



STATE OF CONNECTICUT

PUBLIC UTILITIES REGULATORY AUTHORITY

COVER PAGE

Project Title: Connecticut's Innovative Energy Solutions Program

FOA Topic: Topic Area III

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Applicant: Connecticut Public Utilities Regulatory Authority

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Project Description

I. IES Program Overview and Background

Today's electric grid faces many new and growing challenges such as rising energy demand, the growing deployment of distributed energy generation resources (DERs) like rooftop solar, ambitious climate and energy policies, and increasing storm frequency and intensity. These, and other challenges, are impacting the affordability, resilience, and reliability of Connecticut's electric distribution system.

In response to these challenges, the Connecticut Public Utilities Regulatory Authority (PURA) established a distinct strategy for grid modernization, separate from traditional Electric Sector regulation. In October 2019, PURA issued an Interim Decision in Docket No. 17-12-03, PURA Investigation into Distribution Planning of the Electric Distribution Companies (2019 Grid Modernization Decision) outlining the Authority's Equitable Modern Grid (EMG) Framework for investigating near- and long-term strategies to modernize Connecticut's electric grid. The framework is designed to meet four key objectives:¹

- Support (or remove barriers to) the growth of Connecticut's green economy;
- Enable a cost-effective, economy-wide transition to a decarbonized future;
- Enhance customer access to a more resilient, reliable, and secure commodity; and
- Advance the ongoing energy affordability dialogue in the State, particularly in underserved communities.

Through the 2019 Grid Modernization Decision, the Authority also established eleven new proceedings, each investigating a key component of grid modernization and seeking to advance the above objectives. One of these proceedings was Docket No. 17-12-03RE05, PURA Investigation into Distribution Planning Of The Electric Distribution Companies – Innovative Technology Applications And Programs (Innovation Pilots). The goal of this docket was to create a unique, innovative regulatory structure that allowed Connecticut's electric distribution companies (EDCs)² and third-party developers to deploy, on a limited basis, innovative pilot programs, technologies, products or services and to evaluate their performance. If satisfactory ratepayer benefits are demonstrated, the innovation(s) could be scaled up for statewide deployment by the EDCs.

¹ PURA Decision, Docket No. 17-12-03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies, October 2, 2019, <https://www.dpuc.state.ct.us/2nddockcurr.nsf/8e6fc37a54110e3e852576190052b64d/0e5fc32986954bf78525875200798b44?OpenDocument>

² Connecticut regulates two EDCs – The United Illuminating Company (UI) and The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource). Together, these two EDCs serve approximately 90% of Connecticut ratepayers.

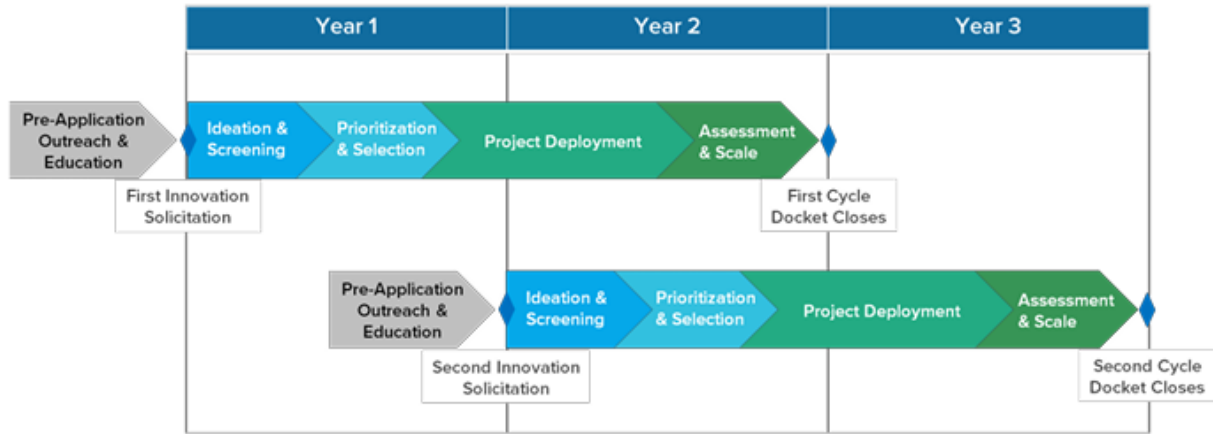
The Authority issued its Decision in Docket No. 17-12-03RE05 on March 30, 2022, officially approving the program design of the Innovative Energy Solutions Program (IES Program) and its Framework. The IES Program was developed with attention to several guiding principles:

