

**BEFORE THE  
PUBLIC SERVICE COMMISSION  
OF MARYLAND**

Senate Bill 1 Co-location Study

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Administrative Docket  
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## INTRODUCTION

OPC files these comments on co-located load<sup>1</sup> configurations and intends to participate in the hearing on this matter on September 24, 2024.<sup>2</sup> As discussed below, ongoing proceedings before the Federal Energy Regulatory Commission (“FERC”) and continuing discussions in PJM stakeholder processes on co-located load issues will likely impact Maryland’s consideration of co-location issues. More information may be available by the time of the hearing in September. Currently, OPC recommends that the Commission advise the General Assembly to revise language in the Public Utilities Article to (1) clarify that co-located load customers are “retail customers” served by an “electric company” under the law and (2) remove any ambiguity regarding the application of renewable portfolio standards, including offshore wind credits, and the electric universal service program (“EUSP”) to co-located load.

## COMMENTS

The impact of co-located load configurations will vary based on the size, technical design of the project, and location of the project. At this current stage—with no specific co-location project actually proposed—the Commission’s focus should be on identifying the scope and magnitude of issues that co-location proposals may raise. The precise implications of any project will depend on its specifics.

Co-located load configurations have the potential to impact Maryland customers in terms of higher transmission rates, higher prices in wholesale electricity markets, and the

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<sup>1</sup> As used by the Commission, co-located load refers to “end-use electricity customer load that is physically connected to the facilities of an existing or planned electric generation facility.” *Id.*

<sup>2</sup> Notice Convening a Public Conference and Request for Comments, PC 61, June 21, 2024.

State’s progress toward achieving its climate and emissions goals. But regardless of whether a large new customer is co-located with generation or interconnected in the traditional way, the addition of any facility that consumes a large quantity of electricity in Maryland will have impacts on the grid and on other Maryland customers. Those impacts may be mitigated by the design, size, and location of the project.

As discussed further below, while the addition of co-located load can cause the same additional costs that the same sized load would cause if it was located near the generation facility but not co-located with it, the cost responsibility under federal and state law and regulation, may be different depending on whether the load is a behind-the-generator-meter configuration, or a “non-co-located” equivalent load. These comments will discuss these potential impacts on Maryland customers.

For context on these issues, we first discuss a data center currently operating on the same site as the Susquehanna nuclear facility in Pennsylvania.<sup>3</sup> Much recent discussion of the issues that arise from co-located load has occurred in the PJM stakeholder process but with little (or no) resolution of the issues. As described below, litigation currently before FERC will ultimately address issues raised by co-location of load in the context of the Susquehanna project. That litigation will address how these issues will or may be addressed under PJM’s tariffs, which, in turn, may be precedential

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<sup>3</sup> As described in greater detail below, the Susquehanna plant is a two-unit nuclear power plant, 2520 MW in nameplate capacity, located in Salem Township, Luzerne County, Pennsylvania within the retail service area of PPL Corporation. Talen Energy is the owner of the Susquehanna power plant. The data center operation at the plant site was sold by an affiliate of Talen Energy to Amazon Web Services or an affiliate.

for Maryland and comparable co-location configurations within the state, given Maryland's location within the PJM footprint.

**I. Exelon's protest of the Susquehanna nuclear facility's proposed Interconnection Service Agreement highlights potential challenges presented by co-located load.**

On June 1, 2024, PJM filed with FERC an application on behalf of PPL Electric Utilities Corporation for approval of a revised Interconnection Service Agreement ("ISA") for the Susquehanna nuclear facility.<sup>4</sup> The Susquehanna power plant is a 2,520 MW nameplate capacity nuclear generating facility consisting of two 1,260 MW units. The proposed ISA modifications would allow Susquehanna to transfer 960 MW of power to a data-center facility located "behind-the-meter." PJM determined that up to 480 MW could be transferred to the data center without creating reliability violations on the transmission system, but that load in excess of that level would "result in generation deliverability violations that require certain system upgrades."<sup>5</sup> This novel arrangement has significant implications for the PJM-administered capacity market, as it requires Susquehanna to reduce the capacity value of each unit by the amount of incremental load transferred to the co-located data center, thereby reducing the amount of capacity the facility could offer into the PJM capacity market.<sup>6</sup>

The Exelon protest in ER24-2172 identifies several key questions.<sup>7</sup> *First*, should co-located load be considered "non-Network Load"? This is a critical threshold question.

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<sup>4</sup> *PJM Interconnection, L.L.C.*, ER24-2172.

<sup>5</sup> PJM filing at 5. The prior Susquehanna ISA allowed up to 300 MW to be transferred.

