelines prior to issuing this Major Source Permit.

**3. RIDEM should not issue the Major Source Permit because the proposed gas turbine blades are faulty.**

The Town objects to the proposed gas turbine blades to be used at the facility as they are faulty. These blades have been used at several other Invenenergy facility sites with several shutdowns and early blade replacements. As of December 2018, 17 gas turbines have been shut down due to the motor’s blades cracking earlier than expected. Scott, Alwyn. (“Factbox: Power Plants with GE Turbines Shutting for Repairs.” Reuters, Thomson Reuters, 7 Dec. 2018, [www.reuters.com/article/us-ge-power-factbox/factbox-power-plants-with-ge-turbines-shutting-for-repairs-idUSKBN1O60FI](http://www.reuters.com/article/us-ge-power-factbox/factbox-power-plants-with-ge-turbines-shutting-for-repairs-idUSKBN1O60FI)). Lackawanna Energy Center alone, had three GE 7HA.02 gas turbines shut down. GE Power executives have stated that Generation 1 (.01) and Generation 2(.02) turbines are estimated to last up to 25,000 hours of use (with inspections). (Scott, Alwyn. “GE Urges Speedy Fix for Power Turbine Blades, Says Blade Broke in...” Reuters, Thomson Reuters, 25 Jan. 2019, [ca.reuters.com/article/technologyNews/idCAKCN1PJ0DM-OCATC](http://ca.reuters.com/article/technologyNews/idCAKCN1PJ0DM-OCATC)).

These turbines, however, are showing signs of stress as early as 7,000 hours. The blades showed signs of cracking and some parts needing special coatings to repair early cracking. Currently the only known solution is to shut down the plant and either replace the blades or coat the blades in a protectant against high temperatures.

The Town objects to the use of these turbines as they are often unable to meet the estimated lifespan of use. The Town has several concerns regarding the dangers of turbine failure, as the blades are failing well before they are expected to, and the effects of frequent shutdowns of the facility have on the Town's air quality. The Town is especially concerned about the emission levels of the turbines both when the blades fail and at initial restart. These events could be high emission spike periods, putting Rhode Island closer to non-attainment status. The Town asserts that the proposed facility is subject to the best available control technology (BACT). Under the CAA a facility must be subject to BACT prior to construction. New York v. Niagara Mohawk Power Corp., 263 F. Supp. 2d 650, 664 (W.D.N.Y. 2003). Omitting to subject the facility to BACT is deemed a separate violation of 42 USCS § 7475(a). Id. In order to determine whether BACT has been met, permitting agencies provide a reasonable explanation that considers the efficiency, economic impact, and environmental impact of the proposed BACT. See Alaska Dep't of Env'tl. Conservation v. EPA, 540 U.S. 461, 468 (2004); Sierra Club v. Wis. Dep't of Natural Res., 787 N.W. 2d 855, 855 (Wis. Ct. App. 2010); Sierra Club v. Wyoming. Dep't of Env'tl. Quality, 251 P.3d 311, 311 (Wyo. 2011).

It would be unreasonable to consider the GE 7HA.02 motor as meeting the BACT because there is evidence that demonstrates the motor is inefficient and can negatively impact the environment. Due to the frequent shutdowns that have been recorded in other power plants, it is clear that the gas turbines carry a high risk of causing harm to the surrounding air quality and to



the Town overall. Moreover, because of the habitual shutdowns, the plant is more likely to experience cold starts. Unlike in Sierra Club, where the court held that the potential to emit (PTE) estimation should not incorporate the cold starts because they are “estimated to occur every three or four years” and because it is not part of the normal operations of the facility, here the earliest estimate for the blades cracking are less than 1-year. Club, 251 P.3d at 313. Moreover, the blades that are inspected at 14,000 hours (less than 2-years) also contain cracking. This is not an infrequent occurrence and it is plausible that the shutdowns will continue to occur to provide new coatings for the cracked blades. Therefore, the emission estimations should include cold starts because the shutdowns are a regular occurrence that happen less than three to four years. See Id. at 313.

**4. RIDEM should not issue the Major Source Permit because the proposed facility’s contribution to the multisource impact has not been considered.**

According to RIDEM’s Rhode Island Air Dispersion Modeling Guidelines for Stationary Sources (Guidelines), Rule 5.7:

“For a proposed source or modification with a SIA that approaches or extends into an adjacent state, a similar type of inventory must be obtained from that state as well.”

As the SIA is generally an area with a radius extending from the source to the most distant point where a significant ambient impact will occur, the Applicant should have been required to use its SIAs to review the significant impact determinations as detailed in the Guidelines.

The Applicant’s September 15, 2016 Major Source Permit Application Addendum states that the facility’s SIA were determined as follows:

- 1-Hour NO<sub>2</sub>: 0.875 kilometers
- Annual NO<sub>2</sub>: 0.375 kilometers
- 24-Hour PM<sub>10</sub>: 1.8 kilometers

The proposed facility is approximately 3 miles from the border of the Commonwealth of Massachusetts and approximately 2.25 miles from the border of the State of Connecticut. However, the application materials are devoid of an inventory required by Rule 5.7 of the Guidelines. The Applicant selected the proposed site and must comply with the adjacent state inventory; RIDEM cannot approve the subject application without it.

Rule 5.7 also mandates that any applicant should obtain the RIDEM's "agreement on the methodology selected to include and remove sources from the inventory before submittal of the multisource inventory." As that selection and removal of sources from the inventory has already occurred, approval of the Major Source Permit would be procedurally and substantively invalid and violative of the Guidelines.

**5. RIDEM should not issue the Major Source Permit because similar facilities, using similar equipment, demonstrate ongoing noncompliance.**

RIDEM need only look toward other Invenergy projects, such as the Lackawanna Energy Center in Jessup County PA, to enforce its concerns for the emission standards here. From 2018 to 2019, the Lackawanna Energy Center, a similar energy facility to what is being proposed in Rhode Island, that uses the same GE turbines as proposed here, has demonstrated its inability to comply with its operating parameters: the Lackawanna Energy Center is responsible for fifteen (15) emission failures in a years' time alone.

These violations were often the result of failed equipment. On December 23, 2018, the plant was forced into an emergency shut down as fuel gas pressure was too high resulting in pressure control valves needing manual shut down. This manual depressurization resulted in the plant's emergency shut down while operators attempted to rebalance the pressure levels in the facility. This ordeal lasted approximately five hours and emission levels were not adequately



measured, as the plant was forced into complete shutdown and gases released in order to regain control of the facility. Other events, like that of May 25<sup>th</sup>, May 26<sup>th</sup>, May 29<sup>th</sup>, June 2<sup>nd</sup>, and August 29<sup>th</sup> resulted in NOx emissions rising from the 2.0 ppm limit to 2.1 (most commonly) to 6.2 (as on August 29<sup>th</sup>, 2018). The public records do not make clear the duration of these emission spikes and are often reported several days later, preventing initial air quality testing.

As requested by the Town during its public comments during the public hearing, the Town is requesting review of the attached public documents: emission exceedance reports for the following dates - May 25, 2018, May 26, 2018, May 29, 2018, June 2, 2018, June 22, 2018, June 27, 2018, July 23, 2018, July 27, 2018, July 31, 2018, August 6, 2018, August 29, 2018, August 31, 2018, December 23, 2018 and January 29, 2019.

Attached, also please find copies of several summary reports listing CEM downtime percentages for Lackawanna Energy Center's turbines one through three, and the auxiliary boiler. These downtime percentages are representative of instances of emissions not being adequately measured. These CEM downtime percentages have reached 1.86% in a three-month span (this highest unmeasured time occurred in 1/1/2019 to 3/31/2019 Summary Report).

