



December 18, 2024

**Via Electronic Filing**

Sherri L. Golden  
Secretary of the Board  
44 South Clinton Ave., 1st Floor  
PO Box 350  
Trenton, NJ 08625-0350

**RE: Docket No. QO22080540: Comments of Calibrant Energy in the Matter of the New Jersey Energy Storage Incentive Program 2024 Straw Proposal**

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Dear Secretary Golden,

Please find attached Calibrant Energy's ("Calibrant") comments in response to the New Jersey Board of Public Utilities' ("BPU" or "Board") November 7, 2024 notice of virtual stakeholder meeting and request for comments on the New Jersey Energy Storage Incentive Program ("NJ SIP") 2024 Straw Proposal.

We appreciate the BPU's commitment to advancing comprehensive energy storage program design to meet the state's targets, and we appreciate Staff's efforts in developing and refining the Straw Proposal, including hosting the November stakeholder meeting. Calibrant looks forward to continuing to work with NJ to achieve these goals.

Sincerely,

Joe Macklin  
Senior Manager, Market Development & Commercialization  
Calibrant Energy

## Comments of Calibrant Energy in the Matter of the New Jersey Energy Storage Incentive Program 2024 Straw Proposal

### About Calibrant Energy:

Calibrant Energy is a distributed energy company dedicated to providing “energy-as-a-service” solutions to commercial, industrial, and institutional customers in North America. Our solutions include the origination, development, ownership, and operation of an array of distributed energy technologies, including battery storage (“BESS”), solar photovoltaics (“PV”), microgrids, and electric transport infrastructure. Calibrant is owned by Macquarie Asset Management, the world’s largest infrastructure asset manager, through the Macquarie Green Energy Transition Solutions (MGETS) fund. With the strategic acquisition of Enel DES in October 2024, Calibrant has significantly expanded its development pipeline and portfolio of operating assets, bolstering the company’s ability to deliver cutting-edge clean energy solutions for the market, particularly as it relates to customer-sited battery storage.

- **Extensive Experience:** With over 15 years of experience operating behind-the-meter (“BTM”) storage assets, we have honed our expertise and built a robust portfolio of successful projects across investor-owned utilities in ISO-NE, NYISO, CAISO, and IESO. Our installed base has grown to more than 330 MWh of BESS projects in operation or construction, including some of the largest behind-the-meter BESS projects in North America. Beyond our operating portfolio, Calibrant has over 700 MWh of distributed projects in late-stage development, including large BTM opportunities in New Jersey, as well as over 2 GWh of optimization service contracts.
- **Proven Expertise in Innovative C&I Storage:** Calibrant is consistently at the forefront of developing innovative, large-scale, customer-sited energy storage projects that set industry benchmarks. This includes the construction of the first BESS system in New York City in 2011, the toughest permitting jurisdiction in the country. In Ontario, Calibrant has three times claimed the title of largest customer-sited BTM project in North America with two 10MW / 20MWh systems that connect above 34kV as well as a 20MW / 40MWh system which connects at transmission-voltage that was commissioned in 2022. This trend of steadily increasing project sizes has continued into Calibrant’s development of the New Jersey market as well as across the rest of PJM.
- **Market-Leading Optimization Software:** Our DER.OS optimization software has been refined over time to meet the specific needs of various markets, ensuring an extensive tariff library, advanced machine learning forecasting, and market-leading co-optimization capabilities. Each of our projects layer complex value stacks like the one that will be necessary for successful co-optimization of the BPU’s Storage Incentive Program (“SIP”) performance-based incentive with the on-bill and market revenue streams already available in New Jersey and PJM. Our unparalleled record of accomplishment of delivering these large, complex, and “first-of-their-kind” customer-sited projects uniquely and directly positions us to both contribute to the finalization of the SIP program and deliver much needed storage capacity upon its release.

## Introduction:

Calibrant applauds New Jersey’s commitment to deploying energy storage in the state through the 2018 legislation establishing the 2,000 MW by 2030 target, and we believe that implementing the BPU’s Storage Incentive Program (“SIP”) will be a significant step towards achieving those goals. We appreciate the time and effort that BPU Staff has put into this effort so far and appreciate the iterative stakeholder process which has resulted in the latest Straw Proposal.

