July 25, 2025

Re: Comments of the SunSpec Alliance
In the Matter of the Commission's Inquiry and Review of the Existing Rate Classifications and other Potential Issues Relating to Data Centers.
Docket No. E-00000A-25-0069

Dear Chairman Thompson and Commissioners,

SunSpec Alliance appreciates the opportunity to provide comments to the Commission on the important topic of data center growth in Arizona. We commend the Commission for opening this docket and seeking a thoughtful balance between economic development, reliability, and fairness for all stakeholders.

SunSpec Alliance is a 501(c)(6) trade association of more than 200 distributed energy generation and storage stakeholders[1], including manufacturers, developers, utilities, regulators, and researchers, that develop and support open data communication and interoperability standards for distributed energy resources (DER), including hybrid energy storage, electric vehicles, and grid-supportive devices. Our work is grounded in decreasing costs and time to market by advancing interoperability and cybersecurity, both of which are essential to quickly creating reliable, scalable, and cost-effective energy systems.

SunSpec Alliance believes that advancing energy generation must be anchored in IEEE 1547 interoperability standards, cyber-secure communication protocols, and a distributed approach to energy production that promotes economic growth and enhances national security.

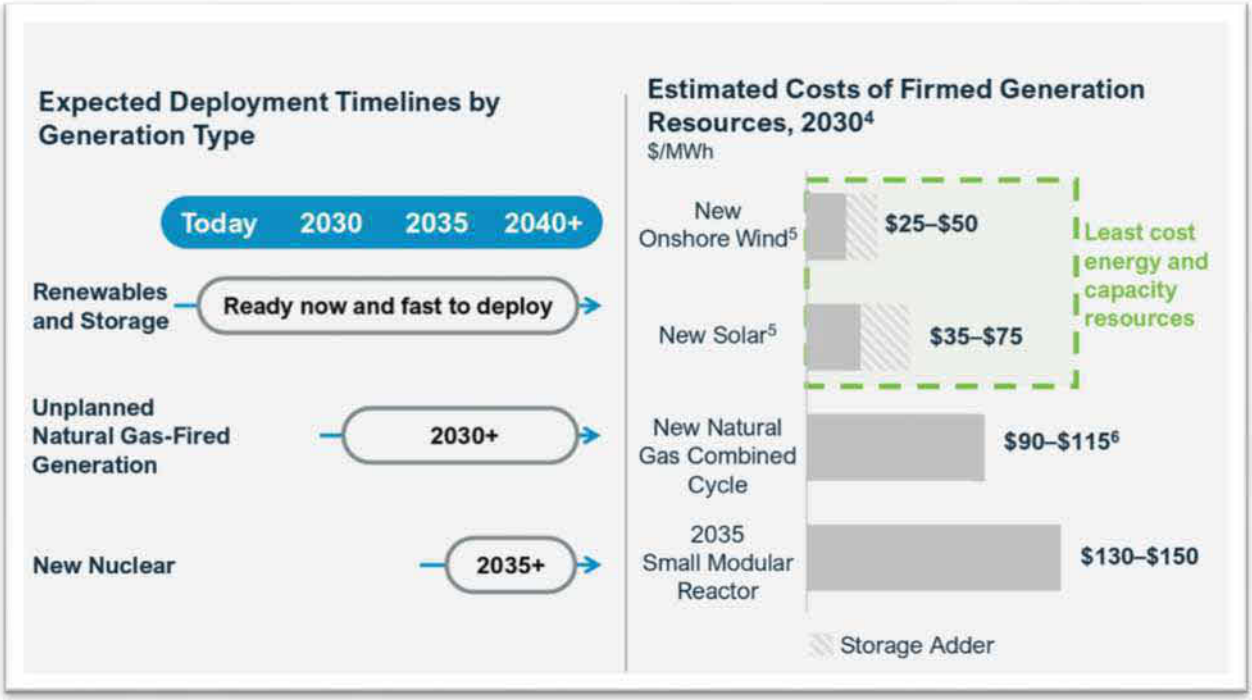
1. **Speed to Power: Lessons from the State of Georgia and NextEra's Insights**

The data center business model requires immediate, reliable power to begin generating cashflow. This urgency places pressure on utilities and regulators to create pathways that enable fast interconnection. AI chipsets depreciate rapidly, so multi-year timelines wipe out profits and push developers to self-provision generation. The State of Georgia's experience was