<sup>6</sup> *Id.* at 6-8.

<sup>7</sup> Exelon Protest at 5-12 (June 24, 2024).

Under the PJM open access transmission tariff (“OATT”), “Network Load” customers are responsible to PJM for the costs associated with serving their load, whereas the alternative under the PJM OATT “non-Network Load” customers must arrange for transmission point-to-point service.<sup>8</sup>

*Second*, would the co-located customer be prevented from drawing power from the PJM-administered transmission system, and what happens if it does? This question implicates a free-rider concern about a co-located customer benefitting from the services PJM provides by way of reactive power and voltage support, without actually having to pay for it. Moreover, it is unclear which party is financially responsible for any costs associated with the co-located load drawing power from the transmission system.

*Third*, should the co-located customer pay transmission rates? The co-located customer benefits from being connected to PJM’s transmission system. Yet, it is unclear whether that customer would pay PJM for those benefits.

*Fourth*, are the facilities owned by the co-located customer through which electricity is transferred transmission or “distribution” facilities? This question implicates which authority—the state public service commission or the FERC—may exercise regulatory jurisdiction over the co-located load.

As Exelon’s protest explains “the inevitable consequence [of a significant reduction of capacity in the market] will be scarcity [of energy] resulting in rising energy

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<sup>8</sup> PJM, Intra-PJM Tariffs, OATT, § 1 Definition of Network Load (providing that load shall be designated as Network Load or served by Point to Point service) (“PJM OATT”)

and capacity prices, and (given the fact that co-located load is likely to prefer generation with very high reliability and availability) an exacerbation of the already existing challenges to resource adequacy and reliability.”<sup>9</sup>

In its filing in the FERC proceeding, the PJM Market Monitor (“IMM”) expands on assertions made in Exelon’s protest, describing further the “extreme” adverse precedential impact across the PJM footprint. Thus, the IMM states:

The co-located load will continue to rely on the grid for a range of ancillary services including frequency control, reactive, spinning reserves, reserves in general, black start, and PJM administrative functions. While the proposed amendment to the ISA is creative, its benefits to the co-located load come at the expense of other customers in the PJM markets. If this approach were extended to all the nuclear plants in PJM, the impact on the PJM grid and markets *would be extreme*. Power flows on the grid that was built in significant part to deliver low cost nuclear energy to load would change significantly. Energy prices would increase significantly as low cost nuclear energy is displaced by higher cost energy on the overall supply curve. Capacity prices would increase as the supply of capacity to the market is reduced. Emissions would also be expected to increase as thermal resources that are next in the supply curve are dispatched to meet load to replace the nuclear energy. Establishing this precedent would undermine PJM reliability and PJM competitive markets.<sup>10</sup>

The Exelon protest is pending before FERC.

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<sup>9</sup> Exelon Protest at 3–4

<sup>10</sup> Monitoring Analytics, LLC, *Answer and Motion for Leave to Answer of the Independent Market Monitor for PJM*, FERC docket No. ER24-2172 (July 10, 2024), pp. 6-7 (footnote omitted)(emphasis added).

**II. Stakeholders must consider how co-located load will impact costs paid by all electricity customers.**

**A. The co-located load could result in increased transmission costs that are paid by other customers.**

Depending on the design of the project, the net result of adding co-located load can be similar to the retirement of some or all of the existing generation station, and it would be addressed in the PJM planning process. If the co-located load is in a constrained part of the PJM-administered transmission system, the reduction in generation resources in the area could result in violations of PJM grid planning criteria and the need for upgrades to the transmission system. For the Susquehanna project, PJM determined that the amount of capacity being transferred to the co-located load would not result in reliability violations on the transmission system and not require an immediate upgrade to the system. Even when an immediate system upgrade is not required, however, the co-located load configuration could use available headroom on the transmission system, which means other future load growth on the system might require an upgrade that would not be necessary in the absence of the co-located load. Such a transmission system upgrade would be considered a reliability upgrade and the cost would be paid by the customers contributing to the payment of the transmission revenue requirement for the zone—and result in increased rates for other customers.

Although it has not happened yet for the Susquehanna project based on the current information reported by PPL in its filing at FERC, other co-located load configurations, there and elsewhere, could trigger the need for a transmission upgrade. It is not clear how

the cost responsibility would work in this situation, but these upgrades could be treated as reliability upgrades with most, if not all, of the cost borne by the other electric customers within the transmission zone where the co-located load is located.