**6. RIDEM should not issue the Major Source Permit because the Significant Impact Areas were not determined appropriately.**

Under the Guidelines, Significant Impact Areas (SIA) should also be determined for each pollutant and averaging period for which a Significant Impact Level is exceeded. The Applicant's September 15, 2016 Major Source Permit Application Addendum states that the maximum distances from the facility at which the modeled facility impact concentrations were greater than the Class I SILs were determined as follows:

- 3-hour SO<sub>2</sub>: 5 kilometers
- 24-hour SO<sub>2</sub>: 5 kilometers
- 24-Hour PM<sub>10</sub>: 48 kilometers

- Annual NO<sub>2</sub>: 3 kilometers
- Annual SO<sub>2</sub>: 0.875 kilometers
- Annual PM<sub>10</sub>: 1.2 kilometers

The application materials do not provide an SIA for the 3-hour, 24-hour, or annual SO<sub>2</sub>, despite the exceedances of Class I SIL concentrations. The SO<sub>2</sub> SIA should also consider the multistate inventory as required by the Guidelines, discussed in objection 4, above.

**7. RIDEM should not issue the Major Source Permit because it does not meet the requirements of the Resilient Rhode Island Act.**

This state's Resilient Rhode Island Act of 2014 (the Act) contains several mandatory provisions that are relevant to the subject permit. The Act sets greenhouse gas emissions reductions of 10% below 1990 levels by 2020; 45% below 1990 levels by 2035, and; 80% below 1990 levels by 2050. RIGL §42-6.2-2(a)(2). RIDEM's adherence to the targets set by the Act are compulsory, as the statute indicates that:

“all state departments, agencies...shall be deemed to have and to exercise among its purposes in the exercise of its existing authority, the purposes set forth in this chapter pertaining to climate change mitigation, adaption, and resilience in so far as climate change affects the mission, duties, responsibilities, projects, or programs of the entity.” RIGL §42-6.2-8.

The “purposes” of the Act are contained in RIGL §42-6.2-2, which is the section that contains the emissions limits quoted above. Since the Act states that agencies such as RIDEM “shall...exercise...the purposes set forth in this chapter,” RIDEM's consideration of the emissions reductions in the context of the subject permit application is mandatory.

It is clear that neither RIDEM nor the Applicant analyzed these statutory parameters through the application process. As RIDEM may be aware, a Superior Court judge already held that the Clear River Energy project is one of “substantial public interest.” Conservation Law Foundation, v. Clear River Energy, LLC, et. al. (C.A. No. PC-2017-1037) June 20, 2017 Decision p. 15. The questions of statutory emissions reductions will, likewise, “raise a question of statutory



interpretation of great importance to citizens.” Id. Lastly, ignoring greenhouse gas emissions reductions “undercuts the purposes of the [CAA].” Nat’l Steel Corp., Great Lakes Steel Div. v. Gorsuch, 700 F.2d 314, 321 (6th Cir. 1983).

**8. RIDEM should not issue the Major Source Permit because of the state’s ozone non-attainment status.**

RIDEM’s Air Pollution Control Permits, 250-RICR-120-05-9, General Prohibition Section 9.8.4 states that the “Director shall not issue a Major Source Permit if the Administrator of the Environmental Protection Agency has determined that the State Implementation Plan is not being adequately implemented for the nonattainment area in which the proposed source or modification is to be constructed.”

It is well-known that ozone non-attainment is an issue for this state. As part of the Ozone Transport Region, and with several ozone exceedances per year, any addition of NO<sub>x</sub> and VOCs from the Clear River Energy Center will only exacerbate Rhode Island’s ozone compliance situation. The absence of multisource modeling is particularly offensive under these facts.

No amount of modeling can repudiate the additional emissions from the center, and those additional emissions will only serve to increase the likelihood of ozone exceedances, which are a health risk to the elderly, children, and the breathing compromised. DEM, as the Major Source Review permitting agency, has an obligation to protect the people of Burrillville, and the state, from this risk.

**9. RIDEM should not issue the Major Source Permit because the application is moot by operation of law.**

In Rhode Island, mootness is a legal issue that courts determine “if the original complaint raised a justiciable controversy, but events occurring after the filing have deprived the litigant of a continuing stake in the controversy.” It is well known that the Applicant’s application before the

Energy Facility Sitting Board (“EFSB”) was denied on June 20, 2019. In its decision, the EFSB stated that the Applicant failed to show that the proposed facility is needed for the state.

Secondly, the Town just learned that the Applicant requested that the Army Corps of Engineers (“ACOE”) suspend review of their pending application until further notice.

The proposed project cannot progress without the approval of EFSB and of the ACOE. The Applicant no longer has any practical legal interest in the granting of the subject permit. To be sure, even if the Applicant appeals the EFSB ruling and the ACOE review recommences, the emissions information contained in the subject application materials would be unreliable and outdated; a new permit application process would be necessary. Unless and until all of these conditions are met, the subject application is moot.

**10. RIDEM should not issue the Major Source Permit because the application does not meet the Reasonable Further Progress requirement.**

The Town asserts that RIDEM can determine the total amount of emissions only *after* the EPA approves Rhode Island’s SIP in order to demonstrate “reasonable further progress and the attainment of the national ambient air quality standard.” (RIDEM’s Air Pollution Control Permits 250-RICR-120-9.8.3) Reasonable further progress is defined under the CAA as:

“annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable national ambient air quality standard by the applicable date.” 42 U.S.C. §7501(1)(West).

The CAA requires a plan to provide reasonable further progress and “demonstrate . . . the emissions quantified . . . will be consistent with the achievement of reasonable further progress and will not interfere with attainment of the applicable national ambient air quality standard by the applicable attainment date.” 42 U.S.C. §7502(c)(2);(c)(4)(West). In order to demonstrate reasonable further progress, the Applicant must show that the “total allowable emissions from (all



sources) will be sufficiently less than total emissions from existing sources allowed under the applicable implementation plan.” City of Seabrook v. U.S. E.P.A., 659 F.2d 1349, 1368 (5th Cir. 1981).

In City of Seabrook, the court held that the EPA’s conditional approval of an SIP was deemed reasonable. *Id.* at 1371. In part, the court analyzed that reasonable further progress was demonstrated because the “implementation plan is based on ‘allowable’ emissions and provides that the emissions allowed will conform to the national standards as required by the statute . . .” *See Id.* at 1368. However, RIDEM has not submitted a SIP to EPA and there is no way to determine if the total emissions, including the proposed facility, “is sufficiently less than total emissions from existing sources allowed under the [SIP]...” *Id.* Since there is no SIP to determine whether the total emissions will be sufficiently less than the amount stated, the Applicant does not have a reasonable means of determining that the estimated emissions from the facility would be in compliance. Furthermore, the lack of an SIP leaves uncertainty as to the effect of Rhode Island’s non-attainment status. Because there is no method to determine the inventory of emissions due to the lack of an SIP, there is likewise no method by which the Applicant can demonstrate compliance with RIDEM’s reasonable further progress requirement.

Further, RIDEM has committed an *ultra vires* act by accepting the 1.2:1 ratio for emission offsets submitted by the Applicant, instead of the EPA requirement of 2:1. RIDEM’s Fact Sheet Clear River Energy Center, p.3. The Rhode Island Supreme Court held, on many occasions, that a government entity cannot make representations that are in conflict with applicable law. Romano v. Retirement Bd. of Employees' Retirement System of R.I., 767 A.2d 35, 40 (R.I. 2001); Providence Teachers Union v. Providence School Board, 689 A.2d 388, 391-92 (R.I.1997); Ferrelli v. Department of Employment Security, 106 R.I. 588, 593-94 (R.I.1970).

In Technology Investors v. Town of Westerly, the Rhode Island Supreme Court held that a town determination was unenforceable because it was contrary to state law and, therefore, the local government's representations and actions to the contrary were deemed *ultra vires*. *Id.* (See also Waterman v. Caprio, 983 A.2d 841, 847 (R.I. 2009)) “The statements made by the retirement system employees were not within their authority to make because they contradicted state law.” (citing Romano at 38).

RIDEM has committed an *ultra vires* error by permitting the Applicant’s submission of the 1.2:1 ratio for emission offsets instead of the EPA requirement of 2:1. RIDEM has approved of this submission after making three major assumptions:

1. That the revised SIP—which has not been sent—will be approved;
2. That the state sanctions will then be lifted, and;
3. That the offset ratio will return to 1.2:1.