New Jersey has set laudable, but ambitious, goals for clean energy, emissions reductions, and energy storage resources, which is going to require an “all-hands-on-deck” or an “all-of-the-above” strategy to be meet these statutory targets. The grid must evolve at every level to meet the state’s needs reliably, from residential customers to commercial loads to large wholesale generation. This means that program design will need to continue to evolve across **all** market segments to ensure that the state makes meaningful progress across all fronts. The BPU clearly recognizes this by including both Grid Supply and Distributed Storage programs in the Straw Proposal, which differentiates these market segments to account for the unique characteristics of development at these different scales. While we understand the BPU’s urgency to get large quantities of MW’s interconnected quickly, we are confident that both market segments can meaningfully contribute to NJ’s energy storage targets. Therefore, one market segment should not be prioritized over another, but instead, both programs should continue to be designed and implemented together, establishing a wholistic energy storage vision.

As the BPU has recognized, distributed energy storage resources provide not only wholesale market value but local reliability and resiliency benefits as well<sup>1</sup>. Distributed energy resources can serve the entire value stack, including wholesale services (directly and indirectly), utility services, and customer services, with a single project—and these projects can be large. With strong existing commercial industry in New Jersey and the prospect of new large data centers and other industrial customers<sup>2</sup>, New Jersey is poised to attract many of these large, distributed storage projects. With the appropriate regulatory structure, which allows for value stacking, our company has successfully developed BTM storage solutions up to 20 MWs at a single site, with even larger BTM projects in development across PJM and other markets. While transmission-connected projects could be larger, diversity in project ownership, type, and location derisks the state’s storage portfolio, providing additional confidence that targets will be met even if something unexpected occurs for a particular project, project owner, or set of projects (e.g.

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<sup>1</sup> “Likewise, storage resources at the distribution level can provide all of these benefits while also contributing to local system resilience, helping integrate higher levels of distributed generation, and potentially reducing the cost of operating and maintaining the distribution grid. As noted in the EMP, while ‘New Jersey does not currently have a means of pricing the benefits that batteries can provide at the distribution level . . . New Jersey is committed to adopting changes in regulatory policy that recognize the full wholesale and distribution value of batteries.’ EMP at p. 128.” New Jersey Storage Incentive Program Straw Proposal. DOCKET NO. QO22080540. September 29, 2022. P.22-23.

<sup>2</sup> PSE&G, they currently has 34 data center sites (290MW of peak demand) and are expecting an increase of 277 MW by 2031 due to 4 new data centers and the expansion request of 18 existing data centers. PSE&G expects an additional 143MW of new large load between 2023-2026. <https://www.pjm.com/-/media/committees-groups/subcommittees/las/2023/20231018/20231018-item-03e---ps-large-load-request.ashx>

delays in the PJM interconnection process due to compliance with FERC Order 2023). Given the coordination and approval required from PJM’s arduous and ever-changing interconnection process, the BPU should urgently seek to deploy Distributed Storage projects, which can interconnect under the BPU-jurisdictional interconnection processes, as a complement to the Grid Supply program.

Other regions have recognized the value of an “all-of-the-above” approach, and there is significant deployment of distributed energy storage under state and utility run programs, including in New York , Massachusetts, and Connecticut. These programs have been competitive due to 1) the ability of resources to stack revenues, including with other state incentives, and 2) the programmatic focus on third-party ownership. These should be core principles in the distributed storage program to control consumer costs, and we support the BPU’s inclusion of these two principles in the Straw Proposal.

However, these other programs have also been successful because they included long-term financial commitments and a long-term vision for energy storage deployment in their respective states, which has provided market stability and attracted low-cost capital. We believe the framework of the Distributed Storage program in the Straw Proposal, including having both an upfront, fixed incentive and an ongoing, performance-based incentive, provides a solid foundation for developing a robust market for distributed storage in New Jersey. However, as it stands today, the Straw Proposal does not provide the same level of commitment as these other programs. Therefore, because of the lack of certainty in program design, the current proposal for Distributed Storage would fail to attract the level of low-cost investment we believe is possible.