Even if the addition of the co-located load does not immediately trigger a transmission system upgrade, there could be rate impacts on other customers. The Exelon protest raises the issue of whether the co-located load will be considered Network Load<sup>11</sup> as an example of a situation in which customers could be impacted absent an immediate transmission upgrade. It is not clear what the consequences of treating the co-located load as Network Load would be, but treating the co-located load as Network Load could raise the amount of total Network Load in the zone and result in a larger allocation of costs to that zone in the PJM transmission cost allocation and rate setting process. If the co-located load customer did not pay for transmission service at the wholesale or retail level, the increased transmission costs would be borne by other customers in the zone.

**B. The co-located load could result in additional costs for ancillary services that are paid by other customers.**

The differing characteristics of each co-located configuration raises issues concerning the cost obligations and responsibilities unique to each configuration. The demand profile of the co-located load may differ from one facility to another. If the co-located load has short-term variations in demand in ways that the on-site generation does not, it can raise issues of whether additional reserves are necessary or other measures need to be implemented to maintain the reliability of the system. For instance, if the co-

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<sup>11</sup> Exelon Protest at 7.



located load facility's electric consumption varies from second-to-second or minute-to-minute in a way that a nuclear plant cannot adjust to, then the viability of that arrangement may depend, in part, on the services the transmission grid can provide. If additional reserves or measures are necessary, it raises the question of how that is paid for and who pays for it.

Additionally, the type of generation at the site of the co-located load could be relevant to whether the load is responsible for certain costs. For instance, since a nuclear facility requires electricity to start up, a co-located load at that facility directly benefits from the facility being connected to the transmission system, which may impact the cost responsibility of the co-located load. But if the co-located load is located at a black-start-capable natural gas generating facility, the cost responsibility for black-start capability may be different.

It is not clear whether FERC will resolve all these issues as a result of the Exelon protest. However, the issues of whether the co-located load will be treated as additional Network Load for the zone and included in the determination of zonal transmission rates—and whether the co-located load will have cost responsibility for ancillary services—appear to be matters that will be decided at the federal level.

**C. The co-located load would impact wholesale electricity markets.**

The addition of significant load to one location on the grid over a short period of time could have a variety of impacts on the wholesale electricity markets. Data centers can be developed quite quickly compared to other forms of load growth and the time it takes to develop new generation resources of comparable scale sufficient to supply the

new load. Depending on the design of the project, the amount of capacity that the on-site generation supplying the co-located load can sell may be reduced. One factor is whether the load can be reduced on demand. If the co-located customer has no ability to reduce load, the reduction in capacity might be for the entire amount of the co-located load. If the co-located customer can reduce its load on demand and maintain that reduction for a sufficient period, the PJM rules may allow the reduction in the amount of capacity that the on-site generation can sell to be less than the full amount of the load.

Any reduction in the amount of capacity that a generator can sell will result in a change in the balance of supply and demand in the market, particularly if the new load is an area of the grid that is currently constrained. The speed at which a new data center can be built could result in the market not having time to adjust, which could result in deficiencies in the markets, particularly the capacity market, at least in the short term. The deficiencies could significantly impact capacity market prices, further increasing electricity prices for all customers. At the time of the filing of these comments, the Base Residual Auction for PJM's capacity market for the 25/26 delivery year is being run but the results have not been released. The results of this auction could show that the capacity market is constrained for parts of Maryland, which would indicate an increased likelihood that co-located load in that area would increase costs for all customers.

**III. The Commission should ask the General Assembly to clarify potential ambiguities in how the PUA treats co-located load.**

Co-located load implicates fundamental questions over the extent to which such load is subject to regulation under the PUA. As discussed above, co-located load can

result in additional costs for a transmission zone and that could raise retail transmission rates for other customers when the co-located load has no cost responsibility. The Commission should recommend that the General Assembly clarify that: (1) the Commission has jurisdiction over the facilities serving co-located configurations located within the state of Maryland; and (2) the Commission may set rates for the collection of transmission costs from co-located load customers. Secondary questions include whether—and to what extent—co-located load in Maryland may be subject to the state’s renewable portfolio standards (“RPS”) and requirements to procure offshore renewable energy credits (“ORECs”) and contribute to the EUSP.

**A. The Commission’s jurisdiction over co-located load depends on how the Public Utilities Article is interpreted.**

The initial question is whether the co-located load customer is a retail electric customer and, if so, whether the Commission has authority to impose retail rates on the customer for the recovery of transmission costs.<sup>12</sup> While wholesale transmission rates are exclusively within FERC’s jurisdiction, the Commission approves retail transmission rates for Maryland’s electric utilities to collect the transmission revenue requirement established by the rates FERC sets. At a high level, retail transmission rates are the allocation of the applicable wholesale transmission revenue requirements for that utility’s zone. The wholesale transmission revenue requirement is primarily composed of two components: the Network Service Transmission Rate (“NST”) and the Transmission

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<sup>12</sup> Depending on the configuration of the co-located load project, it may also be appropriate to consider whether the co-located load should contribute to distribution costs as well.

