Testimony of

Ramez Ziadeh

Executive Deputy Secretary

Department of Environmental Protection

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Good morning, Chairman Argall and members of the Senate Majority Policy Committee. On behalf of the Department of Environmental Protection (Department), thank you for the opportunity to provide information about the growth of data centers in Pennsylvania.

On June 20, 2025, Governor Josh Shapiro announced that Amazon is planning to invest at least $20 billion to establish multiple high-tech cloud computing and artificial intelligence (AI) innovation campuses across the Commonwealth of Pennsylvania. Salem Township, Luzerne County and Falls Township, Bucks County are some of the first communities identified as sites for these future campuses. Other developers are actively pursuing developing additional sites across Pennsylvania. Our regional office here in northeastern Pennsylvania is tracking about 15 projects with a number of other potential sites across the state. The interest we have been receiving in developing these data centers has been increasing.

At its core, a data center is a secure, purpose-built facility that houses computer servers and networking equipment. These systems store, process, and transmit the digital information that powers modern life—from banking and healthcare to logistics, AI, and public services. In function, a data center is essential infrastructure for the digital economy.

From a land use and development perspective, however, a data center is not unlike many other large-scale commercial or industrial developments. It typically consists of a series of large, box-style buildings, internal access roads, surface parking, stormwater control features and landscaping — comparable in footprint to manufacturing or warehousing clusters. Unlike those uses, though, data centers generate significantly less traffic and typically have lower on-site employment.

What makes data centers unique—and especially relevant from an environmental planning standpoint—is their reliance on two key infrastructure elements: proximity to robust power utilities

to support their substantial energy needs, and access to water resources, often for cooling purposes. These siting requirements make coordination between data center developers, local governments, and environmental agencies critical to ensure sustainable and well-integrated development.

I touched on the substantial energy needs of data centers, and while I will mainly focus on DEP's core role in permitting, it is worth noting that the scale of data development is unprecedented—with some individual facilities under development rivalling the energy usage of whole Pennsylvania cities--and is creating significant new demands on the grid, and as a result, significant consumer costs. PJM's most recent capacity auction closed at a record high, $329 per megawatt day, which translates to over $16 billion in costs for consumers across PJM. PJM itself estimates that had the auction not been subject to a cap negotiated by Governor Shapiro, the cost would have been $3 billion higher, while the Shapiro Administration believes the cost savings could have been more than $8 billion in this auction alone.

These rising price dynamics are primarily caused by the increase in large load data centers. PJM's independent market monitor recently reviewed the results of PJM's most recent capacity auction, and found that without the nearly 8 gigawatts of load growth from planned and existing data centers that were required for the auction, its overall cost would have been roughly $6 billion instead of $16 billion, a 76% decrease. These significant costs, and the supply – demand imbalance that is causing them, requires that we work to bring new energy resources onto the grid, while simultaneously seeking to reduce energy demand through renewed investments in energy efficiency.

Data center development in Pennsylvania typically requires a range of environmental authorizations from the Department of Environmental Protection to be compliant with state and federal laws and regulations. These may include federal Clean Water Act Chapter 102 National Pollutant Discharge Elimination System (NPDES) permits for earth disturbance activities and post-construction stormwater management (PCSM). If the project involves stream crossings or wetland impacts, Chapter 105 Water Obstruction and Encroachment Permits are necessary. Pennsylvania Act 537 Sewage Facilities Planning is required to address sewage disposal needs and accommodate any proposed wastewater discharges. Depending on water use, developers may also need approvals or dockets from the Delaware River Basin Commission (DRBC) or Susquehanna River Basin Commission (SRBC) for water withdrawals. Discharges from sewage, wastewater, or cooling water also require NPDES permits. On-site non-community drinking water systems must comply with the Safe Drinking Water Act. Construction of wastewater or sewage treatment facilities may require Water Quality Management (WQM) permits, and Storage Tank site-specific installation permits (SSIPs) are required for aboveground tanks. In terms of air quality (AQ), facilities utilizing on site power generation and backup generators will need Air Quality Plan Approvals, Title V Operating Permits, or Minor Air Quality Plan Approvals, depending on the scale. Lastly, data center projects often involve coordination with multiple agencies, including the U.S.