RIDEM has admitted that it has not submitted an SIP revision in order to revert the Major Source Permit emission offset ratio to 1.2:1. Moreover, RIDEM has merely assumed approval of, and provided a list of events that have not taken place in order to conclude that, the 1.2:1 ratio submitted by the Applicant is an acceptable parameter. Not only are the list of events articulated by RIDEM far too remote, but RIDEM’s actions are not allowed by federal law. RIDEM cannot approve the 1.2:1 until it submits a revised SIP that is deemed complete by EPA.

For all of the reasons hereinbefore stated, the Town respectfully asserts that RIDEM cannot and should not issue the draft permit. Further, the Town also respectfully asserts that there is no form of permit that can be issued to the Applicant at this time.



**Malfunctions  
and  
Emission Exceedance Reports**



## Invenenergy

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June 27, 2018

Mr. Mark Wejksznier  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18711-0790

**RE: Lackawanna Energy Center LLC  
Jessup Borough, Lackawanna County, PA  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Report of Malfunction & Excess Emission**

Dear Mr. Wejksznier:

In accordance with Section C, Condition #019 (d) of Plan Approval No. 35-00069B, the Lackawanna Energy Center LLC (LEC) is hereby providing a report of a malfunction, that occurred during the 22:00 hour on June 22, 2018, which caused the emissions from Combustion Turbine #1 (Source ID: 101) to exceed the NOx hourly permit limitation (2.0 ppm @15% O2) contained in the Plan Approval referenced above.

The following is a summary of the pertinent information related to this emissions exceedance:

**Facility:** Lackawanna Energy Center LLC.  
**Source:** Combustion Turbine #1 (Source ID: 101)  
**Date:** June 22, 2018.  
**Time:** 22:00 hour. (32 Minutes of Exceedance)  
**Emissions:** NOx - 3.0 ppm @15% O2 (as measured by the CEMS)  
**Limit:** NOx - 2.0 ppm @15% O2  
**Cause:** A malfunction occurred when the Low Pressure (LP) economizer recirculation pumps shut off and the LP Economizer 3-Way valve opened to bypass mode, creating a significant upset in the Unit #1 Heat Recovery Steam Generator (HRSG), causing Unit #1 NOx Emissions to change rapidly. The rapid change in NOx concentrations resulted in an exceedance of the 2.0 ppm @15% O2 NOx permit limitation. Elevated NOx emissions persisted during the hour as the ammonia control valve did not open to control NOx emissions. The ammonia control valve failed to open due to an issue with the control logic in the Distributed Control System (DCS).  
**Preventative Measures:** A control room operator immediately identified the exceedance and began trouble shooting the ammonia control valve, to lower NOx emissions. The operator was able to lower NOx emissions near the end of the hour but not in sufficient time to bring the hourly average in compliance with the 1-hour permit limitation.





**Invenergy**

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July 27, 2018

Mr. Mark Wejksznier  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18711-0790

**RE: Lackawanna Energy Center LLC  
Jessup Borough, Lackawanna County, PA  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Report of Malfunction & Excess Emission**

Dear Mr. Wejksznier:

In accordance with Section C, Condition #019 (d) of Plan Approval No. 35-00069B, the Lackawanna Energy Center LLC (LEC) is hereby providing a report of a malfunction, that occurred during the 18:00 hour on July 23, 2018, which caused the emissions from Combustion Turbine #1 (Source ID: 101) to exceed the NOx hourly permit limitation (2.0 ppm @15% O2) contained in the Plan Approval referenced above.

The following is a summary of the pertinent information related to this emissions exceedance:

**Facility:** Lackawanna Energy Center LLC.  
**Source:** Combustion Turbine #1 (Source ID: 101)  
**Date:** July 23, 2018.  
**Time:** 18:00 hour. (15 Minutes of Exceedance)  
**Emissions:** NOx - 2.2 ppm @15% O2 (as measured by the CEMS)  
**Limit:** NOx - 2.0 ppm @15% O2  
**Cause:** A malfunction occurred when the Low Pressure (LP) economizer recirculation pump lost communication with the fieldbus causing the LP economizer recirculation pump to trip which caused a significant upset in the Unit #1 Heat Recovery Steam Generator (HRSG) exhaust temperature. The change in exhaust temperature of the HRSG triggered the Unit #1 NH3 Slip Emissions to increase rapidly. The control logic reacted to the elevated NH3 Slip concentrations by restricting flow of the Ammonia Control Valve (ACV) to reduce the NH3 Slip excessive emissions concentrations. The reduced flow of the ACV, immediately, caused the NOx concentrations to elevate above the 2.0 ppm @15% O2 NOx permit limitation. The elevated NOx emissions concentrations persisted during the 18:00 hour for (15 mins) as the ACV of the Heat Recovery Steam Generator (HRSG) was slow to react to the excessive NOx concentrations.  
**Preventative Measures:** A control room operator immediately identified the emissions exceedances and began trouble shooting the ACV response. The Distributed Control System (DCS) logic



## Invenergy

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prevented the control room operators from manually overriding the ACV to reduce the NOx emissions. The operator was able to lower NOx emissions shortly after the 19:00 hour began, but not in sufficient time to bring the 18:00 hour hourly average in compliance with the 1-hour permit limitation of 2.0 ppm @15% O2 NOx.

**Corrective Action:** LEC is investigating two separate issues that caused this exceedance. The 1<sup>st</sup> corrective action is to apply modifications to the DCS control logic of the ACV. The control logic modifications would alter the response of the ACV to react to excessive NOx concentrations. Modifications to the DCS control logic are, currently, being implemented and tested on Unit #2 during commissioning. When the logic modifications have been tested and validated on Unit #2, the corrective measures will be downloaded to the Unit #1 and Unit #3 DCS.

The 2<sup>nd</sup> corrective action, being taken, concurrently, is a fieldbus communication glitch that temporarily loses communications within the DCS and trips various components. The loss of communication was re-established within seconds without any corrective actions to the system. The loss in communication with the field bus and LP economizer recirculation pump is being evaluated by our vendors. LEC will notify the Department when the corrective measures have been implemented.

If you have any questions concerning this exceedance, please feel free to call me at (570) 955-7551.

Sincerely,

A handwritten signature in black ink, appearing to read "Jason Carey", written over a horizontal line.

Jason Carey  
Plant Manager





# Invenergy

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July 30, 2018

Mr. Mark Wejksznier  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
Bureau of Air Quality  
2 Public Square  
Wilkes-Barre, PA 18711-0790

**RE:        Lackawanna Energy Center LLC  
            Plan Approval No. 35-00069B  
            Combustion Turbine #1 (Source ID: 101)  
            Auxiliary Boiler (Source ID: 107)  
            Excess Emissions Reports**

Dear Mr. Wejksznier:

Pursuant to the reporting requirements of 40 CFR Part 60.7(c), Plan Approval No. 35-00069B, 40 CFR Part 60, Subpart Db, and 40 CFR Part 60, Subpart KKKK, the Lackawanna Energy Center (LEC) is hereby submitting the attached Excess Emissions and CEMS Downtime Reports for CT-1 and the Auxiliary Boiler covering the April 1 through June 30, 2018, monitoring period.

40 CFR Part 60, Subpart KKKK, sets NO<sub>x</sub> NSPS emission limits (15 ppm @15% O<sub>2</sub>) on a 4-hour rolling average basis for combined cycle units that are applicable to the Lackawanna County Energy Center. In addition, 40 CFR Part 60, Subpart Db sets NO<sub>x</sub> NSPS emission limits (0.20 lb/MMBtu) on a 30-day rolling average basis that are applicable to the Auxiliary Boiler. The NSPS limit was used for determining any NO<sub>x</sub> excess emissions from CT-1 and the NSPS and plan approval limits were used for determining any NO<sub>x</sub> excess emissions from the Auxiliary Boiler, on the attached reports.

Subpart KKKK also sets an SO<sub>2</sub> limit; however, as allowed by 60.4365(a) of Subpart KKKK, LEC is exempt from those monitoring requirements because it has contractual guarantees specifying a maximum total sulfur content of 20 grains or less per 100 standard cubic feet for natural gas. Therefore, excess emission reports for SO<sub>2</sub> are not included as part of this report.