1. **Economic Viability and Equity:** The IES Program is an opportunity to realize and advance innovative solutions that have the potential to deliver value to all electric customers and the state as a whole. Consistent with the overarching goals of the EMG Framework, it is the Authority's intention that the IES Program will support the growth of Connecticut's green economy. This program will promote equity by delivering benefits to all customer classes and segments, developing green jobs to provide statewide economic benefit, and effectively using customer funds through the deployment of cost-effective projects. Only through equitable solutions can a sustainable green economy be established.
2. **Transparency:** Transparency is crucial for activities that are in service to the public interest and funded by customers. Clear communication is necessary to illustrate how public funds will be spent, and how outcomes of the IES Program will be measured and evaluated. In this context, transparency includes (but is not limited to) pilot project economics, stakeholder visibility on the goals and objectives for proposed projects, and insight into screening, evaluation, and decision-making criteria.
3. **Diversity & Market Gaps:** The IES Program will create unique opportunities for high-value, customer-facing solutions that may otherwise face barriers to market entry. To this end, this program will bridge existing programming gaps and will focus on enabling a breadth and diversity of customer-facing solutions.
4. **Scalability:** The IES Program will identify and foster long-term solutions for the electricity network and end-users. The delivery of meaningful system and customer benefits can only be achieved at scale, and thus any projects that would be considered must, by necessity, demonstrate the potential to scale up past the initial demonstration phase to deliver benefits to a wider set of customers.
5. **Continuous Learning:** The IES Program will embody an agile process that can grow and adapt to suit a wide array of customer, grid, and market needs. Continuous improvement mechanisms, informed by experiential learning, are a necessary and valuable element of this process, and will enable evolutionary growth towards a more advanced framework in furtherance of stated long-term strategic goals. Feedback and lessons learned from applicants, innovators, and internal stakeholders will prove critical in improving the IES Program over time and promoting a regulatory environment that encourages further innovation.

Additionally, there are two features of this program that distinguish it from other pilots or test beds. The first is that it employs guardrails and project "off-ramps" to ensure value and minimize ratepayer risk. The IES Program is structured into four phases, where potential innovations are reviewed with increasing scrutiny to ensure that their product or service meets the needs of Connecticut's grid and ratepayers and can deliver their claimed benefits or value at scale. The project development cycle will be conducted through four phases: (1) Ideation &

Screening; (2) Selection & Prioritization; (3) Project Deployment; and (4) Assessment & Scale. The duration of each phase is displayed by Figure 1 below:

Figure 1: Planned Innovation Energy Solutions Programmatic Schedule



The process will operate on a two-year cycle, with project deployment in Phase 3 occurring over approximately 12 to 18 months. A cycle soliciting a new cohort of projects will be launched each year with a PURA docket initiated (Program Cycle). If a project cannot meet the criteria and thresholds at a certain phase, the Authority will be able to retire the project, thereby avoiding unnecessary risk and costs to ratepayers.

The second feature addresses the inverse situation where a pilot project demonstrates substantial ratepayer and grid benefits. In this case, the IES Program provides a clear pathway by which to move a successful pilot project to full-scale deployment across the state’s two largest EDCs’ territories. This ensures that successful pilots are brought to scale, thereby delivering the benefits of innovation to all ratepayers within a two-year period.