[1] SunSpec Alliance members include Salt River Project, PG&E, SCE, and other utilities. For more information about how SunSpec Alliance works together with regulators, please see: SunSpec Alliance, SunSpec Accepts Nomination to Manage CSIP Test Procedures, https://sunspec.org/sunspec-accepts-nomination-to-manage-csip-test-procedures/

a cautionary tale, where bringing 4 GW of generation online took twice as long as expected[2]. This illustrates the risk of delay for the utility, businesses and moreover, the ratepayer. APS's projected jump from roughly 3.2 GW of existing data center load to 17 GW amplifies the urgency to enable Virtual Power Plant[3] (VPP) and demand-side pathways so data centers can quickly contract for capacity from distributed batteries and flexible loads. Renewable energy sources and storage combined with any natural gas capacity is the fastest and cheapest way to meet this explosive demand growth.

Unleashing the Power of Virtual Power Plants to Solve the "Speed to Power" Problem



NextEra Energy Earnings Report, July 2025[4]

Traditionally, utilities have been the central off-takers of energy generation. The rise of data centers is shifting this paradigm. These facilities have a higher willingness to pay for immediate power, and they prioritize speed and availability. This creates an opportunity to leverage data centers as flexible off-takers, capable of participating in VPPs, demand response programs, and distributed battery solutions. If properly structured, data centers could underwrite distributed energy investments that directly benefit Arizona households. For example, residential batteries

---

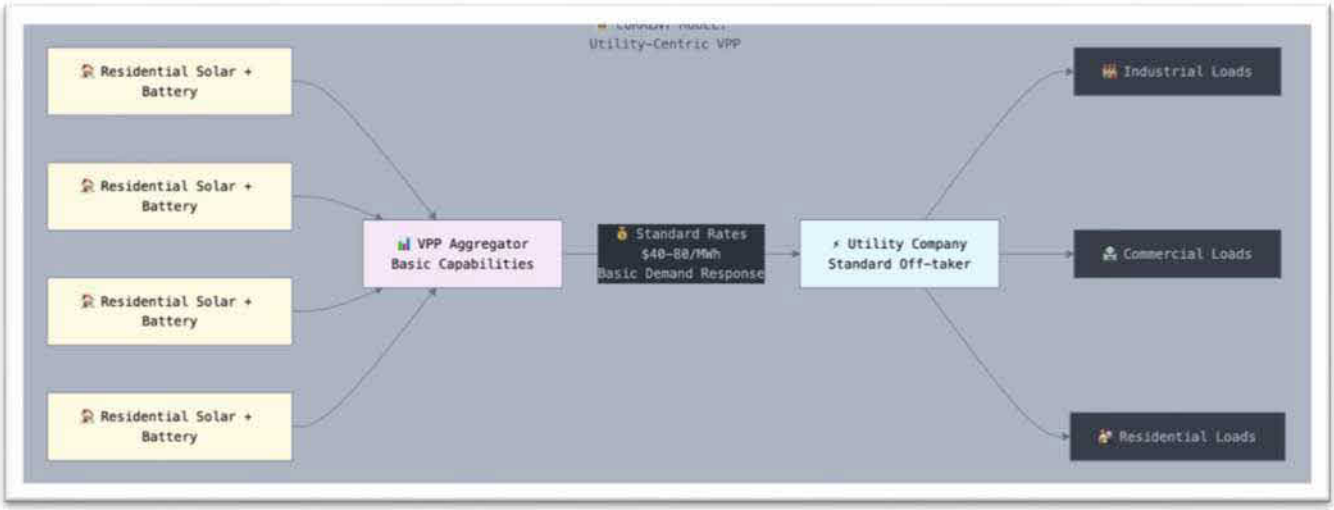
[2] Grid Strategies LLC, National Load Growth Report 2024, slide 27, https://gridstrategiesllc.com/wp-content/uploads/National-Load-Growth-Report-2024.pdf

[3] A virtual power plant (VPP) is a system that aggregates and coordinates a network of geographically dispersed smaller energy resources like solar panels, batteries, and electric vehicles to act as a single, controllable power source. VPPs enable these distributed energy resources (DERs) to participate in energy markets and provide grid services, effectively mimicking the functionality of a traditional power plant.