To remedy this concern, the BPU should adopt the following **four** recommendations for the Distributed Storage program, which we outline in further detail below (in addition to answering a question posed by the BPU):

1. The BPU should set specific targets for each market segment (Grid Supply and Distributed) for the overall allocation of the storage goal, allocating no less than 600 MW to the Distributed Storage program, and set near-term targets which encourage investment, including a 200 MW initial block for the Distributed Storage Program
2. The BPU should introduce a mechanism to provide at least 10 years of revenue certainty in the performance-based incentive program
3. The BPU should modify or clarify various aspects of the eligibility requirements for the Distributed Storage program, including the interconnection location, definitions of ownership and Major Permits, time to COD requirement, and the size of projects
4. The BPU should not wait until 2026 to begin to accept applications and enroll projects in the Distributed Storage program and should set a firm timeline for developing and implementing the Distributed Storage Program.

## Recommendation #1: Setting specific targets

Currently it is unclear how the BPU is planning to allocate the overall NJ energy storage target and its fixed budget towards each of the programs outlined in the Straw Proposal. Setting clear targets provides the market with a signal of the opportunity that exists and would encourage developers to continue to invest and make progress on projects in the long term.

In the Straw Proposal, the BPU proposes to set targets annually based upon a weighting of the following three factors: “(i) expected declines in the installed cost of storage over time (recognizing the disruption to this trend caused by recent supply chain issues); (ii) the environmental, public health, and grid benefits of quickly scaling storage; and (iii) the need to gain operational experience in New Jersey’s storage program.” While we generally do not dispute that these are important factors in determining appropriate targets, these do not consider the commercial implications that setting targets may have on attracting low-cost development. We would recommend including the following five additional factors in setting the annual targets, which we have seen influence block pricing and size in other jurisdictions: (iv) estimated number of projects eligible to participate, (v) expected development timelines, (vi) activity in previous rounds of funding, (vii) diversity of project types, and (viii) macroeconomic and federal policy changes which may impact incentives and financing.

To make investment decisions, project developers need to understand the size and scope of the programs far before bidding into or applying for the program. Developing projects to participate in competitive programs always carries some risk. However, introducing additional uncertainty by not clearly defining long-term targets could dissuade risk-averse investors and increase early-stage financing costs. This is particularly true for projects in the Distributed Storage market segment, which require a significant amount of upfront work with host-load partners. Easing into the program with small initial block sizes, as suggested in the Straw Proposal, with unknown year-over-year changes in block size will discourage companies from making long-term investments.

To meet New Jersey’s 2030 storage targets in a wholistic manner, Distributed Storage project developers need to understand the overall market opportunity over the next several years to make investments now. Considering the seven factors above, the BPU should allocate at least 600 MW (30%) of the overall state target towards the Distributed Storage program and should set the initial block of upfront fixed incentives for Distributed Storage to be at least 200 MW (33% of the distributed allocation). This is consistent with targets in other regions, including Connecticut, which is allocating 580 MW (58%) of its 1 GW goal to a BTM energy storage program,<sup>3</sup> and New York, which is allocating 1.7 GW (28%) of its 6 GW target towards retail storage projects with proposed upcoming blocks sizes of 100-300 MW (representing 40-66% of the retail target in each zone) in 2025 to meet its 2030 goals<sup>4</sup>.

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<sup>3</sup> PURA, Energy Storage Solutions Program Overview. <https://portal.ct.gov/pura/electric/office-of-technical-and-regulatory-analysis/clean-energy-programs/energy-storage-solutions-program>

<sup>4</sup> NYSERDA, Residential-Retail Storage Implementation Plan – 2024-2030. <https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=332851&MatterSeq=55960>

## Recommendation #2: Providing Revenue Certainty

Like projects in other distributed programs, projects in New Jersey’s Distributed Storage program need to be able to guarantee participation in performance-based revenue streams long before they are operational, and they need to be able to lock in a fixed price for the performance-based incentive for at least 10 years. The option to reserve and lock-in performance-based prices in other states’ programs, including ConnectedSolutions, Energy Storage Solutions, and New York’s Value Stack, is perhaps the most important reason why these programs have been successful in attracting low-cost capital, which has reduced overall project costs and resulted in high distributed energy storage deployments.