Army Corps of Engineers, U.S. Fish and Wildlife Service, the Pennsylvania Fish and Boat Commission, and our County Conservation Districts.

Data center development presents several evolving environmental permitting challenges, largely due to the rapid pace of technological and site plan changes. Frequent revisions to site layouts can significantly impact the Chapter 102 (NPDES) erosion and sediment control and PCSM and Chapter 105 Water Obstruction and Encroachment permitting processes, as well as Act 537 sewage planning, requiring repeated updates and re-evaluations. Additionally, variability in cooling technologies leads to differing proposals for water withdrawals and discharges, complicating both water resource and wastewater permitting. Meeting the substantial power demands of data centers often involves off-site energy infrastructure, ranging from the expansion of energy grid infrastructure such as new high-voltage electric transmission lines to the extension of new natural gas pipelines—each requiring separate and coordinated Chapter 102 and 105 permits. Developers also increasingly rely on on-site generation and backup generators, triggering AQ applications, and the installation of large fuel storage tanks, which necessitates SSIPs. These complexities are further intensified by the need for enhanced public awareness and participation through public meetings, hearings, and compliance with Right-to-Know Law requests, all of which add time and administrative burden to the permitting timeline.

As the demand for large-scale data center development accelerates across the Commonwealth, Pennsylvania DEP staff have been working closely with Governor Shapiro's Office of Transformation and Opportunity (OTO) and developers to support environmentally sound and timely project delivery. We recognize that the pace and complexity of these projects require proactive planning and early engagement with regulatory agencies. Based on our experience with recent proposals, we continue to emphasize a few key permitting and coordination strategies that can help developers navigate the regulatory landscape more efficiently. These strategies—ranging from early pre-application meetings to upfront evaluations of sewage, air quality, ecological, and federal water resource requirements—can significantly reduce delays, prevent costly redesigns, and streamline approvals. The following outlines these recommendations in more detail.

The Use of the Pennsylvania DEP Permit Application Consultation Tool (PACT).
Following the submission of the PA DEP PACT Tool; applicants are encouraged to contact our regional office to schedule a multi program pre application meeting with our regional offices to present their project to all of our regulatory programs. These meetings are either in person or virtual, attended by the applicant, their consultants, and all applicable program staff. They are followed by DEP summaries, published with hyperlinks to application forms, program contract information and application specific comments. These meetings should be followed by additional multiple program specific pre application meetings to discuss technical requirements of each application. We have found that projects that communicate with us early and often have shorter processing times and less technical deficiencies.

Early Identification of Act 537 sewage planning Connection Prohibitions. Early identification of Act 537 Sewage Facilities Planning requirements is critical to avoiding costly delays and connection prohibitions during data center development and other large-scale projects. Act 537, overseen by DEP's regional offices, was enacted to protect public health and the environment by ensuring that sewage is properly planned, treated, and disposed of. When development outpaces the planning process, municipalities may impose connection prohibitions—restrictions on new sewer connections due to overloaded or insufficient treatment capacity. Unfortunately, many municipalities and sewer authorities across Pennsylvania have outdated or incomplete Act 537 Plans, which can delay permitting and infrastructure approvals for developers. Ensuring that a current, DEP-approved plan is in place aligns land use with infrastructure capacity, supports responsible municipal planning, and can open the door to shorter review timeframes through mechanisms such as planning exemptions.

Considering Air Quality Permitting for On Site Generation of Power. When a data center proposes on-site power generation—such as a dedicated natural gas power plant or large-scale backup generators—it often triggers Pennsylvania's major source air quality permitting requirements. This includes detailed air dispersion modeling to demonstrate compliance with federal air standards, which alone can take up to a year due to technical complexity and required meteorological data. Only after modeling is complete can the formal plan approval and Title V permitting process begin, which may take additional months. These extended timelines create significant challenges for fast-moving data center projects and highlight the need for early coordination with DEP's Air Quality Program to ensure both environmental protection and project feasibility.