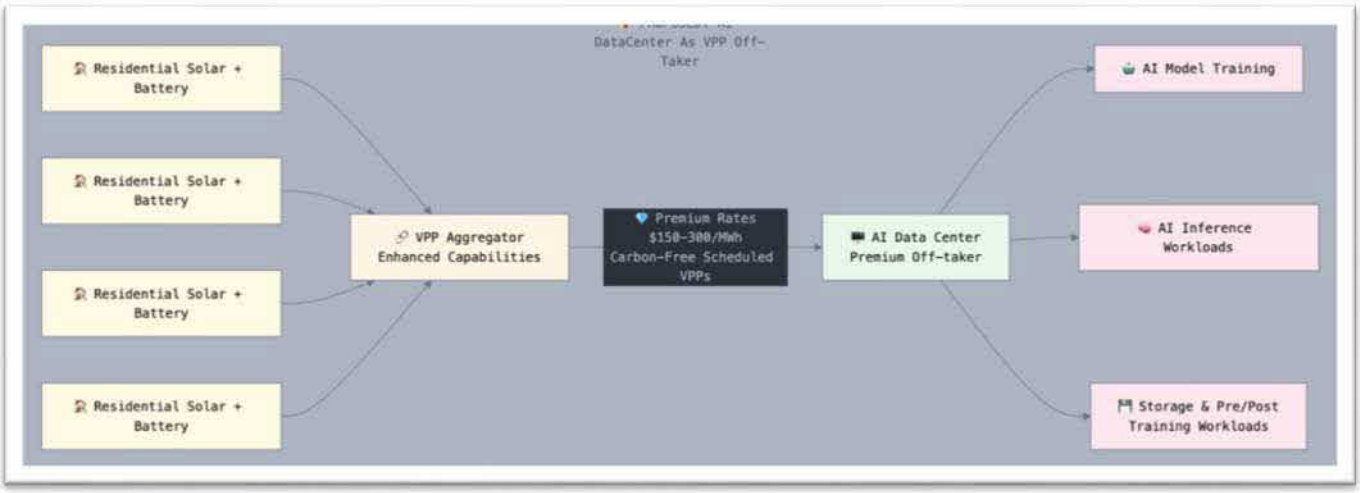
[4] NextEra Energy, Earnings Conference Call, Second Quarter 2025, https://www.investor.nexteraenergy.com/~/media/Files/N/NEE-IR/reports-and-fillings/quarterly-earnings/2025/Q2%202025/2Q%202025%20Slides%20vF.pdf

could participate in VPPs serving data center demand, with compensation flowing back to homeowners. This model requires robust communication and control systems; all built on open standards to ensure that utilities maintain operational oversight.

Current Model: Utility as an Off-Taker of VPP Capacity



Proposed Model: Utility as an Off-Taker of Dispatchable VPP Capacity
(Higher willingness to pay for scheduled power)



This approach is faster to enable and faster to permit, also lowering of risk.
IEEE 2030.5, one of the standard IEEE 1547 communication protocols, is an open industry standard that can be rapidly deployed to connect millions of smaller DERs to aggregate the capacity, operational transparency and easy settlement mechanisms.

Utilities are obligated to serve all customers at just and reasonable rates, yet private developers can deploy capital more quickly and at higher prices for immediate power. Without clear rules, transmission and distribution upgrades can be socialized to captive ratepayers. If utilities cannot

provide timely solutions, big tech will, potentially fragmenting the grid and worsening inequities. By using IEEE 1547 standards to reduce costs, utilities can procure distributed portfolios at scale rather than being sidelined by private microgrids.

NextEra Energy, an integrated oil, gas, and renewables leader, reports that solar-plus-storage is both the fastest to deploy and among the lowest-cost resources on a levelized basis, with costs between $35–$75 per MWh. By comparison, unplanned natural gas-fired generation will not be available until 2030 or later and is nearly three times as expensive, while nuclear solutions remain longer-term and cost-prohibitive. Given the six-to-twelve-month refresh cycles of AI chipsets, utilities that can orchestrate distributed, solar-and-battery-heavy portfolios will not only deliver power faster but also at a significantly lower cost, protecting both grid reliability and ratepayers.

2. **Enhancing National Security One Grid at a Time**

New AI data centers will function as microgrids interconnected at distribution voltage and will therefore be critical assets to the State of Arizona[5]. At gigawatt scale, a compromise or malfunction can create cascading effects and oscillatory risks across the grid. Proprietary, one-off integrations multiply attack surfaces, slow incident response, and raise ongoing compliance costs.