The table below shows the incentive price lock-in periods and the reservation periods available to energy storage projects participating in these other distributed programs:

**Table 1:** *Incentive Lock and reservation periods for energy storage projects participating in distributed energy storage programs in other northeastern states upon which the Distributed Storage program is based.*

State	Program	Incentive Price Lock	Reservation Period	Requirements to Reserve
Massachusetts <sup>5</sup>	ConnectedSolutions	Daily Dispatch <b>5 years</b>	<b>2 years</b>	Interconnection Application Accepted
Connecticut <sup>6</sup>	Energy Storage Solutions	Active Dispatch <b>10 years</b>	<b>2 years</b> , with the option to extend up to 3 years	Interconnection Application Accepted
New York <sup>7</sup>	Value Stack	DRV/LSRV <b>10 years</b>	<b>2 years</b> , with the option to extend up to 3 years	Project makes its 25% upgrade deposit in the interconnection process

Consistent with these programs and the maturity requirements associated with the fixed incentive outlined in the Straw Proposal (even when considering our proposals under recommendation #3), the BPU should conditionally accept projects to participate in the performance-based incentive at the time they are approved to receive the fixed incentive, given that they meet all of the EDC’s eligibility requirements and achieve COD by the guaranteed COD date. Within that conditional

<sup>5</sup> Offering Materials for ConnectedSolutions for Commercial/Industrial Customers. [https://www.masssave.com/-/media/Files/PDFs/Business/CI-ConnectedSolutions-Offering-Materials\\_June-2023.pdf](https://www.masssave.com/-/media/Files/PDFs/Business/CI-ConnectedSolutions-Offering-Materials_June-2023.pdf)

<sup>6</sup> CT Energy Storage Solutions Program Manual: <https://portal.ct.gov/-/media/pura/electric/tra/energy-storage-solutions-program-manual-2024.pdf?rev=e46861cc8c15443282355855b6493530&hash=54370E837FE4DA312863AAA53EFD8981>

<sup>7</sup> Value Stack Reference Guide for Energy Storage Developers. <https://www.nyserda.ny.gov/-/media/Project/Nyserda/Files/Programs/Energy-Storage/Value-Stack-Reference-Guide-for-Storage-Developers.pdf>

approval, the BPU would allow projects to lock in a performance-based incentive price for a period of 10 years starting when the project reaches COD.

While projects under this recommendation would still be exposed to operational risk (i.e. they would need to perform during performance calls to be paid the fixed rate and would need to optimize their performance strategy across the value stack)<sup>8</sup>, price-certainty provides the project with access to lower cost capital than it would otherwise have had available.

Guaranteeing a fixed price for the performance-based incentive is also consistent with the gap analysis that the BPU will need to perform to set the fixed incentive. In that analysis, the BPU will need to assume the net present value of the performance-based incentive based on an assumption of a performance-based incentive rate. Once the fixed incentive is set for a block, there is no mechanism to adjust it if there is a change to the performance-based incentive. Without a price lock for the performance-based incentive, a project cannot guarantee that either the performance-based incentive or the fixed incentive would be sufficient to invest in a project. The more uncertainty there is in these programmatic revenue streams the more investors will discount it. This raises the cost of capital and results in more expensive projects.

### **Recommendation #3: Clarifying Eligibility Requirements**

Our third recommendation is to modify and clarify the following eligibility requirements to align with realistic commercial expectations and to provide clarity to the marketplace. For each eligibility requirement, we include citation to the relevant section in the Straw Proposal as reference and indicate where there should be a change or clarification:

- **Interconnection Location** (14:8-14.5(a)): There are many large industrial customers in New Jersey interconnected directly to the EDC's transmission system. BTM storage at these locations offer a significant opportunity to provide value to the grid at scale, while maintaining compliance with BPU jurisdictional interconnection processes, particularly when designed in a non-export configuration. BTM, transmission-connected projects should be included in the Distributed Storage program, as they will be incredibly important in achieving New Jersey's storage goal of 2 GW by 2030, which is fast approaching. The BPU should clarify whether these projects are included in the BPU's definition of the Distribution System, as these projects would be located at facilities of customers served by the EDCs, or the BPU should expand the definition of eligible projects in the Distributed Storage program to include storage located with large loads connected to the transmission system.
- **First-Come, First-Served** (14:8-14.5(h)): While we understand the BPU's desire to make the fixed incentive available on a first-come, first-served basis, we are concerned

