



NEW JERSEY ENVIRONMENTAL JUSTICE ALLIANCE

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Joel Leon, Air Quality Division, New Jersey DEP

October 29, 2024

RE: Comments on the Passaic Valley Sewerage Commission

Standby Power Generation Facility Project; Program Interest ID No. 07329; BOP 190004;
AO 2021-25 Compliance Statement

Dear Mr. Greener,

On behalf of the New Jersey Environmental Justice Alliance (NJEJA), we respectfully submit these comments in order to highlight our deep opposition to the tentative decision to approve the Title V air permit for the Passaic Valley Sewerage Commission (PVSC).

These comments are intended to bring additional support to the comments made at the hybrid public hearing which demonstrate widespread lack of support for the permit modification and proposal presented by PVSC. As has been stated, the proposal includes the development of an additional power plant designed to offer support to the plant in emergency situations when sourcing electricity from the grid is not an option. Although we fully understand the necessity of emergency planning, especially in the context of a changing climate and increasing climate disaster risk, we offer further information and analysis to demonstrate that the current proposal is not adequate, nor is it safe for residents of the Ironbound.

In all, we will speak to the concerns regarding the proposed additional power plant, including negative associated health implications, community contexts, opposition to the inclusion of hydrogen co-firing, and better alternatives to explore.

Background on the New Jersey Environmental Justice Alliance

For 22 years the New Jersey Environmental Justice Alliance¹ (NJEJA) has served as the only statewide organization in New Jersey that is exclusively dedicated to environmental justice work. Our board, staff, and membership are predominantly people Of Color, and our work centers around the principles of environmental justice. We have trained and mobilized other environmental justice (EJ) and social justice organizations as well as individuals and communities across the state. We have also partnered with EJ organizations across the nation in order to positively impact the quality of life and opportunities for EJ communities (low-income communities and communities Of Color). We recognize that the communities we serve have often faced disproportionate burdens as a result of longstanding systemically racist practices at all levels of governance. We submit these comments as part of our ongoing work to decrease local air pollution, mitigate the harms of climate change, advocate for EJ communities, and push New Jersey towards a path that is more equitable and just for all residents regardless of where they live, work, love, pray, or play.

Proposed New Power Plant Air Pollution Emissions

As highlighted in the Statement of Basis, the permit modification includes installation of three natural gas-fired turbine generators, two natural-gas fired emergency black start generators and two diesel-fired emergency fire pump engines.² Additionally, Statement of Basis Table 2 highlights a usage of 5% H₂ in CTG fuel, which we understand to mean hydrogen blending.

Altogether, this permit modification would increase total CO₂e total emissions by 23,000 tons per year as well as increase all other emissions types (VOC, NO_x, CO, SO₂, TSP, PM₁₀, PM_{2.5}, Pb and HAPs).

As we have highlighted in previous comments to the DEP (2022)³ and other agencies, an environmental justice lens asks for consideration not just for CO₂ and greenhouse gas (GHG) emissions reductions, but to consider and prioritize reducing local air pollutant emissions as well. The effects of local air pollution and health-harming emissions are well documented and understood. The U.S. Environmental Protection Agency (EPA) has made

¹ The NJEJA mission statement reads as follows: “The New Jersey Environmental Justice Alliance is an alliance of New Jersey-based organizations and individuals working together to identify, prevent, and reduce and/or eliminate environmental injustices that exist in communities of color and low-income communities. NJEJA will support community efforts to remediate and rebuild impacted neighborhoods, using the community’s vision of improvement, through education, advocacy, the review and promulgation of public policies, training, and through organizing and technical assistance.”

² See PVSC Statement of Basis

<https://dep.nj.gov/wp-content/uploads/boss/public-notices/07349-bop210002-statementofbasis.pdf>

³ Comments in 2022 were addressed to Mr. John Rotolo and addressed our opposition to an additional power plant in Newark. Our comments addressed our concerns regarding cumulative impacts and potential air emissions increases.

visible a lengthy list of health impacts as a result of dangerous GHG co-pollutants.