Enhancement Charge (“TEC”). The NST rate comes from the formula rate of each transmission utility within the utility’s zone. The TEC is the allocation of charges for baseline reliability or economic efficiency projects included in the PJM Regional Transmission Expansion Plan (“RTEP”).

The NITS and the TEC—plus any adjustments from FERC settlements—are added to derive the total transmission costs ultimately paid by retail customers. The total costs, expressed in dollars per megawatt-years, are multiplied by the utility’s transmission service peak load (as reported by PJM) to determine the transmission revenue requirement. FERC has jurisdiction over how these calculations are done and the resulting revenue requirement for the utility. Retail electric customers pay these costs through retail transmission rates. The Commission oversees development of the retail transmission rates in Maryland. The transmission revenue requirement—the development of which FERC oversaw—is allocated to each retail rate class based on the class’s contribution to transmission peak load. The Commission determines what retail rate classes each utility has, which retail electric customers are in those classes, and what part of the transmission revenue requirement the retail electric customers in each class pay.

Accordingly, whether the Commission may require co-located load to be allocated a portion of the transmission revenue requirement turns on two issues: whether a co-located load customer can be considered a “retail electric customer” as defined in the PUA and, if so, whether the supplier of electricity to co-located load can be considered an “electric company” as defined in the PUA.

Whether co-located load is a “retail electric customer” is context dependent. The PUA’s definition does not necessarily encompass all instances of co-located data center load. PUA section 1-101(ee)(1) broadly defines “retail electric customer” as meaning “a *purchaser of electricity* for end use in the State.” This definition appears to include a co-located load customer. The co-located load customer is presumably paying for the electricity it consumes, and it is using the electricity in Maryland. But the definition’s use of the phrase “purchase of electricity” may raise issues for certain co-located load configurations. For instance, in a configuration where the electricity is included in the price of rent paid by load for use of facilities owned by the generator, it could be argued that the co-located customer would not be purchasing electricity and thus is not a “retail electric customer.”

Additionally, to the extent a configuration involves the purchase of electricity, PUA section 1-101(ee)(1)(3) establishes three exceptions to the definition of “retail electric customer”:

- “(i) an occupant of a building in which the owner/operator or lessee/operator manages the internal distribution system serving the building and supplies electricity and electricity supply services solely to occupants of the building for use by the occupants;
- (ii) a person who generates on-site generated electricity, to the extent the on-site generated electricity is consumed by that person or its tenants; or
- (iii) except as provided in paragraph (2)(ii) of this subsection, a person that charges an electric vehicle at an electric vehicle charging station.

Only exceptions one and two are potentially relevant to data centers. Exception

one applies to situations where there are multiple occupants of the building. Whether this was the case for a co-located load situation would depend on how the project was set up and whether there were multiple “occupants” of “the building” involved.

Exception two applies to the entity generating the electricity and, as such, would not apply to the data center consuming the electricity—assuming that the generator and the co-located load facility are not owned by the same entity.

Thus, under the current statutory definitions, certain co-located load arrangements could arguably fall within exceptions one and two to the definition of “retail electricity customer.” If those arguments were accepted, the Commission would be unable to require retail transmission rates to be charged to those customers, absent a change in the law. Accordingly, OPC suggests that the Commission recommend that the General Assembly revise the definition of “retail electric customer” to encompass any co-located data center load arrangement.

Assuming the co-located load is a “retail electric customer,” then the question is what entity is the “electric company.” The answer to this question is context dependent. The PUA defines “electric company” as “a person who physically transmits or distributes electricity in the State to a retail electric customer.”<sup>13</sup> The definition of “electric company” excludes from the definition three situations for “persons who supply electricity and electricity supply services solely to occupants of a building for use by the occupants”:

1. an owner/operator who holds ownership in and manages

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<sup>13</sup> PUA § 1-101(i)(1).

- the internal distribution system serving the building; or
2. a lessee/operator who holds a leasehold interest in and manages the internal distribution system serving the building;
- (ii) any person who generates on-site generated electricity; or
- (iii) a person who transmits or distributes electricity within a site owned by the person or the person's affiliate that is incidental to a primarily landlord-tenant relationship.<sup>14</sup>

Like PUA § 1-101(ee)(1)(i), this first exception applies only where the supplier of the electricity has an ownership or leasehold interest in the building where the supplied electricity is consumed. The second exception only applies if the co-located load also generates the electricity it consumes. The third exception applies only where the generator (or its affiliate) owns the land upon which the co-location is located to the extent the electric use is “incidental” to the relationship with the co-located load. It appears possible that a co-location arrangement could be created that would meet one or more of these three exceptions.