The IES Program decision also established an Innovation Advisory Council (IAC) that is comprised of a representative set of local stakeholders, responsible for ensuring balanced perspective in the IES Program. Specifically, the IAC includes representation from key categories of stakeholders including PURA; Connecticut’s Office of Consumer Counsel (OCC); the Connecticut Green Bank; Connecticut Innovations (a quasi-public venture capital fund);³ technical representatives from each EDC; CTNEXT (an economic development, community-focused organization);⁴ the Connecticut Department of Energy and Environmental Protection (DEEP); and Yale University staff familiar with climate technology innovation.

³ <https://ctinnovations.com/>

⁴ <https://ctnext.com/>

PURA has allocated up to \$25 million of ratepayer funds per annual Program Cycle, with no more than \$5 million to any individual project. There are three pathways that will be used to categorize each project's participation: 1) third-party projects or companies; 2) EDC-administered customer and system needs innovations; and 3) collaborations between the EDCs and third parties. It is the goal that there will be at least one project in each pathway during each Program Cycle. This will help maintain a diversified portfolio of solutions, each focusing on a different system challenge.

The first IES Program Cycle will officially launch by January 31, 2023 in Docket No. 22-08-07, Innovative Energy Solutions Program Cycle 01.⁵ Each Program Cycle focuses on a selected "theme" for which to solicit projects, but does not exclude proposals that fall outside that theme if they fit within Connecticut's EMG Framework. The Theme of Cycle 1 is focused on Demand-side Flexibility which may include, but is not limited to, solutions such as advanced forecasting, automation, flexible winter peak technology, thermal storage and more. Opportunities for public participation will occur throughout the docket.

II. Eligibility and Technical Approach

Connecticut's Innovative Energy Solutions (IES) Program presents a novel and innovative regulatory structure that meets multiple objectives identified by DOE for Topic Area 3 of the Grid Resilience and Innovation Program FOA. Specifically, the IES Program has the potential to further many, if not all, of technologies identified by Areas of Interest 2 – Distribution System Applications under Topic Area 3.

a. Ensuring Reliable Grid Operation & Improving Overall Grid Resilience

The IES Program's approach to enhancing distribution infrastructure resilience and reliability maximizes access to a diverse portfolio of strategies while minimizing risk to ratepayers. In this inaugural program cycle, Connecticut is soliciting proposals that fall under the umbrella of "Demand-Side Flexibility." This theme is broad enough to capture a wide array of resilience and reliability technologies including, but is not limited to, advanced forecasting, automation, flexible winter peak technology, thermal storage and more.

Rather than just pilot one solution at a time, third-party innovators, the electric distribution companies (EDCs), and partnerships between the two can submit proposals for up to \$5 million each in funding to deploy a pilot program over a 12-18 month period. This allows the program to test multiple, unique innovations that can deliver resilience and reliability benefits, and advanced grid capabilities in a contained, monitored environment. Projects that sufficiently demonstrate their benefits can then be scaled up for statewide deployment across the EDCs' territories.

⁵ More information can be found at <https://portal.ct.gov/PURA/Electric/Office-of-Technical-and-Regulatory-Analysis/Clean-Energy-Programs/Innovative-Energy-Solutions-Program>

b. Enhancing collaboration between and among eligible entities and private and public sector owners and operators on grid resilience.

i. Regulatory Collaboration

One of the primary benefits the IES Program offers innovators is education and engagement on topics that they may not otherwise have strong background in such as current regulation, processes, and funding mechanisms to construct effective projects. This outreach will help to cultivate a more robust ecosystem of participants that will benefit the process by keeping innovation within the intended scope of the Authority. Informed by other jurisdictions' experience and best practices, the Authority submits that lack of proactive outreach, support, and education for nontraditional parties can lead to disengagement and/or miscommunication of expectations between parties. Accordingly, innovators may reach out with questions to the Authority and/or Program Administrator at any point before submitting a concept proposal into Phase 1 of an IES Program Cycle. This informal engagement will provide opportunities for innovators to exchange information and feedback in a streamlined manner with the objective of increasing program accessibility. Such services are intended to be limited in scope – to be focused on regulatory awareness and IES Program information.

ii. Utility Collaboration

As stated above, the IES Program employs a three-pathway structure for participation; one of which being through partnership between the EDCs and third-party developers. This structure creates opportunities for direct and enhanced collaboration between the EDCs and third parties. Even as the IES Program seeks to create space within the regulatory framework for innovation, the program design also creates conditions that help encourage more proactive and innovative collaboration between the EDCs and leading third-party clean energy companies. Accordingly, the long-term vision of the IES Program reflects a vibrant portfolio of EDC and third-party partnerships, with projects that deliver innovative and high-value customer solutions.