- At very high levels, carbon monoxide can lead to dizziness, confusion, loss of consciousness and even death. Although these levels are unlikely outdoors, elevated outdoor concentrations of carbon monoxide can be dangerous for individuals with certain types of heart disease.⁴
- Sulfur dioxide can lead to difficulty breathing and lead to risk/danger for individuals with asthma.⁵ Furthermore, sulfur dioxide can contribute to the formation of fine particulate matter (PM) which has been causally connected to detrimental cardiovascular, respiratory, and nervous system impacts, as well as cancer and mortality.⁶ PM10 can detrimentally affect the heart and lungs⁶ in any individual.
- Nitrogen dioxide can make breathing difficult, lead to asthma and also contribute to the formation of fine particulate matter..⁷
- Volatile organic carbons have been known to irritate the eyes, nose, and throat, as well as cause kidney and liver damage.⁸

There is a clear nexus between air pollution and health, as such it is incumbent upon the NJDEP to ensure that permit modifications which could increase emission levels are not approved unless strictly necessary and dire. In these instances, in accordance with the spirit of the landmark New Jersey Environmental Justice Law, the DEP must establish stringent limitations and ensure that all measures to reduce emissions have been considered and taken, including the implementation of energy efficiency, battery storage, and co-location of renewable energy. However, even with limitations, new permits should not be approved in overburdened EJ communities, such as Newark. As will be highlighted below, these proposed permit modifications cannot and should not be approved as emissions of toxic air pollutants are an unacceptable health risk to the residents of the Ironbound and the Newark area, especially when also considering the additional risk of multiple other sources of air pollution concentrated in the area.

Community Context: Cumulative Impacts and the Environmental Justice Law

When considering the proposal for an additional power plant - even one designed to run for short periods of time and in emergency situations - it is imperative that the DEP consider the additional emissions burden that will be placed on an already overburdened area. This

⁴ See the EPA <https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#Effects>.

⁵ See the EPA website at <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics#effects>.

⁶ See the EPA website at <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter> pm.

⁷ For an excellent review of the health impacts of fine particulate matter see Reconsideration of the NAAQS for PM, 88 Fed. Reg. 5558 (proposed Jan. 27, 2023) (to be codified at 40 C.F.R. pt. 50, 53, and 58). See also the EPA website at <https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects>.

⁸ See the Minnesota Pollution Control Agency website at <https://www.pca.state.mn.us/air/volatile-organic-compounds-vocs>.

imperative can be understood through the context of cumulative impacts analysis.

As highlighted in previous comments submitted by NJEJA, “A formal definition for cumulative impacts that has been embraced by the New Jersey EJ community is the following:

*“The risks and impacts caused by multiple pollutants, both individually and when they interact with each other and any social vulnerabilities that exist in a community. The pollutants are usually emitted by multiple sources that are sited within a community.”*⁹

In the state of New Jersey, the importance of cumulative impacts¹⁰ has been highlighted through the landmark 2020 New Jersey Environmental Justice Law¹¹ (EJ Law) which requires “DEP to evaluate environmental and public health impacts of certain facilities on overburdened communities (OBCs) when reviewing certain applications [and requiring] denials for new facilities that cannot avoid disproportionate impacts on OBCs or serve compelling public interest.”¹² Approval of this permit is in clear contradiction with the principles and requirements of the EJ Law. First, and foremost, the plant would be located in an area already overburdened with industry, air emissions, and air pollution. The Newark community is a predominantly Black and Brown working-class community which has been marked as an EJ community by the NJDEP Environmental Justice map and currently ranks at approximately the 90th percentile for New Jersey indicators of environmental burden. Furthermore, the proposed facility site would be placed in a census block which is currently home to 22 of the 26 DEP stressors and directly next to a census block that is positive for 21 of the 26 stressors.

⁹ For other definitions of cumulative impacts that are similar but different than the one offered here see *Cumulative Impacts: Building a Scientific Foundation*, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY, at 3 (2010); *Ensuring Risk Reduction In Communities With Multiple Stressors: Environmental Justice and Cumulative, Risks/Impacts*, NATIONAL ENVIRONMENTAL JUSTICE ADVISORY COUNCIL, at 5 (2004).

¹⁰ See NJEJA’s Cumulative Impacts basic primer https://njeja.org/wp-content/uploads/2023/11/Cumulative-Impacts-Basic-Primer_English.pdf.

¹¹ See NJEJA’s One-Pager on the NJ EJ Law <https://njeja.org/wp-content/uploads/2023/11/NJEJA-EJ-Law-One-Pager.pdf>.

¹² See NJDEP website at <https://dep.nj.gov/ej/law/>.