Importantly, if the supplier of the co-located is not an “electric company” under the PUA, the customer would potentially avoid contributing to the EUSP because the EUSP statute applies to “[a]ll customers” of “each electric company.”<sup>15</sup>

Accordingly, the Commission should further recommend that the General Assembly amend the definition of “retail electric customer” to clarify that it covers co-location situations.

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<sup>14</sup> PUA § 1-101(2).

<sup>15</sup> PUA § 7-517.1(b)(1).

**B. It is unclear whether Maryland RPS and OREC responsibilities apply to co-located load.**

Maryland’s renewable energy portfolio standard (“RPS”) “applies to all retail electric sales in the State by an electricity supplier.”<sup>16</sup> Thus, whether the RPS applies depends on whether the supply of electricity is a “retail electric sale” and whether the generating facility supplying the co-located load meets the definition of “electricity supplier.”

While “retail electric sale” is not defined in the statute, the co-located load is presumably paying for the electricity consumed in some way and it is consuming the electricity. As long as the co-located load is a “retail electric customer,” the arrangement could be considered a “retail electric sale.”

In relevant part, PUA § 1-101(l) defines “electricity supplier” as any person who sells electricity, including—but not limited to—“an electric company.” However, PUA § 1-101(l)(3) contains two exceptions that are similar to the exceptions to the definition of “retail electric customer” and may exclude certain co-located load configurations. Section 101(l)(3)(i) exempts any operator with an ownership or leasehold interest in the building who manages the building’s internal distribution system. Section 101(l)(3)(ii) exempts any person that generates on-site generated electricity. These exemptions may exclude a company that hosts co-located load from being considered an “electricity supplier” and any sale of power to the data center would be exempt from the RPS.

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<sup>16</sup> PUA § 7-703(a)(1)(i). There is an exception for the supply of “industrial process load” in excess of 300,000,000 kilowatt hours in a single year. “Industrial process load” is defined as “consumption of electricity by a manufacturing process at an establishment classified in the manufacturing sector under the North American Industry Classification System, Codes 31- 33.” PUA § 7-701(e).



OPC recommends that the Commission request that the General Assembly revise the language of the RPS section of the PUA to remove any ambiguity over its application to the co-located load. The addition of any load in Maryland—whether it is co-located with a generator or it is traditional load on the system—will result in additional generation producing electricity somewhere. The intent of the RPS statute is that generation or renewable energy credits from resources that qualify under the statute serve certain percentages of the load in Maryland. To meet the intent of the RPS statute, the requirements should be applied to all sales in the State, including to customers that are co-located with generation. Additionally, a certain percentage of that generation or RECs must be from solar facilities.<sup>17</sup> If the definitions in the RPS law do not apply to co-located load, the co-located load may be served by generation that does not meet the RPS.

ORECs are paid for by “a nonbypassable surcharge that allows an electric company to recover all costs associated with the purchase of ORECs from all distribution customers of the electric company.”<sup>18</sup> Unless the statute is revised such that the OREC cost is paid by all retail electric customers—assuming the co-located load is a retail electric customer—or it is revised to classify the co-located load as a distribution customer of an electric company, data center load that is co-located with a generator would not contribute to paying the cost of Maryland’s offshore wind procurements.

## CONCLUSION

OPC recommends that the Commission present several issues to the General

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<sup>17</sup> PUA § 7-703(b).

<sup>18</sup> PUA § 7-704.2(a)(4)(iii); *see also* COMAR 20.61.06.08.

Assembly regarding data center load co-locations. The current definitions in the PUA leave room for arrangements that could lead to ambiguity about the application of provisions of the PUA to co-located load arrangements. To address those ambiguities, the General Assembly should revise the definition of “retail electric customer” to remove any doubt that it encompasses any co-located data center load arrangement and provide the Commission with clear authority to include the data center load in retail tariffs to recover the appropriate distribution or transmission costs.

The General Assembly also should revise the language of the RPS section of the PUA to remove any ambiguity over its application to the co-located load. Similarly, the General Assembly could revise the statute to remove any ambiguity over whether data center load that is co-located with a generator is going to contribute to the cost of Maryland’s offshore wind procurements and contribute to the EUSP.

*[continued for signatures]*

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