The Authority regards the EDCs as critical partners and enablers of the IES Program that will be involved early in the life cycle for third-party-led projects. The EDCs are expected to help facilitate the development of value-add, customer-centric projects that are well calibrated to grid needs and challenges. The EDCs are well-positioned to share business challenges or identified customer needs so that developers may craft innovative solutions to meet those needs. The responsibilities of the EDCs are outlined in greater detail in the Community Benefits Plan portion of this proposal.

c. Contributing to the decarbonization of the electricity and broader energy system.

Consistent with the four overarching objectives of the EMG Framework, the Authority's intention is that the IES Program will support the growth of Connecticut's green economy. The IES Program is the natural next step of Connecticut's Electric Efficiency Partners (EEP) Program,

which was established in 2008 to reduce electricity consumption based on the use of demand-side technologies.⁶ Simply put, the IES Program can be viewed as “EEP 2.0”. This evolution makes sense given the broader spectrum of possibilities for “front of the” and “behind the” meter customer side innovation, among others, that may now be available in the marketplace that did not exist at the inception of the EEP. Connecticut cannot afford to be idle as innovations are available today that can improve residents’ lives and benefit the environment. The Authority envisions that the IES Program will become a forum to foster an innovation ecosystem in Connecticut and to realize the benefits of such innovation. The IES Program was established to expand on the successes of the EEP program and provide a procedural mechanism to accelerate the deployment and scalability of innovative pilots.

d. Providing enhanced system value, improving current and future system cost-effectiveness, and delivering economic benefits

i. Enhanced System Value

The IES Program will serve as a platform to encourage electric sector innovation that will help Connecticut achieve its clean energy, climate, and other public policy goals by introducing new products and services in a monitored and supportive environment. The IES Program will balance the potential rewards and opportunities that innovation can deliver, while maintaining several controls throughout pilot selection and deployment to ensure value and minimize ratepayer risk. The IES Program is an opportunity to realize and advance innovative solutions that have the potential to deliver value to all of Connecticut’s electric customers, and for other states to learn from the program’s findings.

ii. Improved Cost-Effectiveness

To be eligible for the IES Program, projects must fulfill an initial set of pass/fail criteria established to protect customers and align with both overall program objectives and the objectives identified for the individual Program Cycle. Projects will be screened against these criteria and must meet them all to advance in the process. At a minimum, guardrails are proposed to ensure that projects: (i) do not present an inappropriate competitive advantage to the EDCs; (ii) do not unreasonably increase net costs to non-participant ratepayers; and (iii) advance statewide decarbonization goals. The IAC would initially screen projects against these criteria to determine eligibility during the first review phase.

⁶ EEP Program was codified in Public Act No. 07-242, An Act Concerning Electricity and Energy Efficiency, signed by Governor Rell on June 4, 2007. The EEP Program rules and guidelines for issuance of a certificate of public convenience and necessity to recognize eligibility as a partner; the processes for recognition of eligible technologies; and grant application were established by Decision dated June 4, 2008, in Docket No. 0706-59, DPUC Review of the Connecticut Electric Efficiency Partners Program. The EEP Program focused on enhanced demand-side management technologies that conserve electricity and reduce electric distribution customers’ electric demand in the state, specifically, peak electric demand. For avoidance of doubt, the Authority now requires potential EEP technologies and partners to apply through the framework of the IES Program.

As projects move through three subsequent phases, innovators would be required to provide a greater level of supporting detail to aid in the Program Administrator and the Authority’s increasingly stringent evaluation of the project’s progress. Metrics and criteria will be used to: guide, screen, and select projects; understand project potential and delivered value; enable data-driven decision-making; and evaluate projects. The key categories of metrics were proposed to align with the IES Program objectives and encompass: (1) economic benefit, (2) cost-effectiveness, (3) solutions for programmatic and market gaps, and (4) equity.