When the Department has granted Phase 3 approval for the CEMS at LEC, LEC will include the attached reports with the quarterly EDR submissions.

If you have any questions concerning this report, please contact me at (570) 955-7551 or via email at [JCarey@invenergyllc.com](mailto:JCarey@invenergyllc.com).



Invenergy

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Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Carey', with a long horizontal flourish extending to the right.

Jason Carey  
Plant Manager

Encl.

Cc: USEPA Region 3  
Associate Director Office of Enforcement and Compliance Assistance (3AP20)  
1650 Arch Street  
Philadelphia, PA 19103-2029



**Summary Report**  
**Emission and Monitoring System Performance**


Reporting dates 5/23/2018 00:00 through 6/30/2018 23:59  
 Generated: 7/25/2018

Process Unit: Combustion Turbine #1  
 Pollutant: SO<sub>2</sub>  
 Applicable Federal Standard: 40 CFR Part 60, Subpart XXXX  
 Emission Limit: 15 ppm S 15% O<sub>2</sub> - 4 Hour Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 18434  
 Date of latest CEMS Certification or Audit: May 22, 2018  
 Unit Operating Time: 838.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shutdown	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	0.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	2.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	2.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.31

I certify that the information contained in this report is true, accurate, and complete.

Name: Jason Corey  
 Signature:   
 Title: Plant Manager  
 Date: 7-30-2018

**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 4/15/2018 00:00 through 6/30/2018 23:59  
 Generated: 7/28/2018 09:21

Process Unit: Auxiliary Boiler  
 Pollutant: NOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart Db  
 Emission Limit: 0.20 and 0.006 lb/MMBtu - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 15434  
 Date of Latest CEMS Certification or Audit: April 17, 2018  
 Unit Operating Time: 681.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shutdown	0.0	a. Monitoring Equipment Malfunction	1.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	0.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	1.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.15

I certify that the information contained in this report is true, accurate, and complete.

Name: Jason Cerney

Signature: 

Title: Plant Manager

Date: 7-30-2018





## Invenergy

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August 6, 2018

Mr. Mark Wejkszner  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18711-0790

**RE: Lackawanna Energy Center LLC  
Jessup Borough, Lackawanna County, PA  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Report of Malfunction & Excess Emission**

Dear Mr. Wejkszner:

In accordance with Section C, Condition #019 (d) of Plan Approval No. 35-00069B, the Lackawanna Energy Center LLC (LEC) is hereby providing a report of a malfunction, that occurred during the 16:00 hour on July 31, 2018, which caused the emissions from Combustion Turbine #1 (Source ID: 101) to exceed the NOx hourly permit limitation (2.0 ppm @15% O<sub>2</sub>) contained in the Plan Approval referenced above.

The following is a summary of the pertinent information related to this emissions exceedance:

**Facility:** Lackawanna Energy Center LLC.  
**Source:** Combustion Turbine #1 (Source ID: 101)  
**Date:** July 31, 2018.  
**Time:** 16:00 hour. (10 Minutes of Exceedance)  
**Emissions:** NOx – 2.1 ppm @15% O<sub>2</sub> (as measured by the CEMS)  
**Limit:** NOx – 2.0 ppm @15% O<sub>2</sub>  
**Cause:** A malfunction occurred when the Low Pressure (LP) economizer recirculation pump lost communication with the fieldbus causing the LP economizer recirculation pump to trip which caused a significant upset in the Unit #1 Heat Recovery Steam Generator (HRSG) exhaust temperature. The change in exhaust temperature of the HRSG caused a temporary increase in ammonia (NH<sub>3</sub>) Slip Emissions. The control logic reacted to the elevated NH<sub>3</sub> Slip concentrations by restricting flow of the Ammonia Control Valve (ACV) to reduce the NH<sub>3</sub> Slip excessive emissions concentrations. The reduced flow of the ACV, immediately, caused the NOx concentrations to elevate above the 2.0 ppm @15% O<sub>2</sub> NOx permit limitation. The elevated NOx emissions concentrations persisted during the 16:00 hour for (10 mins) as the ACV of the Heat Recovery Steam Generator (HRSG) was slow to react to the excessive NOx concentrations.  
**Preventative Measures:** A control room operator immediately identified the emissions exceedances and began trouble shooting the ACV response. The Distributed Control System (DCS) logic



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prevented the control room operators from manually overriding the ACV to reduce the NOx emissions because the set point of the ACV was set at 5 ppm (12-month rolling average permit limitation). The operator was able to lower NOx emissions within 10 minutes of the initial NOx exceedance, but not in sufficient time to bring the hour hourly average in compliance with the 1-hour permit limitation of 2.0 ppm @15% O2 NOx. The actual calculation of the minute data averaged 2.05 ppm hourly NOx, when rounded up to the nearest significant digit is 2.1 PPM.

**Corrective Action:** LEC has increased the NH<sub>3</sub> set point upper limit to 10 ppm. The normal operation set point of the ACV is 4 ppm and has not changed. The modification of the upper limit of the NH<sub>3</sub> valve will allow the control room operator to manually control the flow of NH<sub>3</sub> during periods when NOx emissions are elevated.

The DCS control logic vendor has implemented modifications to the software on Unit #2 as a permanent corrective action. Modifications include the ACV primary control logic to be controlled by the NOx concentrations due to the low hourly NOx permit limits which may be exceeded during malfunction events, similar to the event described above. This software update will be completed on Unit #1 when the Unit is offline.

LEC will notify the Department when the permanent software modifications on Unit #1 have been implemented.

If you have any questions concerning this exceedance, please feel free to call me at (570) 955-7551.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Carey', with a long horizontal flourish extending to the right.

Jason Carey  
Plant Manager





# Invenergy

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August 31, 2018

Mr. Mark Wejksznar  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18711-0790

**RE: Lackawanna Energy Center LLC  
Jessup Borough, Lackawanna County, PA  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Report of Malfunction & Excess Emission**

Dear Mr. Wejksznar:

The Lackawanna Energy Center has audited the continuous emissions monitoring data for the Lackawanna Energy Center LLC (LEC) from the CEMS certification data of May 25, 2018 at 12:00 hours to the present. There were some temporary exceedance episodes that were not previously identified and verified until recently due to some discrepancies with the CEMS DAHS vendor's calculations and software configurations.

In accordance with Section C, Condition #019 (d) of Plan Approval No. 35-00069B, the Lackawanna Energy Center LLC (LEC) is hereby providing a report of exceedance events that occurred during performance testing on May 25, 2018 through May 29, 2018, and events on June 2, 2018 and August 29, 2018, which caused the emissions from Combustion Turbine #1 (Source ID: 101) to exceed the NOx hourly permit limitation (2.0 ppm @15% O2) contained in the Plan Approval referenced above.

The following is a summary of the pertinent information related to the emissions exceedance on May 25, 2018 during the 21:00 hour:

**Facility:** Lackawanna Energy Center LLC.  
**Source:** Combustion Turbine #1 (Source ID: 101)  
**Date:** May 25, 2018  
**Time:** 21:00 hour  
**Emissions:** NOx – 2.1 ppm @15% O2 (as measured by the CEMS)  
**Limit:** NOx – 2.0 ppm @15% O2  
**Cause:** An exceedance occurred when unit load was being increased from 110 MW to 200 MW. Elevated NOx concentrations persisted during the 21:00 hour for as the Combustion Turbine increased load during performance testing.



**Preventative Measures:** Ammonia flow was increased to reduce the NOx concentrations as designed. The actual calculation of the minute data averaged 2.073 ppm hourly NOx, when rounded up to the nearest significant digit is 2.1 PPM.

**Corrective Action:** Upon review of these events, LEC has increased the NH<sub>3</sub> set point upper limit to 10 ppm. The normal operation set point of the ACV is 4 ppm and has not changed. The modification of the upper limit of the NH<sub>3</sub> valve will allow the control room operator to manually control the flow of NH<sub>3</sub> during periods when NOx emissions are elevated.