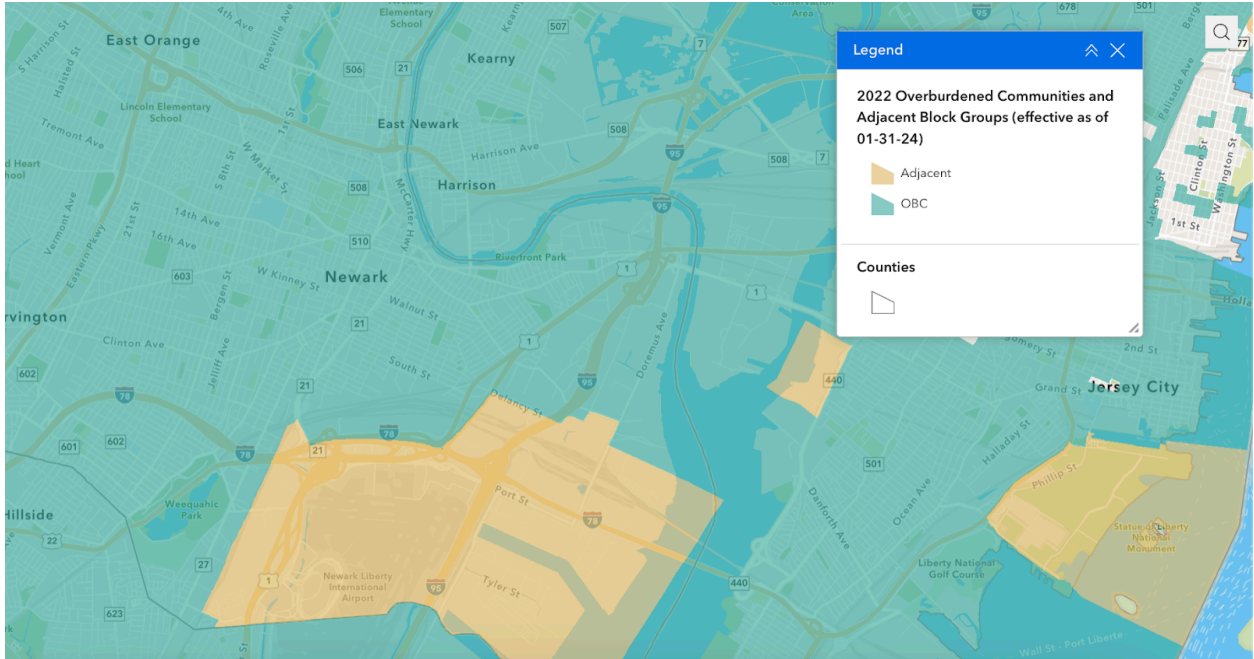


Image of the NJ DEP EJ Map depicting Newark and the surrounding area demonstrating it's classification as an overburdened community (OBC).