Early Clearances of the Pennsylvania Natural Diversity Inventory (PNDI). A properly cleared PNDI review is important because it helps ensure that proposed projects comply with state and federal environmental laws by identifying potential impacts on sensitive plants, animals, and habitats**,** especially threatened and endangered species**.** A properly cleared PNDI ensures the project meets requirements under: Endangered Species Act, Pennsylvania Game and Wildlife Code, PA Fish and Boat Code, and PA Conservation laws. It avoids costly violations, stop-work orders, or litigation and is required for PA State Permits such as Chapter 102 Erosion and Sediment Control, Chapter 105 Water Obstruction and Encroachment, and Act 537 Sewage Facilities Planning. Performing the PNDI review early identifies ecological constraints early, allowing project redesign to avoid sensitive areas, mitigation planning and prevents delays or redesigns late in the process. A cleared PNDI analysis confirms no conflicts with protected species. If there are conflicts, it could take additional time for clearance through the federal Information for Planning and Consultation (iPAC) tool, hosted by the U.S. Fish and Wildlife Service, so it is important to plan ahead.

Early Army Corps of Engineers Jurisdictional Determinations. An early Jurisdictional Determination (JD) from the U.S. Army Corps of Engineers is essential for identifying whether wetlands, streams, or other waters on a project site are federally regulated under the Clean Water Act. This determination clarifies if a Section 404 permit is needed and helps avoid costly violations or delays. Securing a JD early provides regulatory clarity,

supports smarter site design, and allows coordination with permitting agencies from the start. It also works in tandem our regulatory processes, such as PA DEP Chapter 105 and PA PNDI, streamlining the overall approval process and reducing project risk.

While Pennsylvania offers strong potential for data center growth, we've also identified several recurring challenges that can hinder progress if not addressed early in the planning process. These challenges are often not technical in nature, but rather stem from misalignment between development goals and local infrastructure, land use planning, and stakeholder engagement. Understanding and addressing these barriers—from outdated sewage facilities plans to inconsistent local government planning, frequent site plan changes, and limited community outreach—can make the difference between a delayed project and a successful one. The following areas represent some of the most common and consequential issues we've observed in recent data center development efforts across the Commonwealth.

Outdated Act 537 Plans and Overloaded Wastewater Systems. Many municipalities are working with outdated Act 537 sewage facilities plans, which limits the ability to properly plan for and accommodate new development. In some cases, public wastewater systems are already hydraulically overloaded, meaning they cannot handle additional flows without risking system failures, like overflows or treatment facility upsets. This creates significant barriers to approving new economic development projects and makes coordination between developers, municipalities, and state agencies more complex and time-consuming.

Development Projects Inconsistent with Regional or Comprehensive Plans. Economic development efforts are often slowed when proposed projects do not align with existing municipal or regional comprehensive plans, which is a key consideration under Pennsylvania Acts 67 and 68 of 2000, which amended the Municipalities Planning Code. These laws require that state agencies consider whether proposed projects are consistent with local planning efforts before approving funding or permits. When development proposals lack this consistency, it triggers additional coordination among agencies, municipalities, and developers, leading to delays, uncertainty, and sometimes the need for costly plan amendments or redesigns. Clearances under Acts 67 and 68 are essential for aligning economic development with long-term community goals and infrastructure capacity.

Frequent and Substantial Revisions to Development Plans. Our application processes are further complicated when development proposals undergo multiple rounds of revisions, often due to a lack of early coordination with key stakeholders or failure to address planning and infrastructure constraints up front. Each revision can trigger additional reviews and approvals by the local municipality or county, causing significant delays and undermining confidence in the project timeline. This can strain agency resources and reduce the efficiency of interagency collaboration.

Insufficient Community Outreach. Coordination on economic development projects often breaks down when community outreach is not conducted early and effectively, especially in the context of PA DEP permit application reviews. When residents and stakeholders are unaware of a proposed project or feel excluded from the planning process, it can lead to heightened opposition during the formal public comment period, resulting in contentious public meetings, hearings, and potential delays. Proactive outreach—such as early engagement with local officials, community groups, and the public—helps build trust, surfaces concerns early, and often leads to project modifications that address community needs while maintaining regulatory compliance. This can significantly reduce conflict during the permitting process, streamline DEP reviews, and enhance the likelihood of a smoother path to approval. Effective community engagement is not just good practice—it's a strategic tool for minimizing risk and maintaining momentum on key economic development initiatives.