The following is a summary of the pertinent information related to the emissions exceedance on May 26, 2018 during the 8:00 hour:

**Facility:** Lackawanna Energy Center LLC.

**Source:** Combustion Turbine #1 (Source ID: 101)

**Date:** May 26, 2018

**Time:** 8:00 hour

**Emissions:** NOx – 2.1 ppm @15% O<sub>2</sub> (as measured by the CEMS)

**Limit:** NOx – 2.0 ppm @15% O<sub>2</sub>

**Cause:** An exceedance occurred when the unit was at baseload of approximately 470 MW output. The elevated NOx emissions concentrations persisted during the 8:00 hour during performance testing.

**Preventative Measures:** Ammonia flow was increased to reduce the NOx concentrations as designed. The actual calculation of the minute data averaged 2.085 ppm hourly NOx, when rounded up to the nearest significant digit is 2.1 PPM.

**Corrective Action:** Upon review of these events, LEC has increased the NH<sub>3</sub> set point upper limit to 10 ppm. The normal operation set point of the ACV is 4 ppm and has not changed. The modification of the upper limit of the NH<sub>3</sub> valve will allow the control room operator to manually control the flow of NH<sub>3</sub> during periods when NOx emissions are elevated.

The following is a summary of the pertinent information related to the emissions exceedance on May 29, 2018 during the 11:00 hour:

**Facility:** Lackawanna Energy Center LLC.

**Source:** Combustion Turbine #1 (Source ID: 101)

**Date:** May 29, 2018

**Time:** 11:00 hour

**Emissions:** NOx – 2.1 ppm @15% O<sub>2</sub> (as measured by the CEMS)

**Limit:** NOx – 2.0 ppm @15% O<sub>2</sub>





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**Cause:** An exceedance occurred when the unit was at baseload of approximately 470 MW output. The elevated NOx emissions concentrations persisted during the 11:00 hour during performance testing.

**Preventative Measures:** Ammonia flow was increased to reduce the NOx concentrations as designed. The first 7 minutes of the hour were invalid due to a CEMS technician running calibration gas to the analyzers. In review of the hourly-minute data for the 11:00 hour, it appears the calibration gas concentrations remained in the line after the unit was taken out of maintenance mode. The calibration gas concentrations continued to flow for an extended time period which elevated the NOx hourly concentrations to exceed the 2.0 NOx hourly permit limitations. The actual calculation of the minute data averaged 2.058 ppm hourly NOx, when rounded up to the nearest significant digit is 2.1 PPM.

**Corrective Action:** LEC has conducted additional training with maintenance personnel to increase awareness when conducting this type of maintenance activity.

The following is a summary of the pertinent information related to the emissions exceedance on June 02, 2018 during the 4:00 hour:

**Facility:** Lackawanna Energy Center LLC.

**Source:** Combustion Turbine #1 (Source ID: 101)

**Date:** June 02, 2018

**Time:** 4:00 hour

**Emissions:** NOx – 2.1 ppm @15% O2 (as measured by the CEMS)

**Limit:** NOx – 2.0 ppm @15% O2

**Cause:** An exceedance occurred when the unit was at baseload of approximately 480 MW output. The elevated NOx emissions concentrations persisted during the 4:00 hour during normal operation of the unit.

**Preventative Measures:** Ammonia flow was increased to reduce the NOx concentrations as designed. The actual calculation of the minute data averaged 2.065 ppm hourly NOx, when rounded up to the nearest significant digit is 2.1 PPM.

**Corrective Action:** Upon review of these events, LEC has increased the NH<sub>3</sub> set point upper limit to 10 ppm. The normal operation set point of the ACV is 4 ppm and has not changed. The modification of the upper limit of the NH<sub>3</sub> valve will allow the control room operator to manually control the flow of NH<sub>3</sub> during periods when NOx emissions are elevated.

The following is a summary of the pertinent information related to the emissions exceedance on August 29, 2018 during the 23:00 hour:

**Facility:** Lackawanna Energy Center LLC.

**Source:** Combustion Turbine #1 (Source ID: 101)

**Date:** August 29, 2018



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**Time:** 23:00 hour

**Emissions:** NOx – 6.2 ppm @15% O2 (as measured by the CEMS)

**Limit:** NOx – 2.0 ppm @15% O2

**Cause:** An exceedance occurred when the unit was at baseload of approximately 470 MW output. The unit experienced an electrical malfunction that caused both Selective Catalytic Reduction (SCR) blowers to trip which prevented ammonia from being injected into the catalyst. Immediately after the SCR blowers tripped, the Control Room Operator (CRO) attempted to restart the blowers, but due to other system failures, occurring at the same time, a manual reset of each blower was required after the other electrical malfunctions were identified, corrected and reset. The elevated NOx emissions concentrations persisted during the 23:00 hour during this electrical malfunction.

**Preventative Measures:** Ammonia flow was increased to reduce the NOx concentrations as designed. However, the SCR blowers tripped due to the electrical malfunctions on the same MCC bus prevented ammonia flow.

**Corrective Action:** LEC is currently investigating the wiring configuration of both SCR blowers. Invenergy is reviewing where the SCR skid power supply is fed from to determine how to increase the redundant capabilities of this system moving forward.

If you have any questions concerning these events, please feel free to call me at (570) 955-7551.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Carey', is written over a horizontal line.

Jason Carey  
Plant Manager





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October 16, 2018

Mr. Mark Wejksznier  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18711-0790

**RE: Lackawanna Energy Center LLC  
Jessup Borough, Lackawanna County, PA  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Malfunction & Excess Emission Events  
Notice of Completed Corrective Actions**

Dear Mr. Wejksznier:

On June 27, July 27, August 6, and August 31, 2018, the Lackawanna Energy Center LLC (LEC), submitted electronic and hard copy notices to the Pennsylvania Department of Environmental Protection (PADEP) regarding exceedances of the NOx hourly limitation contained in Plan Approval No. 35-00069B, that occurred on Unit 1 at the facility. LEC has completed corrective actions in conjunction with these exceedances. The corrective actions include: logic modifications to the controls of the Ammonia Control Valves (ACV) and operator training & labelling of manual resets. LEC hereby notifies the Department that corrective actions have been completed.

LEC and our vendors believe the modifications to the logic on the ACV of the Selective Catalytic Reduction (SCR) system on Unit #1 have reduced the potential for emissions exceedances when upsets in the system occur. The logic modifications have enabled the ACV to proactively respond to increases in NOx concentrations. Unit #1 has demonstrated compliance with the 2.0 ppm hourly NOx concentration permit limitation throughout operational load changes and/or upsets, since the logic modifications were installed on September 09, 2018, without any emissions exceedances. LEC continues to closely monitor the Continuous Emissions Monitoring System (CEMS) data to observe the ACV operation to ensure that the valve is working as intended, designed and programmed.

On August 29, 2018, Unit 1 experienced an electrical malfunction that caused the SCR blowers to unexpectedly trip, resulting in an exceedance event. Prior to the power failure both SCR blowers "A" and "B" were in normal operation at 80% and 10%, respectfully. The blowers are a redundant system designed to run in a lead-lag configuration. The redundancy of the system was inhibited with the loss of power on the 6.9kV Medium Voltage bus 4, causing



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a loss of power to blower motor "B" and the control panel that feeds both blower motors and duct heaters. The relays that allow the blower motors to start are powered by the control panel. The loss of power to the control panel removed the permissive to run either blower motor at the time of the malfunction. When power was restored to the control panel, the faults on the blower motor drives required a manual reset on each blower. This manual reset did not occur in a timely manner due to other critical systems upsets and recovery operations occurring concurrently throughout the unit.

LEC has conducted training with all operators in the event this scenario occurs again with a focus on taking immediate corrective action. Additionally, the locations of the manual resets have been identified via labels to expedite auxiliary operators to this location to reset the SCR blowers, as quickly as possible.

The Engineering, Procurement and Construction (EPC) contractor is working with vendors to determine if it is feasible to convert this system to a fully redundant system, in the event of a similar power failure.

If you have any questions concerning the corrective action that has been completed, please feel free to call me at (570) 955,7551.