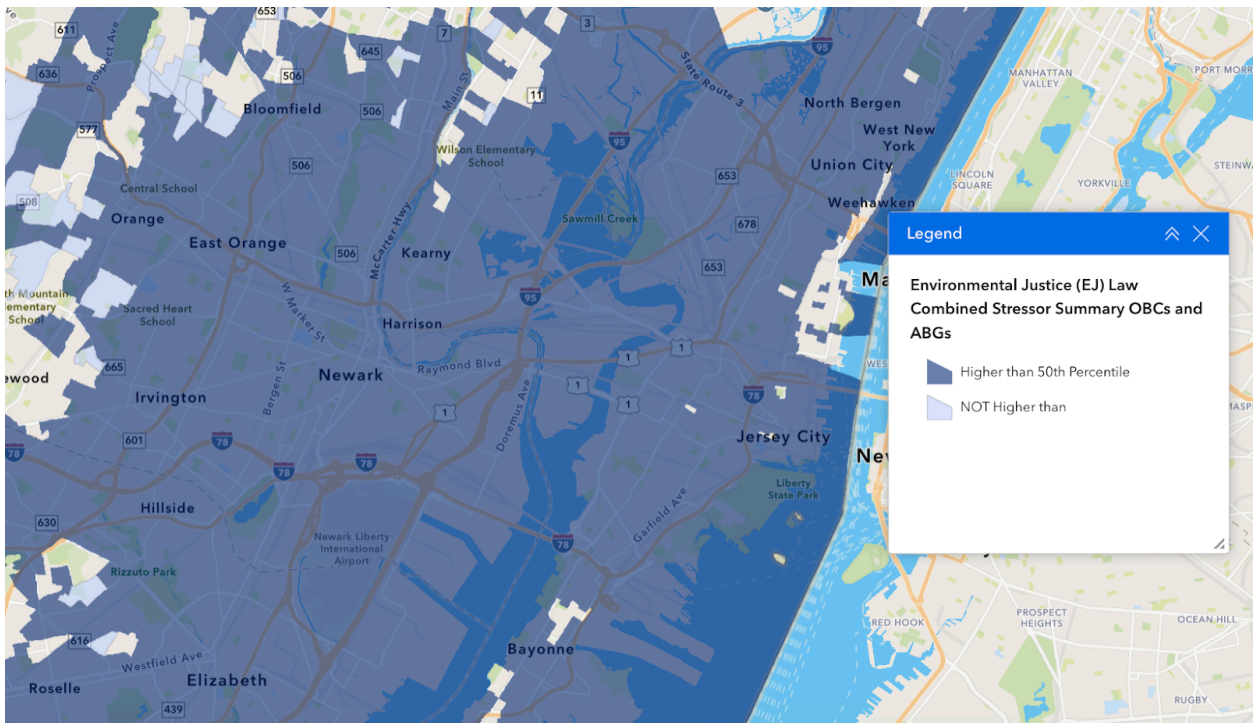


Image of the NJ DEP EJ Map depicting Newark and the surrounding area showing that the areas are higher than the 50th percentile for EJ Law combined stressors.

To place another facility in an area that is densely populated by permitted air pollution sites would not only bring about additional environmental and health risks for the community, but stand directly in contradiction with DEP's outlined goals of environmental justice and XX with the EJ Law. Although the permit modification would argue that facility changes have been designed to mitigate emissions levels, VOCs, HAPs, CO, NO_x, SO_x, and PM will all still increase compared to current operations.

Therefore, in the interest of ensuring cleaner air, honoring community opposition, and implementing feasible alternatives, the DEP must deny this permit application.

Identifying Unsuitable Solutions: Hydrogen Co-Firing

In addition to the cumulative impacts issue that demonstrates the necessity of denying this permit, we are gravely concerned about the inclusion of hydrogen co-firing as a tactic for emissions reductions.

Under the terms of the permit, PVSC would be required to utilize hydrogen or a feasible renewable energy source.¹³ We should not abide the usage of hydrogen in the power sector as it poses a significant and substantial health and safety risk to workers and host communities. As referenced in a paper co-written by NJEJA with partners at the New School, Kean University, and the Center for Earth, Energy, and Democracy, hydrogen co-firing is not a suitable replacement for natural gas nor is it a "green", "clean", or "renewable" source of energy by any means.¹⁴

Evidence shows that combusting hydrogen could substantially increase NO_x emissions by about 6x as much compared to a gas-fired power plant.¹⁵ Although proponents of hydrogen will claim that co-firing has a potential to lower carbon emissions, it is critical to note that NO_x is a precursor to fine particulate matter as well as ozone¹⁶ which is a greenhouse gas and contributor to climate change. Furthermore, we question PVSC's ability to safely procure, transport, and store the amount of hydrogen fuel necessary to contribute to powering the emergency plant. With this, there is no guarantee that the utilization of hydrogen would be reliable or ready in an emergency situation and therefore should not be considered an appropriate solution to the problem at hand.

In addition to the emissions risks, hydrogen explosions put workers and surrounding

¹³ See NJDEP EJ decision re PVSC back up power plan

<https://dep.nj.gov/wp-content/uploads/ej/ej-decision-pvsc-backup-power-facility-20240718.pdf>

¹⁴ See NJEJA's report <https://njeja.org/wp-content/uploads/2024/07/CCS-EJ-White-Paper.pdf>.

¹⁵ See Earthjustice online report <https://earthjustice.org/feature/green-hydrogen-renewable-zero-emission>.

¹⁶ See EPA's website at

<https://www.epa.gov/no2-pollution/basic-information-about-no2#:~:text=People%20with%20asthma%2C%20as%20well,the%20national%20NO2%20standards>.

communities at risk as hydrogen fires burn hotter and brighter than methane. A recent example of this occurred at the end of September 2024 in Louisiana where two workers at a Chevron plant were airlifted from the facility and transported to the nearest hospital after a hydrogen explosion occurred at the plant.¹⁷ All of these risks speak little to the infrastructure needed to safely create, transport, and store hydrogen fuel which would require extensive retrofitting at the plant and infrastructural development, which would waste valuable funds in an already expensive project proposal. These funds could be better directed to safer alternatives as will be highlighted in the section below.

Better Alternatives

In absence of hydrogen co-firing and an additional gas-fired power plant, we suggest utilization of solar power and battery storage to meet the needs of the facility in an emergency situation. Although PVSC claims that these options will not be able to provide the necessary 34 MW of energy for 14 consecutive days, this assertion dismisses key components of historical examples demonstrating energy needs in emergencies.