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<sup>8</sup> Providing system value through the performance-based incentive can come at a cost to value from other parts of the value stack (e.g. responding to a dispatch call could prevent a project from responding to a price signal during another part of the day).

that this will lead to projects gaming or spamming the BPU's system the second that the block opens (e.g. through software that submits applications at 12:00:01 the block opens). Especially if the block is expected to fill quickly, as it might in the event the initial block sizes are small, this will advantage projects with the best software to submit applications rather than projects which are most likely to be viable. A first-come, first-served system may not guarantee the highest quality projects for the BPU. Therefore, the BPU should adopt a similar mechanism to New York, which opens an initial 14-day window to submit applications to a block, which are prioritized based on their interconnection application date. After that initial 14-day window, if the block is still undersubscribed, then projects are evaluated on a first-come, first-served basis.

- **Time to COD** (14:8-14.5(n & o)): Given current permitting, construction and supply chain timelines, 550 calendar days is not a commercially reasonable time between a signed GIA and the Planned COD to confidently achieve a Planned COD, and 150 days is not a commercially reasonable buffer between the Planned COD and the Guaranteed COD. Therefore, to reflect the reality of the current development timelines, for the Distributed Storage program the BPU should extend the time between the GIA and the Planned COD to at least 700 days and the time between the Planned COD and the Guaranteed COD to at least 180 days. This would provide projects, at most, approximately 2.5 years to achieve COD, which we believe developers should be comfortable accepting, especially if there is a process for extending the COD in instances of good cause (which we assume would include delays caused by the time required by the EDCs to construct interconnection upgrades).
- **Co-location** (14:8-14.5(r)(1)(ii)); The BPU should clarify in the regulations that existing generation located at a customer's site not affiliated with the storage facility (e.g., existing solar, existing back-up generation, etc.) would not be considered in the determination of whether a storage facility is standalone, so long as the storage facility is not directly connected to (i.e., cannot directly charge from) these facilities.
- **Major Permits** (14:8-14.5(r)(1)(iv)): The BPU does not include a definition of Major Permits in the draft regulation language. The definition of Major Permits should include all non-ministerial permits (e.g. planning and zoning board approval) but should not include ministerial permits (e.g. building, electrical, etc.). This would reflect reasonable progress in the development process, while not overburdening projects with requirements that would typically happen later in the development process.
- **Ownership and Site Control** (14:8-14.5(r)(1)(iii & vi)): There are a variety of ownership arrangements that have evolved in other jurisdictions between a load customer and the battery system owner/operator. In some of these arrangements, the load customer does not own the storage nor lease land to the storage owner, but instead provides the storage owner with a license to own and operate the storage facility on their property and manage their load. The BPU should expand the eligibility requirement regarding site control to include an option where the system owner could provide a different type of written agreement, instead of a lease or deed, between the landowner/EDC customer and the storage owner for the development of the storage facility. The BPU should also clarify if a third-party owned storage system operating under a license at a residential or



non-residential customer of an EDC falls within the definition of “leased,” and if not, should expand the ownership eligibility requirement to include this type of arrangement.

- **Performance During a Call** (14:8-14.6(e)): Projects that do not perform during a call should have non-performance factored in their Response kW. However, if a resource is not able to perform for the entire call, the positive performance during part of a call should still be included in their average performance, rather than giving the resource no credit for the entire event. Therefore, the BPU should adopt a Response kW calculation similar to Connecticut’s Energy Storage Solution program<sup>9</sup>.
- **Automatic Response** (Section VII.C.4): While we recognize that energy storage projects will need to have systems in place to receive and respond to performance calls from the utility, the BPU should clarify what it means when it says automatic response. Because the performance-based incentive provides the option to opt-out of a call, the BPU should not impose a technical requirement which removes this optionality, nor which limits the operational flexibility of the resource. Resource owners should have direct control over dispatch timing and quantity, which will allow for optimized value stacking and thus value maximization to the system across the available programs and markets.
- **Size Requirements** (not included): While not included in the draft regulations, the BPU should not include a project size cap in the Distributed Storage program. As outlined above, we believe that there are large projects in New Jersey which could participate in this program providing significant wholesale, distribution and demand management value in programs that do not have participation size caps. However, if the BPU determines that a project size cap is necessary, we would recommend that the cap reflects a site’s peak load plus a buffer. This would allow a project to serve a customer’s entire load and allow the possibility of system export, which would provide the project developer with the most optionality in participating in other programs, including PJM’s markets which allows for facility export up to 5 MW under their Order 2222 participation model.