Sincerely,



Jason Carey  
Plant Manager



Invenergy

INSP ID - 2799474

Case File

Lackawanna  
County

October 30, 2018

Mr. Mark Wejksznar  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
Bureau of Air Quality  
2 Public Square  
Wilkes-Barre, PA 18711-0790

RE: Lackawanna Energy Center LLC  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Combustion Turbine #2 (Source ID: 102)  
Auxiliary Boiler (Source ID: 107)  
Excess Emissions Reports

AIR QUALITY

NOV - 2 2018

RECEIVED  
BUREAU OF  
AIR QUALITY  
NOV 2 2018

Dear Mr. Wejksznar:

Pursuant to the reporting requirements of 40 CFR Part 60.7(c), Plan Approval No. 35-00069B, 40 CFR Part 60, Subpart Db, and 40 CFR Part 60, Subpart KKKK, the Lackawanna Energy Center (LEC) is hereby submitting the attached Excess Emissions and CEMS Downtime Reports for CT-1, CT-2 and the Auxiliary Boiler covering the July 1, 2018, through September 30, 2018, monitoring period. The report for CT-2 covers the period September 1 through September 30, 2018, as the CEMS on CT-2 was certified on September 1, 2018.

40 CFR Part 60, Subpart KKKK, sets NOx NSPS emission limits (15 ppm @15% O<sub>2</sub>) on a 30-day rolling average basis for combined cycle units that are applicable to the Lackawanna Energy Center. In addition, 40 CFR Part 60, Subpart Db sets NOx NSPS emission limits (0.20 lb/MMBtu) on a 30-day rolling average basis that are applicable to the Auxiliary Boiler. The NSPS limit was used for determining any NOx excess emissions from CT-1 and CT-2. The NSPS and plan approval limits were used for determining any NOx excess emissions from the Auxiliary Boiler, on the attached reports.

Subpart KKKK also sets an SO<sub>2</sub> limit; however, as allowed by 60.4365(a) of Subpart KKKK, LEC is exempt from those monitoring requirements because it has contractual guarantees specifying a maximum total sulfur content of 20 grains or less per 100 standard cubic feet for natural gas. Therefore, excess emission reports for SO<sub>2</sub> are not included as part of this report.





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When the Department has granted Phase 3 approval for the CEMS at LEC, LEC will include the attached reports with the quarterly EDR submissions.

If you have any questions concerning this report, please contact me at (570) 955-7551 or via email at [JCarey@invenergyllc.com](mailto:JCarey@invenergyllc.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Carey', with a long horizontal flourish extending to the right.

Jason Carey  
Plant Manager

Encl.

Cc: USEPA Region 3  
Associate Director Office of Enforcement and Compliance Assistance (3AP20)  
1650 Arch Street  
Philadelphia, PA 19103-2029

**Summary Report  
Emission and Monitoring System Performance**

Reporting dates 7/1/2018 00:00 through 9/30/2018 23:59  
Generated: 10/30/2018 12:10

Process Unit: Auxiliary Boiler  
Pollutant: NOx  
Applicable Federal Standard: 40 CFR Part 60, Subpart Db  
Emission Limit: 0.20 and 0.006 lb/MMBtu - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
Address: 1000 Sunnyside Road, Jessup, PA 18434  
Date of latest CEMS Certification or Audit: April 17, 2018  
Unit Operating Time: 364.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shut Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	5.0
c. Process Problems	0.0	c. Quality Assurance	0.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	5.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	1.37

I certify that the information contained in this report is true, accurate, and complete.

Name: Jason Caxey

Signature: \_\_\_\_\_

Title: Plant Manager

Date: \_\_\_\_\_

**AIR QUALITY**

**NOV - 2 2018**

FACILITY: \_\_\_\_\_  
REPORT IN: \_\_\_\_\_  
COUNTY: \_\_\_\_\_  
FILE NO: \_\_\_\_\_

**Summary Report  
Emission and Monitoring System Performance**

Reporting dates 7/1/2018 00:00 through 9/30/2018 23:59  
Generated: 10/22/2018 09:19

Process Unit: Combustion Turbine #1  
Pollutant: NOx  
Applicable Federal Standard: 40 CFR Part 40, Subpart XXXX  
Emission Limit: 15 ppm @ 15% O<sub>2</sub> - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
Address: 1000 Sunnyside Road, Jessup, PA 18434  
Date of Latest CEMS Certification or Audit: May 22, 2018  
Unit Operating Time: 2163.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shut Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	1.0
c. Process Problems	0.0	c. Quality Assurance	1.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	2.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.09

I certify that the information contained in this report is true, accurate, and complete.

Name: Jason Carey

Signature: \_\_\_\_\_

Title: Plant Manager

Date: \_\_\_\_\_



**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 9/1/2018 16:00 through 9/30/2018 23:59  
 Generated: 10/22/2018 09:24

Process Unit: Combustion Turbine #2  
 Pollutant: SO<sub>2</sub>  
 Applicable Federal Standard: 40 CFR Part 60, Subpart KKKK  
 Emission Limit: 15 ppm @ 15% O<sub>2</sub> - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Suncoast Road, Jessup, PA 18434  
 Date of Latest CMS Certification or Audit: September 1, 2018

Emission Data Summary		CMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CMS downtime in period due to:	
a. Start Up/Shut Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	0.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CMS downtime	0.0
3. Excess emission duration (%)	0.00	3. CMS downtime (%)	0.00

I certify that the information contained in this report is true, accurate, and complete.

Name: Jason Carey

Signature: \_\_\_\_\_

Title: Plant Manager

Date: \_\_\_\_\_



## Invenergy

January 11, 2019

Ms. Michele Keck  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Bureau of Air Quality  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18701

RE: Lackawanna Energy Center LLC  
Jessup Borough, Lackawanna County, PA  
Plan Approval No. 35-000698  
Report of Site Activities on December 23, 2018

Dear Ms. Keck:

On December 23, 2018, the Lackawanna Energy Center, LLC ("LEC"), was operating all three Combustion Turbines (Source ID: 101, 102 and 103) near minimum load to support fuel gas compressor commissioning by Kiewit Power Constructors ("KPC"), the Engineering, Procurement and Construction ("EPC") contractor. The following is a timeline of events that occurred at LEC and, specifically, with the UGI Utilities ("UGI") gas yard, which is located on LEC property but is entirely owned and operated by UGI.

- At 07:01, plant staff began reducing load on all three Combustion Turbines to support the EPC contractor's planned fuel gas compressor testing. Once each Combustion Turbine achieved minimum load, the EPC contractor determined that the fuel gas pressure was too high to support the fuel gas compressor testing. The EPC contractor requested that the fuel gas supply pressure to the LEC facility be reduced, to engage the fuel gas compressors and initiate testing of the system.
- At 08:02, LEC operations placed the LEC Pressure Control Valve (PCV) in manual and began closing the valve in small increments from 87% open to 27% open, thus, reducing the incoming fuel gas pressure from 598 to 474 psi.

Unknown to the LEC operator at the time, UGI station outlet pressure began to fluctuate as LEC's PCV continued to close from approximately 33% open to 27% open.



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The fluctuations in fuel gas pressure became increasingly turbulent as the PCV position was reduced to 27% open.

- At 08:07, fuel gas pressure stabilization was attained to start the fuel gas compressor testing. UGI gas yard outlet pressure continued to fluctuate. Within one (1) minute of achieving the desired set point of the LEC PCV, the UGI fuel gas pressure fluctuations dropped the LEC fuel gas pressure from 474 to 439 psi.
- At 08:08, when the UGI fuel gas pressure to the LEC facility dropped below 440 psi, the LEC Emergency Shut-Off Valve closed automatically.
- At 08:09, due to the rapid closing of LEC Emergency Shut-Off Valve, UGI's station outlet pressure rapidly increased causing UGI's south pressure relief valve to lift at the set pressure of 670 psi. The south pressure relief valve worked as designed and protected the pipeline from over pressurizing.

LEC operators attempted to maintain gas flow to the on-line generating units by opening the LEC bypass valve around the LEC Emergency Shut-Off Valve. However, adequate fuel gas pressure to the LEC facility could not be maintained due to the UGI pressure relief valve venting. And as a result, LEC's three Combustion Turbines were safely shutdown.

