PA Senate Environmental Resources and Energy Committee
Public Hearing on Grid Reliability, May 1, 2023
Testimony by James Locher, Chief Operating Officer, Key Con LLC

Good morning, Chairman Yaw, Chairwoman Comitta, Members of the Committee:

My name is James Locher and I serve as the Chief Operating Officer of Key Con LLC. The Key Con Project Office manages two large 1,700 MW, essentially identical, coal-fired plants in western PA, the Keystone and Conemaugh Generating Stations, each located approximately 50 miles east of Pittsburgh. The plants, often referred to together as "Key Con," are co-owned by five entities comprised of a group of independent power companies, private equity energy funds and financial investors.

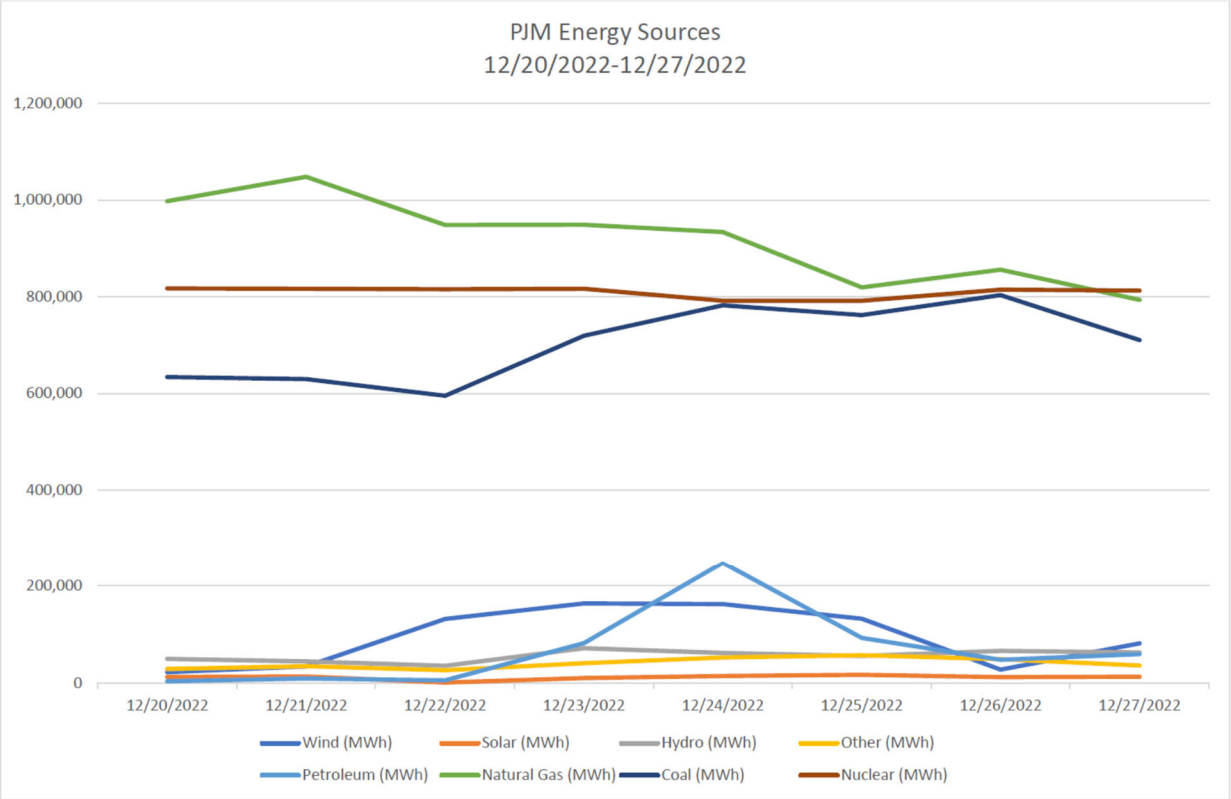
Combined, these two plants represent 3,400 MW of reliable power that is delivered into the PJM interconnect system. They are capable of supplying electricity to nearly 50% of all housing units in the state of Pennsylvania.

The plants are large drivers of economic activity in and around Armstrong and Indiana counties and throughout the Commonwealth of Pennsylvania. The plants represent approximately 250 high paying, highly skilled jobs. The plants generate indirect jobs and business for the mining, transportation, equipment, maintenance, technology and service sectors and have a total estimated annual economic impact of approximately $750M statewide. The plants' contributions to local taxes are critical to the municipalities and school districts where we operate.

Reliability & Resilience

Keystone and Conemaugh have a long history of safe, reliable and sustained performance and operated without fail during the 2022 Winter Storm Elliott event. In fact, across PJM the coal power fleet was a principal source of increased power generation to meet demand during Winter Storm Elliott.

I have included in my remarks, which I will share with the Committee the average daily net generation in PJM by fuel type during the critical week in December 2022 leading up to and through the Winter Storm Elliott event.