Projects are evaluated against these metrics through a progressively more stringent review at each phase of project deployment. This “fail fast” approach intends to build in room for innovation and ideation, while mitigating potential risks and costs to all parties. Each phase of the process would include a built-in “off-ramp” at each step. This approach is intended to ensure that only the most viable projects will make it to the final phase and be considered for at-scale deployment. Projects that are not suitable for the IES Program may be guided to an alternate state-level clean energy program, where applicable and appropriate.

iii. Economic Benefits

Economic impact is a critical component in project evaluation. As projects move through each phase, innovators will be expected to demonstrate that their projects have a positive impact on the Connecticut economy from both a product innovation perspective and from a business operations view. Initially, through high-level estimates and later through more formal analysis, projects will be expected to demonstrate the direct and indirect economic impact of their projects as pilots and at scale. Additionally, innovators will be required to document hiring of Connecticut-based staff and vendors wherever possible and provide proof that any such staff are compensated at the prevailing wage.

Local economic benefit can be measured via demonstration of incremental job creation, contracting within Connecticut over the life of the pilot project, analysis and/or business plans that demonstrate persistent direct and/or indirect job creation over the project’s lifetime at scale. The Authority and the IES Program Administrator will ensure that expectations regarding tools and methods for ascertaining these impacts are clearly communicated to innovators early in the process and their level of effort is scaled appropriately to each phase.⁷

⁷ The Program Administrator supports the Authority’s efforts to oversee and administer the process, thereby ensuring its smooth progression. The Program Administrator will be a neutral, third-party consultant retained by the Authority through a competitive solicitation process. The Program Administrator’s responsibilities include outreach and engagement, facilitation, oversight of project implementation, and evaluation.

III. How the project supports State, local, Tribal, community and regional resilience, in reducing the likelihood and consequences of disruptive events, decarbonization or other energy strategies and plans.

a. The scale of the proposed project and the differentiated value that this scale will bring to the project and the subject area.

The Authority and the EDCs have planned for a five-year budget, or five total cycles with a new one launching each year. Additionally, PURA is hopeful that the number of projects for pilot implementation in each cycle grow over time, anticipating approximately 3-5 projects for each of the first two program cycles, increasing to eight by Cycle 5. The program will undergo constant, iterative improvements and does not currently have a formal sunset. There is great potential for this model to expand to other regulated utility sectors in Connecticut as well.

To PURA's knowledge, while other regulatory sandboxes and pilot program exist in the country, the IES Program as a whole is the first of its kind. Each program cycle offers the potential to test a suite of modern solutions that address a unique challenge facing Connecticut's grid, while providing direct, substantial compensation to innovators, but limiting ratepayer risk.

b. Workforce development , Environmental justice, Equity, and Community Engagement, federal reporting, and technical oversight.

i. Workforce and Local Economic Development

As stated above, one of the core guiding principles of the IES Program is Economic Viability and Equity. Solutions identified through this process have the potential to deliver value to all electric customer classes statewide and develop sustainable jobs. As projects move through each phase, innovators will be expected to demonstrate that their projects have a positive impact on the Connecticut economy from both a product innovation perspective, and from a business operations view. Initially through high-level estimates and eventually through more formal analysis, projects will be expected to demonstrate the direct and indirect economic impact of their projects as pilots and at scale. Additionally, innovators will be required to document hiring of Connecticut-based staff and vendors wherever possible and provide proof that any such staff are compensated at the prevailing wage. Local economic benefit can be measured via demonstration of incremental job creation, contracting within Connecticut over the pilot project life, analysis and/or business plans that demonstrate persistent direct and/or indirect job creation over the project's lifetime at scale.