- From 08:09 to approximately 08:50, the UGI south pressure relief valve continued to vent to atmosphere.
- At 8:50, UGI arrived on site and shut down their station by closing the station inlet valve, this isolated the station from the gas supply and the relief stopped venting.
- Following the inspection, UGI's gas yard was re-pressurized. During re-pressurization, the north pressure relief valve, began to slightly lift and would not reseal.
- At approximately 12:30, UGI began rebuilding the north pressure relief valve, completing the work at 15:39. The pressure relief valve was tested and placed back into service. Following that, LEC personnel began restoring gas pressure to the facility.

The release of gas pressure through the pressure relief valve generated high noise levels at the site and raised concerns from area residents, which prompted the Jessup Police and Fire Departments to respond to the site during the event (no lights or sirens).





## Invenergy

Invenergy, UGI Utilities, Kiewit and Atlas Copco (Fuel Gas Compressor Manufacturer) conducted a productive meeting on January 2, 2019, to discuss the events that occurred on December 23, 2018. During that meeting, the group developed a mitigation plan and identified appropriate corrective action. On a forward going basis, to the extent that testing or maintenance activities may affect gas delivery systems, Invenergy and UGI will plan and coordinate operational protocols in advance. Some corrective actions will be enacted quickly while other corrective actions will take some time to design, thoroughly review, and implement.

While the event posed no danger to the community, Invenergy and UGI Utilities do recognize that the event that occurred on December 23, 2018, was an upsetting experience for the general public. The collaborative team is working to improve the gas distribution system at the LEC facility and to reduce the potential for this unlikely scenario to reoccur.

If you have any questions concerning the corrective action that has been completed, please feel free to call me at (570) 955-7551.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Carey', is written over a horizontal line.

Jason Carey  
Plant Manager



Invenenergy

NSP ID - 2830823

Case File  
Lackawanna  
County

January 28, 2019

Mr. Mark Wejksznier  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
Bureau of Air Quality  
2 Public Square  
Wilkes-Barre, PA 18711-0790

AIR QUALITY

FEB - 4 2019

FACILITY: \_\_\_\_\_  
PERMIT #: \_\_\_\_\_  
COUNTY: \_\_\_\_\_  
FILE CODE: \_\_\_\_\_

RE: Lackawanna Energy Center LLC  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Combustion Turbine #2 (Source ID: 102)  
Combustion Turbine #3 (Source ID: 103)  
Auxiliary Boiler (Source ID: 107)  
Excess Emissions Reports

Dear Mr. Wejksznier:

Pursuant to the reporting requirements of 40 CFR Part 60.7(c), Plan Approval No. 35-00069B, 40 CFR Part 60, Subpart Db, and 40 CFR Part 60, Subpart KKKK, the Lackawanna Energy Center (LEC) is hereby submitting the attached Excess Emissions and CEMS Downtime Reports for CT-1, CT-2, CT-3, and the Auxiliary Boiler covering October 1, 2018, through December 31, 2018, monitoring period. The report for CT-3 covers the period November 10 through December 31, 2018, as the CEMS on CT-3 was certified on November 10, 2018.

40 CFR Part 60, Subpart KKKK, sets NOx NSPS emission limits (15 ppm @15% O<sub>2</sub>) on a 30-day rolling average basis for combined cycle units that are applicable to the Lackawanna County Energy Center. In addition, 40 CFR Part 60, Subpart Db sets NOx NSPS emission limits (0.10 lb/MMBtu) on a 30-day rolling average basis that are applicable to the Auxiliary Boiler. The NSPS limit was used for determining any NOx excess emissions from CT-1 and CT-2. The NSPS and plan approval limits were used for determining any NOx excess emissions from the Auxiliary Boiler, on the attached reports.

Subpart KKKK also sets an SO<sub>2</sub> limit; however, as allowed by 60.4365(a) of Subpart KKKK, LEC is exempt from those monitoring requirements because it has contractual guarantees specifying a maximum total sulfur content of 20 grains or less per 100 standard cubic feet for natural gas. Therefore, excess emission reports for SO<sub>2</sub> are not included as part of this report.



# Invenergy

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When the Department has granted Phase 3 approval for the CEMS at LEC, LEC will include the attached reports with the quarterly EDR submissions.

If you have any questions concerning this report, please contact me at (570) 955-7551 or via email at [JCarey@invenergyllc.com](mailto:JCarey@invenergyllc.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Carey', followed by a long horizontal line.

Jason Carey  
Plant Manager

Encl.

Cc: USEPA Region 3  
Associate Director Office of Enforcement and Compliance Assistance (3AP20)  
1650 Arch Street  
Philadelphia, PA 19103-2029



**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 10/1/2018 00:00 through 12/31/2018 23:59  
 Generated: 1/23/2019 13:38

Process Unit: Combustion Turbine #1  
 Pollutant: NOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart XXXX  
 Emission Limit: 15 ppm & 15% O<sub>2</sub> - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 18434  
 Date of Latest CEMS Certification or Audit: May 22, 2018  
 Unit Operating Time: 1255.6 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shut Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	1.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	1.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.08

**AIR QUALITY**

**FEB - 4 2019**

FACILITY: \_\_\_\_\_  
 PERMIT #: \_\_\_\_\_  
 COUNTY: \_\_\_\_\_  
 FILE CODE: \_\_\_\_\_

**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 10/1/2018 00:00 through 12/31/2018 23:59  
 Generated: 1/15/2019 13:40

Process Unit: Combustion Turbine #2  
 Pollutant: NOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart XXXX  
 Emission Limit: 15 ppm @ 15% O<sub>2</sub> - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 18434  
 Date of Latest CEMS Certification or Audit: September 1, 2018  
 Unit Operating Time: 1864.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shutdown	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	1.0
c. Process Problems	0.0	c. Quality Assurance	2.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	5.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	8.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.43

**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 11/10/2018 00:00 through 12/31/2018 23:59  
 Generated: 1/23/2019 13:43

Process Unit: Combustion Turbine #3  
 Pollutant: NOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart KKKK  
 Emission Limit: 15 ppm @ 15% O<sub>2</sub> - 30 Day Rolling Average  
 Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 18434  
 Date of Latest CEMS Certification or Audit: November 10, 2018  
 Unit Operating Time: 482.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shut Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	1.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	1.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.15



**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 10/1/2018 00:00 through 12/31/2018 23:59  
 Generated: 1/23/2019 13:44

Process Unit: Auxiliary Boiler  
 Pollutant: SOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart Db  
 Emission Limit: 0.10 and 0.004 lb/MMBtu - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 18434  
 Date of Latest CEMS Certification or Audit: April 17, 2018  
 Unit Operating Time: 331.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shut Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	1.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	1.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.30



# Invenergy

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*Sent via Email*

February 4, 2019

Mr. Mark Wejksznier  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
2 Public Square  
Wilkes-Barre, PA 18711-0790

**RE: Lackawanna Energy Center LLC  
Jessup Borough, Lackawanna County, PA  
Plan Approval No. 35-00069B  
Combustion Turbine #2 (Source ID: 102)  
Report of Malfunction & Excess Emission**

Dear Mr. Wejksznier:

In accordance with Section C, Condition #019 (d) of Plan Approval No. 35-00069B, the Lackawanna Energy Center LLC (LEC) is hereby providing a report of a malfunction, that occurred during the 19:00 hour on January 28, 2019, which resulted in the emissions from Combustion Turbine #2 (Source ID: 102) exceeding the NOx hourly permit limitations (2.0 ppm @15% O2 and 24.1 lb/hr) contained in the Plan Approval referenced above.

The following is a summary of the pertinent information related to this emissions exceedance:

**Facility:** Lackawanna Energy Center LLC.  
**Source:** Combustion Turbine #2 (Source ID: 102)  
**Date:** January 28, 2019.  
**Time:** 19:00 hour. (15 Minutes of Exceedance)  
**Emissions:** NOx – 2.1 ppm @15% O2 and 25.59 lb/hr  
**Limit:** NOx – 2.0 ppm @15% O2 and 24.1 lb/hr  
**Cause:** A malfunction occurred when the Selective Catalytic Reduction (SCR) inlet NOx analyzer on the ammonia injection control system failed. The failed NOx analyzer caused the predicted logic calculations to reduce the flow of ammonia into the SCR System, resulting in a significant upset of the NOx concentration in the Unit #2 Heat Recovery Steam Generator (HRSG). The reduced ammonia flow into the SCR, immediately caused elevated NOx concentrations, above the 2.0 ppm @15% O2 NOx permit limitation. Elevated NOx emissions concentrations persisted for approximately 15 minutes during the 19:00 hour.