Source: US Energy Information Administration, https://www.eia.gov/electricity/gridmonitor/dashboard/electric_overview/US48/US48

As frigid temperatures moved into the region on December 23, coal-fired power plants in PJM increased their electricity output to meet the increased demand.[1]

On the other hand, electric generation from natural gas-fired power plants dropped below 34 GW on December 25 after peaking at 43 GW just four days prior as reduced natural gas availability forced plants to go offline. In response, oil-fired backup generators, which relied on their on-site

[1] See, Operation of the U.S. Power Generation Fleet During Winter Storm Elliott, Energy Ventures Analysis, February 2023. Page 14.

fuel storage, came online and provided over 10 GW of electricity on December 24 to fill the gap left by the natural gas-fired power plants.[2]

Without adequate and comparably reliable replacement capacity accounting for the contributions of Keystone, Conemaugh and other coal fired units, future electric power system failures in PJM are more likely during similar extreme weather events. According to a recent study prepared by Energy Ventures Analysis, entitled, Operation of the U.S. Power Generation Fleet During Winter Storm Elliott, *[a copy of which I will offer to this committee for the record]* the amount of announced coal retirements in PJM exceeds the increase in coal-fired electricity generation during Winter Storm Elliott. Simply put, retiring these power plants without replacing them with comparable long-duration dispatchable capacity will leave PJM increasingly vulnerable to more extensive and prolonged energy emergencies during extreme weather events like Winter Storm Elliott.[3]

Over the past several decades, the plant owners have invested more than $2 billion in Key Con in response to environmental regulation. Wet scrubbers were installed on both plants resulting in sulfur dioxide reductions of greater than 95%. Nitrous oxide control technology systems were installed on both plants resulting in reductions of nitrous oxide emissions of greater than 90%. The combination of these new systems also reduces mercury emissions by more than 98%. State-of-the-art water treatment technology has also been installed at both plants to ensure compliance with all current water discharge permits. Finally, each plant has also constructed on-site captive landfills with double synthetic liner systems to store dry ash. This technology is the safest form of long-term storage for coal combustion byproducts.

[2] Ibid. Page 14.
[3] Ibid. Page 38.

Despite this long history of safety, reliability, and environmental compliance, both plants are facing significant headwinds and their financial viability is in jeopardy. The two existential issues we face today are the current PJM Capacity Market construct and the recent addition of new or pending environmental regulations.

PJM

The PJM Capacity Market is an auction-based market designed to ensure that the PJM network has secured adequate generation resources to meet electricity demand by encouraging plants to use their capacity payments for long term investments and critical maintenance, ensuring the reliability of generation assets and their ability to operate when called upon by PJM to perform. Nevertheless, the PJM Capacity Market is clearly broken as evidenced by the recent Winter Storm Elliott event. Capacity prices have been declining year-over-year. In fact, the PJM capacity market has declined in value from $8.3 billion to $2.2 billion over the past 3 years.[4]

The costs for employees, maintenance, insurance, taxes, stockpiling coal, and plant inventory, etc. are substantial for plants of this size. And as Winter Storm Elliott exposed, the potential penalties for non-performance are so mismatched with actual capacity payments that it creates an untenable risk/reward profile for generators. The recently declared $1.8 billion penalty for just one day in December during Winter Storm Elliott approximates the value of the PJM Capacity Market in an entire year. The capacity market decline is clearly hastening plant closures without regard to the reliability implications. Given the most recent auction clearing price, Key Con cannot remain viable. In fact, using the most recent auction clearing price, Key Con can cover less than 50% of its fixed costs. Finally, the PJM Capacity Market has also been unpredictable for a number of years now. Auctions get delayed, rules revised, and uncertainty prevails. Long-term capital

[4] Electric Power Outlook for Pennsylvania 2021–2026, August 2022 Pennsylvania Public Utility Commission

investments rely upon stable predictable markets. Generators cannot make long-term fuel commitments and future plant investment decisions in this type of uncertain business environment. Ultimately, the market uncertainly requires generators to suboptimize and potentially make decisions that ultimately reduce the reliability of their plants.

Regulatory Challenges

The second area that is currently and prospectively adversely impacting the timing of Key Con plant closures are final and pending new environmental regulations.

The **EPA Effluent Limitation Guidelines (ELG)** rules were passed in 2020. EPA has already recently proposed a revision to the ELG rule that will make compliance even more difficult. Those rules require Key Con to further treat water discharge in a manner that would require an additional $100 million investment. Given the current market uncertainties, and the inability to recover that investment, the Key Con ownership group has chosen not to invest the required $100 million, and therefore has set plant retirement dates of no later than December 2028.