Additionally, the IES Program will require proposals to prioritize hiring and working with vendors from underserved communities wherever possible. Proposals will be asked to identify best efforts and results of efforts to engage with these communities.

ii. Equity

The IES Program promotes overall inclusivity and program participation by customers in underserved communities. Underserved communities may include low-to-moderate income customers, customers in environmental justice communities defined pursuant to General

Statutes of Connecticut (Conn. Gen. Stat.) § 22a-20a, and/or customers in distressed municipalities as defined by the Connecticut Department of Economic and Community Development. Evaluation and measurement will require an initial baseline to be established for participation in underserved communities, and subsequent demonstration that a given offering is forecasted or has been shown to exceed this baseline. Such baseline may use a target of 40 percent participation by customers in underserved communities, consistent with the Biden Administration’s Justice40 Initiative and Connecticut’s Residential Renewable Energy Solutions (RRES) and Energy Storage Solutions programs.⁸

Net benefit to underserved communities can also be demonstrated through cost-effectiveness analysis, such as segmenting these populations via a modified Ratepayer Impact Measure (RIM) test. Project evaluation may also consider energy burden in identifying customer segments or locations with the greatest needs and opportunities for improvement. Further, evaluation metrics related to underserved communities are expected to be similar to or exceed performance relative to the general population.

IV. The grid-benefitting outcomes to be delivered by the project

The Authority intends to solicit and select projects that can support the needs of direct program participants, public policy objectives, and grid needs, including, but not limited, system peak reduction, reducing transmission system demands, managing demands on distribution system, and reducing greenhouse gas emissions. The EDCs will be expected to support these objectives by helping to provide qualitative and quantitative assessments of grid needs, so that applicants may respond to these needs in their proposals.

It is expected that most projects will have a clear “go” or “no go” determination regarding scaling at the end of Phase 4. These determinations will be made as a final decision in the relevant IES Program cycle docket. Projects that are ready to scale up will be invited to submit the appropriate regulatory application. Regulatory applications for a successful project may include, but are not limited to, an application for the creation of a distinct, “scale up” docket or the incorporation of the project into existing state programs over which the Authority has jurisdiction. It is important to note that only the initiatives that demonstrate readiness to scale and are projected to accrue net benefits at scale as measured by multiple evaluation metrics, will be selected to scale. Projects that are not yet ready to scale but display promise and economic viability will have an opportunity to cycle back through the IES Program with modifications in place, but this will be assessed on a case-by-case basis. Projects that do not display further potential to scale up upon assessment during Phase 4 will exit the IES Program.

⁸ More information about Connecticut’s RRES Program can be found at <https://portal.ct.gov/pura/electric/office-of-technical-and-regulatory-analysis/clean-energy-programs/residential-renewable-energy-solutions-program>; More information about Connecticut’s ESS Program can be found at <https://portal.ct.gov/pura/electric/office-of-technical-and-regulatory-analysis/clean-energy-programs/energy-storage-solutions-program>.

a. How quantitative, measurable metrics relating to the intended improvements in grid outcomes will be utilized to evaluate success.

During the active lifetime of the project, innovators will be required to meet reporting requirements, with progress periodically reported to the Authority. Project reports will be publicly available as compliance filings in the IES Program cycle docket, with confidential information adequately protected. These requirements include, but are not limited to:

- Bi-Monthly updates (i.e., every other month) demonstrating project progress and key metrics, including cost and schedule results versus budget and approved timeline.
- Annual performance reviews conducted by the Program Administrator and the Authority, with reports made publicly available.

Should PURA be a recipient of the Topic Area 3 funding, it would ensure that any DOE-required reporting elements would be included these regular project reports, subject to any necessary non-disclosure agreements.

V. The impact of the project to reduce innovative technology risk, achieve further deployment at scale, and lead to additional private sector investments

The evaluation of projects against IES Program metrics will become progressively more stringent at each phase of project deployment. This “fail fast” approach intends to build in room for innovation and ideation while mitigating potential risks and costs to all parties. Each phase of the process will include a built-in “off-ramp” at each step of the process. This approach helps ensure that only the most viable projects will make it to the final phase and be considered for at-scale deployment. Projects that are not suitable for the IES Program may be guided to an alternate state-level clean energy program, where applicable and appropriate. The figure below illustrates how key metrics will be applied during each phase of the IES Program.