To support Pennsylvania's competitiveness in attracting high-tech, capital-intensive development like data centers, the Department of Environmental Protection—alongside other state agencies—has launched several new permitting initiatives aimed at improving efficiency, predictability, and coordination. These programs are designed to address the complex and evolving regulatory needs of modern infrastructure projects while maintaining Pennsylvania's strong environmental standards. By streamlining approvals, engaging early with stakeholders, and leveraging technical innovation, these initiatives represent a proactive approach to balancing economic growth with environmental protection.

The Pennsylvania Governor's Office of Transformation and Opportunity (OTO) FastTrack Program. The OTO FastTrack Program is an initiative designed to streamline and accelerate the permitting and approvals process for high-priority economic development projects. By facilitating early and coordinated engagement between state agencies, municipalities, and developers, the program helps remove barriers, reduce redundancy, and provide clear timelines. This initiative has become a key tool in enhancing Pennsylvania's competitiveness in attracting major investment projects.

PA SPEED Program. The Streamlining Permits for Economic Expansion and Development (SPEED) Program was created in July 2024 and went live in June 2025. It continues the DEP's Permit Modernization effort to move further and faster in permit processing and keep Pennsylvania moving at the speed of business. Through SPEED, permit applicants for select permits will be able to use DEP-approved qualified professionals to conduct initial reviews of applications for expedited review. DEP staff will review recommendations from the qualified professional and make the decision to approve or deny the permit or issue a technical deficiency letter to the applicant.

Chapter 102 and 105 Pilot Projects. The Pennsylvania Department of Environmental Protection has launched pilot projects focused on improving the effectiveness and efficiency of permitting under Chapter 102 Erosion and Sediment Control and Chapter 105

Water Obstruction and Encroachment regulations. These pilot initiatives aim to test streamlined processes, enhanced coordination, and technical improvements that can reduce delays while ensuring compliance with environmental standards. Successful pilot outcomes have the potential to be scaled statewide, offering a model for balancing economic development with environmental stewardship.

PA Governor's Payback Executive Order. The Pennsylvania Governor's Payback Executive Order directs state agencies to prioritize projects and initiatives that demonstrate a clear return on investment for taxpayers. This includes emphasizing economic development efforts that create jobs, improve infrastructure, and deliver measurable benefits to communities. The order encourages agencies to work collaboratively, eliminate redundancies, and ensure accountability in the use of public resources, ultimately fostering a more efficient and results-driven approach to state-supported economic growth.

DEP's Modernization Efforts. To meet the demands of fast-paced, complex development like data centers, the Department has been advancing a broad permit modernization initiative aimed at improving the transparency, consistency, and efficiency of our regulatory processes. These efforts include upgraded electronic permitting systems, standardized technical review tools, and increased use of digital platforms for interagency coordination and public engagement. As data center proposals grow in both scale and complexity, modernization will help DEP manage higher permit volumes, reduce backlogs, and provide clearer expectations for applicants. This transformation is essential not only to keep pace with development but also to ensure that our environmental oversight remains strong, predictable, and responsive in a rapidly evolving economic landscape.

In conclusion, while challenges remain, the unknown increasing demand for digital infrastructure presents a unique opportunity for Pennsylvania to position itself as a national leader in sustainable data center development. Our state's strong utility networks, skilled workforce, and robust environmental oversight provide a solid foundation for responsible growth in this sector. The Department is committed to providing regulatory clarity, permitting efficiency, and early coordination with developers, while upholding its mission to protect Pennsylvania's air, land, and water—and to safeguard the health and well-being of our communities—consistent with the rights and duties established under the Environmental Rights Amendment (Article 1, Section 27 of the Pennsylvania Constitution). We remain dedicated to working in partnership with industry, local governments, and stakeholders to ensure that this growth aligns with environmental standards, community values, and long-term sustainability goals.

Thank you for the opportunity to speak before you today. I'm happy to answer any questions you may have.