## Invenergy

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**Preventative Measures:** Upon identifying the NOx analyzer failure, a Control Room Operator (CRO) immediately took manual control of the ammonia injection control system in an attempt to lower NOx emissions below the 2.0 PPM hourly permit average limitation. The CRO was able to regain NOx emissions compliance within 15 minutes of identifying the equipment malfunction. Corrective action was taken but sufficient time was not available to bring the NOx hourly average in compliance with the 1-hour NOx permit limitation of 2.0 ppm @15% O2 NOx. NOx emissions averaged 2.1 ppm@ 15% O2 for the 19:00 hour.

**Corrective Action:** The failed SCR Inlet NOx analyzer has been repaired and returned to service. A review of the DCS control logic indicates that a NOx analyzer fault signal was not received by the DCS when the NOx analyzer failed. The DCS control logic is configured to use the stack NOx concentrations to control ammonia flow when an inlet analyzer fails. LEC is working with the vendor to determine if a signal can be sent to the DCS when a NOx analyzer failure occurs.

If you have any questions concerning this exceedance, please feel free to call me at (570) 955-7551.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jason Carey', is written over a horizontal line.

Jason Carey  
Plant Manager

Cc: Michele Keck, Air Quality Department  
Chris Ostrowski, Air Quality Department





Invenergy

INSPID-2880578

Case File  
Lackawanna  
County

April 26, 2019

AIR QUALITY

APR 30 2019

Mr. Mark Wejksznar  
Commonwealth of Pennsylvania  
Department of Environmental Protection  
Northeast Regional Office  
Bureau of Air Quality  
2 Public Square  
Wilkes-Barre, PA 18711-0790

FACILITY: \_\_\_\_\_  
PERMIT #: \_\_\_\_\_  
COUNTY: \_\_\_\_\_  
FILE CODE: \_\_\_\_\_

RE: Lackawanna Energy Center LLC  
Plan Approval No. 35-00069B  
Combustion Turbine #1 (Source ID: 101)  
Combustion Turbine #2 (Source ID: 102)  
Combustion Turbine #3 (Source ID: 103)  
Auxiliary Boiler (Source ID: 107)  
Excess Emissions Reports

Dear Mr. Wejksznar:

Pursuant to the reporting requirements of 40 CFR Part 60.7(c), Plan Approval No. 35-00069B, 40 CFR Part 60, Subpart Db, and 40 CFR Part 60, Subpart KKKK, the Lackawanna Energy Center (LEC) is hereby submitting the attached Excess Emissions and CEMS Downtime Reports for CT-1, CT-2, CT-3, and the Auxiliary Boiler covering the January 1, 2019, through March 31, 2019, monitoring period.

40 CFR Part 60, Subpart KKKK, sets NOx NSPS emission limits (15 ppm @15% O<sub>2</sub>) on a 30-day rolling average basis for combined cycle units that are applicable to the Lackawanna County Energy Center. In addition, 40 CFR Part 60, Subpart Db sets NOx NSPS emission limits (0.10 lb/MMBtu) on a 30-day rolling average basis that are applicable to the Auxiliary Boiler. The NSPS limit was used for determining any NOx excess emissions from CT-1, CT-2 and CT-3. The NSPS and plan approval limits were used for determining any NOx excess emissions from the Auxiliary Boiler, on the attached reports.

Subpart KKKK also sets an SO<sub>2</sub> limit; however, as allowed by 60.4365(a) of Subpart KKKK, LEC is exempt from those monitoring requirements because it has contractual guarantees specifying a maximum total sulfur content of 20 grains or less per 100 standard cubic feet for natural gas. Therefore, excess emission reports for SO<sub>2</sub> are not included as part of this report.

When the Department has granted Phase 3 approval for the CEMS at LEC, LEC will include the attached reports with the quarterly EDR submissions.



# Invenergy

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If you have any questions concerning this report, please contact me at (570) 955-7551 or via email at [JCarey@invenergylle.com](mailto:JCarey@invenergylle.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Carey', with a long horizontal line extending to the right.

Jason Carey  
Plant Manager

Encl.

Cc: USEPA Region 3  
Associate Director Office of Enforcement and Compliance Assistance (3AP20)  
1650 Arch Street  
Philadelphia, PA 19103-2029

**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 1/1/2019 00:00 through 3/31/2019 23:59  
 Generated: 4/22/2019 09:22

Process Unit: Auxiliary Boiler  
 Pollutant: NOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart Db  
 Emission Limit: 0.10 and 0.006 lb/MMBtu - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 18434  
 Date of latest CMS Certification or Audit: April 17, 2018  
 Unit Operating Time: 322.0 hours

Emission Data Summary		CMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CMS Downtime in period due to:	
a. Start Up/Shutdown	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	6.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CMS downtime	6.0
3. Excess emission duration (%)	0.00	3. CMS downtime (%)	1.86

**AIR QUALITY**

**APR 30 2019**

FACILITY: \_\_\_\_\_  
 PERMIT #: \_\_\_\_\_  
 COUNTY: \_\_\_\_\_  
 FILE CODE: \_\_\_\_\_



**Summary Report  
Emission and Monitoring System Performance**

Reporting dates 1/1/2019 00:00 through 3/31/2019 23:59  
Generated: 4/22/2019 08:15

Process Unit: Combustion Turbine #1  
Pollutant: NOx  
Applicable Federal Standard: 40 CFR Part 60, Subpart KKKK  
Emission Limit: 15 ppm ± 15% O<sub>2</sub> - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
Address: 1000 Sunnyside Road, Jessup, PA 18434  
Date of Latest CEMS Certification or Audit: May 22, 2018  
Unit Operating Time: 2013.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shot Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	1.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	1.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.05

**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 1/1/2019 00:00 through 3/31/2019 23:59  
 Generated: 4/22/2019 06:18

Process Unit: Combustion Turbine #1  
 Pollutant: NOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart KKKK  
 Emission limit: 15 ppm & 16% O<sub>2</sub> - 30 Day Rolling Average

Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, VA 14434  
 Date of Latest CEMS Certification or Audit: September 1, 2018  
 Unit Operating Time: 1902.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shut Down	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	2.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	2.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	4.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.21

**Summary Report**  
**Emission and Monitoring System Performance**

Reporting dates 1/1/2019 00:00 through 3/31/2019 23:59  
 Generated: 4/22/2019 08:19

Process Unit: Combustion Turbine #3  
 Pollutant: NOx  
 Applicable Federal Standard: 40 CFR Part 60, Subpart KKKK  
 Emission Limit: 15 ppm & 15% O<sub>2</sub> - 30 Day Rolling Average  
 Company Name: Lackawanna Energy Center  
 Address: 1000 Sunnyside Road, Jessup, PA 18434  
 Date of latest CEMS Certification or Audit: November 10, 2018  
 Unit Operating Time: 2090.0 hours

Emission Data Summary		CEMS Downtime Summary	
1. Duration of excess emissions in period due to:		1. Duration of CEMS downtime in period due to:	
a. Start Up/Shutdown	0.0	a. Monitoring Equipment Malfunction	0.0
b. Control Equipment Failure	0.0	b. Non-Monitoring Equipment Malfunction	0.0
c. Process Problems	0.0	c. Quality Assurance	4.0
d. Other Known Excess Emissions Cause	0.0	d. Other Known Monitor Downtime Cause	0.0
e. Unknown Excess Emissions Cause	0.0	e. Unknown Monitor Downtime Cause	0.0
2. Total duration of excess emission	0.0	2. Total duration of CEMS downtime	4.0
3. Excess emission duration (%)	0.00	3. CEMS downtime (%)	0.19