Security and interoperability are two sides of the same coin. By mandating IEEE 1547 conformance for all DER and microgrid interconnections that serve data centers, including certified, open communication protocols defined in the IEEE 1547 standard, the State can ensure both testability and cyber-secure operation. The standard communication protocols of the IEEE 1547 standard establish a secure, standardized framework for authenticated and encrypted telemetry and control, supporting continuous patching obligations and auditable logs. Together, IEEE 1547 and the standard communication protocols give utilities clear operational authority and visibility over interconnected data center resources allowing grid operators to manage contingencies in real time. Explicitly, IEEE 1547 would enable standardized controls to ride through or disconnect gracefully without destabilizing the wider system, while the standard communication protocols provide the communication backbone to ensure those controls are implemented securely and consistently.

Work to codify cybersecurity practices for IEEE 1547-connected devices is now progressing within the IEEE (e.g. the current update to the IEEE 1547 standard, IEEE 1547.3), Underwriters Laboratories (e.g. UL 2941), SunSpec Alliance (e.g. SunSpec Cybersecurity Certification for DER Devices), and at the National Association of Regulatory Utility Commissioners (e.g. Cyber Baselines Mapping Project). All these efforts can directly benefit Arizona data centers and the power systems that serve them.

---

[5] SunSpec Alliance, Webinar: Solar Energy Cybersecurity Threats – New Strategies for Grid Resilience, https://sunspec.org/webinar-solar-energy-cybersecurity-threats-new-strategies-for-grid-resilience/

3. Customer-Funded Resource Tariffs and RFP Exemptions

SunSpec Alliance supports the concept of customer-funded resource tariffs. Under this model, the costs of generation, storage, and network upgrades are allocated directly to the data center, rather than being socialized across all ratepayers. Nevada's Clean Transition Tariff (CTT) offers a compelling blueprint for how such a model can work, combining private capital with clear rules on cost recovery and grid integration. The Commission should also consider exemptions from standard Request for Proposal (RFP) processes for projects that adhere to open standards and cybersecurity baselines[6]. This can compress timelines significantly without sacrificing transparency or competition. A clear framework that prioritizes standards-based, verified solutions will allow both utilities and private developers to move quickly while ensuring that all stakeholders are protected.

4. Recommendations and Conclusion

Utilities remain the backbone of the grid, but their regulated structure can make it challenging to respond to the speed demanded by large-scale data centers. Private companies, unencumbered by rate cases, can deploy generation faster, which raises concerns about equity and cost allocation. To prevent improper cost shifting, Arizona can adopt policies that require data centers to bear their own interconnection costs while maintaining transparency and grid visibility. Standards-based distributed generation can help utilities stay relevant and competitive. By enabling low-cost, local power generation and VPP participation, SunSpec Alliance's framework allows utilities to coordinate distributed assets rather than being sidelined by private microgrid developments.

We recommend that the Commission consider the following actions:
1. Require IEEE 1547 conformance and open, certified communication protocols for all data center interconnections.
2. Establish customer-funded resource tariffs modeled on Nevada's CTT, ensuring cost causation and fairness.
3. Enable data centers to participate as flexible resources[7] in VPPs and demand response markets, with utilities retaining visibility.
4. Provide RFP exemptions for projects that demonstrate standards compliance and cybersecurity certification.
5. Direct utilities to maintain GIS friendly (ArcGIS, QGIS) hosting capacity maps open to the public and implement clustering studies to accelerate interconnection.
6. Define fast-track approval pathways for pre-certified, standards-based DER portfolios.

---

[6] SunSpec Alliance, Product Certification Registry, https://sunspec.org/product-certification-registry/

[7] Flexible energy resources refer to the ability to adjust electricity supply and demand to match fluctuating energy generation and grid needs. These resources can include demand response programs, energy storage, and flexible generation. By leveraging these resources, grid operators can maintain stability, reduce costs, and integrate more distributed energy resources.

The lessons of Georgia's delays and NextEra's cost-effective strategies using hybrid storage solutions make clear that the path forward is one of speed, interoperability, and fairness. SunSpec Alliance stands ready to collaborate with the Commission, utilities, and private stakeholders to translate these principles into detailed policy, technical requirements, and certification frameworks.

Respectfully submitted,

Erin Mahan
Vice President of Membership and Regulatory Affairs
SunSpec Alliance
erin@sunspec.org