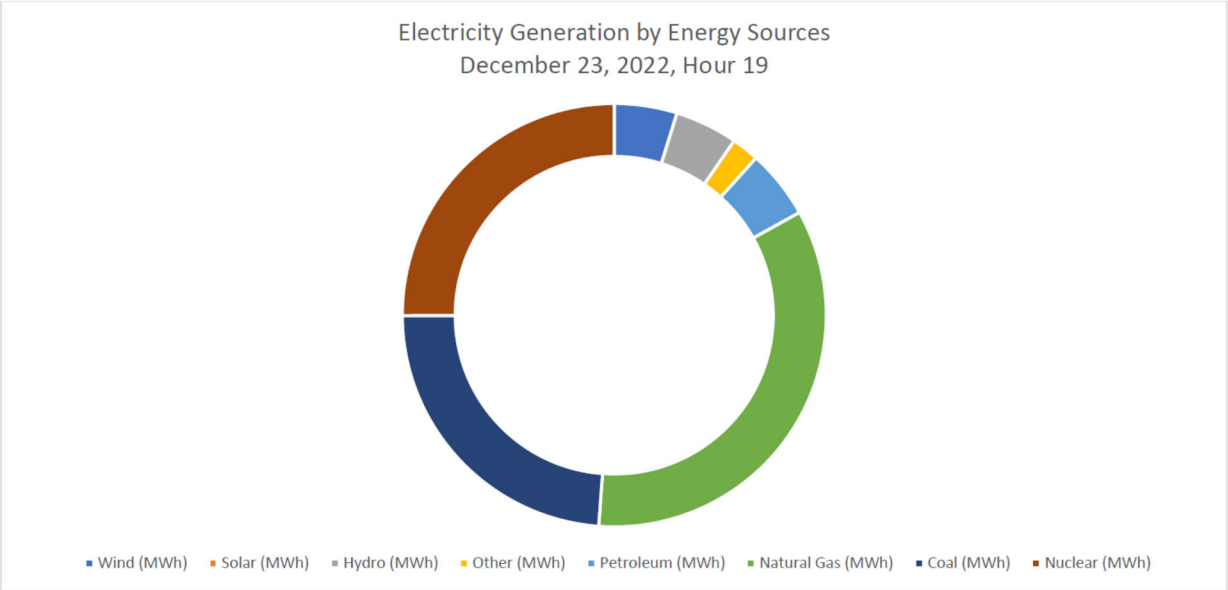
The incorporation of Pennsylvania into the multistate **Regional Greenhouse Gas Initiative ("RGGI")** was initiated by the Pennsylvania Department of Environmental Protection in 2019. The proposed PA RGGI rule, if enacted, would cause Key Con to become uneconomic and would accelerate the 2028 closure date. At current RGGI prices, the Key Con cost of production would increase by more than 33% (at current coal prices). This RGGI adder will most certainly shift market power to non-RGGI generator states in PJM and make the Pennsylvania-based Key Con plants non-competitive in the marketplace, forcing their immediate closure.

We are also faced with other new environmental regulations.

- The new **Cross State Air Pollution Rule (CSAPR) Federal Implementation Plan (FIP)** for nitrous oxides further reduces our permitted limits which will increase the cost of production and decrease plant dispatch flexibility.
- The EPA's **Coal Combustion Residual Waste Rule (CCR)** requires Key Con to spend nearly $10 million to synthetically line ponds that have existing clay liners.
- Pennsylvania is currently proposing more stringent SO2 limits under its **Pennsylvania State Implementation Plan (SIP) for SO2** air quality standards (NAAQS). This rule would also increase our production costs and decrease plant dispatch flexibility.
- Finally, proposed revisions to the Federal **Mercury and Air Toxic Standards (MATS)** rule have just been released and we are still examining the rule. At Key Con the new rule might require that we meet an even lower standard and install additional monitoring equipment at significant operating expense.

Conclusion:

In summary, Key Con has been an extremely reliable and important asset in the PJM system for more than 50 years. Key Con, and coal facilities more generally, recently demonstrated their critical value in maintaining system reliability during the Winter Storm Elliott event. But the current Capacity Market construct and evolving environmental programs will accelerate the closure of these important assets. Nevertheless, we think that it is important for the public to understand the role that these facilities fulfill in this marketplace and the financial and personnel commitment that has been made by our owners and our union work force to achieve and maintain their reliability. Unless they are somehow mitigated or reversed, the headwinds that I have outlined above will not allow Key Con to sustain operations into the immediate future and participate as a reliable bridge to a new energy future.



Wind – 6,507 MWh (4.79%)

Solar – 0 MWh (0%)

Hydro – 6,505 MWh (4.79%)

Other – 2,839 (2.09%)

Petroleum - 7,149 MWh (5.26%)

Natural Gas – 46,502 MWh (34.23%)

Coal - 32,316 MWh (23.79%)

Nuclear – 34,000 MWh (25.00%)

Source: US Energy Information Administration: https://www.eia.gov/electricity/gridmonitor/dashboard/electric_overview/US48/US48

Thank you and I look forward to your questions.