#### **Recommendation #4: Creating an Implementation Timeline**

Finally, tying the three recommendations above together, the BPU should work to develop a clear timeline for the development and implementation of the Distributed Storage program. This timeline should move forward portions of the Distributed Storage program, which would allow projects to lock in incentive payments and program eligibility. This would encourage developers to find partners and make investments in the near-term, setting them up to participate in the performance-based program in the long-term and to come online before 2030. We believe that the following timeline would provide the BPU and EDC sufficient runway to complete the analysis necessary to effectively develop the remaining pieces of program design, while simultaneously making progress towards implementing these programs:

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<sup>9</sup> CT Energy Storage Solutions Program Manual: <https://portal.ct.gov/-/media/pura/electric/tra/energy-storage-solutions-program-manual-2024.pdf?rev=e46861cc8c15443282355855b6493530&hash=54370E837FE4DA312863AAA53EFD8981>

- **Q1 2025:** The BPU finalizes program rules and eligibility requirements, sets the overall MW allocation for the two programs, and sets the initial MW targets for the initial procurements/blocks for each market segment based on current analysis
- **Q3 2025:** Open Block 1 (2025) fixed incentive with the guarantee that the value of the fixed incentive will ensure that the total incentive level projects receive (fixed + performance-based) is no less than in the combined values in the straw proposal. The fixed incentives would be adjusted once performance-based operational requirements and payment size/detail are determined. Projects that are approved for the fixed incentive should be given conditional approval for the performance-based incentive, where conditional approval means that they are guaranteed eligibility to participate in the performance-based incentive at a fixed rate for 10 years so long as they become commercial by the Guaranteed COD and meet all eligibility requirements for the performance-based incentive (as outlined in recommendation #2)
- **Q3 2025:** EDCs file performance-based incentive rates for each market segment and program rules/manuals
- **Q4 2025:** BPU approves performance-based rate and conducts a gap analysis to back-calculate the fixed incentive for Block 1, ensuring that the NPV performance-based incentive plus the fixed incentive is no less than the combined value in the straw proposal
- **Q2 2025 – Q2 2026:** EDCs develop software capabilities to dispatch assets for the Performance-Based Incentive
- **Q3 2026:** Block 2 opens (including any rollover capacity from Block 1), and each year thereafter for subsequent blocks. Projects that are approved for the fixed incentive should be granted conditional approval for the performance-based incentive
- **Q3 2026-Q1 2027:** Block 1 projects expected to begin achievement of COD, with recognition that CODs could extend into 2027/2028 due to interconnection, supply chain, etc.
- **Q3 2026:** EDC start dispatching for the Performance-Based Incentive Program

### Responses to Select BPU Questions

9. Should the Board require EDCs to implement a designated distributed energy resources management system (DERMS) to effectively manage and dispatch resources across their systems?

While in the long-term DERMS will help utilities manage their distribution systems and allow for more flexible dispatch of distributed resources, DERMS is not needed to implement the ConnectedSolutions-style performance-based incentive currently proposed in the Distributed Storage program. As we outlined above, in the short-term the EDCs should focus their attention on developing a simple dispatch system and performance measurement/verification system for the performance-based incentive. Like systems in other jurisdictions, this system does not require full DERMS capabilities. Developing DERMS in the near-term would slow down progress

towards developing the performance-based incentive and should be prioritized after the initial program is stood and implemented to create additional flexibility in the future.

## **Conclusion**

Calibrant appreciates the BPU's consideration of these comments and stands ready to continue to engage in the stakeholder process. We recognize the monumental effort that has gone into developing the Straw Proposal and believe that the proposed program framework, including for the Distributed Program, has the potential to help the state meet its storage targets if the BPU acts swiftly to address the concerns and uncertainty that we outline in these comments.