During Hurricane Sandy, PVSC saw a two day power outage, significantly shorter than the proposed need of two weeks. Therefore, PVSC cannot assume they need self-sustaining full power back-up for an entire of two weeks. Additionally, the permit proposal claims a need of 34 MW, but PVSC has historically seen an average use of 23 MW of power.¹⁸ Once again, the need has been over-inflated and estimates of 34 are incorrect.

With this in mind, it is critical to revisit the potential to utilize battery storage and solar power. A gas power plant will take longer to ramp up to full power, which could be dire and costly in emergency scenarios. Indeed, FEMA has articulated a concern with reliance on natural gas as a form of emergency power.¹⁹ Instead, batteries can operate as nearly instantaneous power sources which could prove indispensable if needed. Additionally, gas power plants are risky in storm and hurricane conditions as pipelines can be interrupted. Again, looking at Hurricane Sandy's historical example, New Jersey Natural gas shut off service to some customers for nearly a month after the storm.²⁰ An on-site battery would not experience this delay, but instead provide reliable energy not dependent on external factors.

¹⁷ See UpstreamOnline

<https://www.upstreamonline.com/safety/two-workers-airlifted-to-hospital-after-reported-hydrogen-gas-explosion-at-chevron-plant/2-1-1713666>.

¹⁸ See NJDEP EJ decision re PVSC back up power plan

<https://dep.nj.gov/wp-content/uploads/ej/ej-decision-pvsc-backup-power-facility-20240718.pdf>.

¹⁹ Federal Emergency Management Agency, *Emergency Power Systems for Critical Facilities: A Best Practices Approach to Improving Reliability*, FEMA P-1019, at 5-8 (Sep. 2014),

<https://www.wbdg.org/FFC/DHS/femap1019.pdf>.

²⁰ See NJ.com https://www.nj.com/business/2013/10/underground_but_unprotected_nj.html.

Finally, solar power and battery storage options could prove cost effective and serve as cheaper alternatives than natural gas. While the gas plant could cost up to \$118 million, utilization of solar power and battery storage would cost approximately \$36 million.²¹ This creates a 70% savings for a plant designed only to be used in an emergency situation. A battery and solar power combination would save millions of dollars of ratepayer funds while supporting the development of clean energy infrastructure and decreasing local air pollution.

Necessitating Emissions Reductions Regardless of Additional Construction

In a final note, we believe that it is worth highlighting that the touted emissions reductions strategies are only being offered and potentially employed as a result of the desire to construct an additional power plant. PVSC has asserted that their emissions reductions strategy is more than enough to ensure compliance and a permit approval. However, this argument highlights a key issue: PVSC could and should have already attempted to implement emissions reductions tactics irregardless of their desire to further construct and build an additional power plant. Emissions reductions and decreasing local air pollution is not explicitly connected to or necessitated by additional construction, but an option that should also be explored. In other words, emissions reductions and additional construction are not mutually exclusive. New Jersey residents, especially those who live in already overburdened communities, should not be forced to accept additional health and environmental burdens to receive emissions-reducing investments that could have been implemented separately at any time. Reducing emissions and decreasing local air pollution should be a consistent priority and strategy. Therefore, while we urge the DEP to deny this permit application, we simultaneously call on PVSC to implement emissions reductions strategies as both a strategy to decrease local air pollution, improve public health outcomes and fight climate change.

Conclusion

In all, NJEJA vehemently opposes approval of the proposed permit and construction of an additional power plant in the Ironbound. As discussed, any increase in local air pollution in an already overburdened environmental justice committee cannot be allowed and is not in line with the principles of the landmark EJ Law. Furthermore, a reliance on hydrogen fuel and hydrogen co-firing in the power sector in any capacity is fundamentally in contradiction with the values of environmental justice and puts host communities at substantial risks. Instead, more suitable alternatives should be considered including increased battery storage, energy efficiency strategies, and co-locating renewable energy.

²¹ Expert Report of Bill Powers, Clean Alternative Emergency Power Supply for PVSC (“Powers Report”) (July 1, 2022)

If PVSC truly wants to position themselves as a good neighbor to the residents of the Ironbound and Newark as a whole by decreasing air pollution through emissions reductions, then it should not build the proposed plant, but instead rely on the aforementioned better alternatives including increasing reliance on renewable energy and implementing battery storage options. In all, we assert that it is both concerning and problematic to only hear of the desire for emissions reductions when connected to proposals for new industry which brings along increases in local air pollution and risks exacerbating existing negative health issues throughout the community.

NJEJA welcomes the opportunity to discuss any of these ideas presented in the comments with the State of New Jersey, the Department of Environmental Protection, and the Passaic Valley Sewerage Commission.

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