This “fail fast” approach seeks to identify and scale successful projects, while providing freedom and flexibility to retire projects that do not demonstrate sufficient potential to scale. Such an approach allows opportunity for a larger portfolio of projects than could otherwise be contemplated, and further represents an important tool to limit cost impacts by ensuring that program funds are directed to successful projects that are delivering commensurate value.

VI. The impact that DOE funding would have on this proposed project

a. How federal funding to address the risks identified in the application will increase the likelihood of securing additional public and/or private investment.

The IES Program design includes multiple customer guardrails, including overall program and project budget caps and a future Evaluation, Measurement, and Verification (EM&V) process. The IES Program has an overall budget of \$25 million for the first year with a \$5 million cap per project. The annual program budget may be adjusted in subsequent years of the IES Program based on recommendations from the Authority, the Program Administrator, and the IAC, but

the initial \$25 million provides an appropriate consumer protection measure and would allow the program to start smaller with the anticipation of building and scaling on success in the future. As recommended by stakeholders, the Authority clarifies that the \$5 million maximum potential award to any pilot project is a lifetime cap, meaning that spending on any individual pilot could not exceed the cap even if the project cycles back through the IES Program after Phase 4. The \$5 million project cap is consistent with similar programs in other jurisdictions such as Vermont and Hawaii.

Federal funding would help expand the IES Program's capacity, outreach capabilities, and number of pilots supported during a program cycle. The IES Program is already designed to mitigate risk, but more funding means more empirical testing opportunities through real-world applications. Ultimately, these may be able to serve as foundational evidence for prudent investment in innovative grid technologies in other jurisdictions that do not otherwise have the means to test them first. In other words, expanding the IES Program's funding benefits both Connecticut and its ratepayers, and other states looking to Connecticut as a test bed for innovative technology they may wish to deploy in their own jurisdiction.

For these reasons, PURA would seek an annual match of \$25 million for annual Cycles 2 through 4, and an additional match of up to \$200,000 per cycle for consulting services, as described in the next section below. If given the opportunity to provide a detailed proposal, PURA would seek a total of \$100,800,000 for the duration of the four proceeding program cycles.

b. The project management strategy, including use of project funds to secure subrecipient or vendor expertise to support prime recipients on project management, accounting,

The Authority is the primary entity responsible for developing, administering, and managing the IES Program. The Authority retains ultimate decision-making authority over aspects of program design and project selection, but seeks input and support from facilitation partners and stakeholders. The Authority has retained Strategen Consulting, as a neutral, third-party consultant through a competitive solicitation process to serve both as an extension of staff and as the IES Program Administrator. The Project Administrator's responsibilities include outreach and engagement, facilitation, oversight of project implementation, and project evaluation.

The Authority is currently authorized by Conn. Gen. Stat. § 16-18a to retain a consultant to assist its staff in proceedings before the Authority, up to \$200,000 per proceeding, paid for by the involved utilities. Increasing the number of projects tested during a program cycle may result in increased program administration costs and therefore may require a portion of project funds to be allocated to cover that incremental increase. This will ensure sufficient administrative oversight, while remaining compliant with statutory limitations.

VII. The readiness, viability, and expected timing of the project

The Authority is prepared to launch the first IES Program Cycle solicitation by January 31st, 2023 through Docket No. 22-08-07, Innovative Energy Solutions Program Cycle 01. Cycles 1 and 2 are anticipated to adhere to the following schedule in accordance with the sequence described in Section I:

- January 31, 2023 – Solicitation Issued
- March 1, 2023 – Phase 1 Concept Proposals Due
- May 1, 2023 – Announce projects selected to submit Phase 2 Detailed proposals
- June 15, 2023 – Phase 2 Proposals Due
- July 31, 2023 – Initial Review of Phase 2 Proposals Complete; Recommended Projects submitted to PURA Decisional Staff
- September 2023 – Begin preparations for IES Program Cycle 2
- November 31, 2023 – PURA Interim Decisions selecting projects to move into Phase 3 Pilots
- December 2023 – January 2025 – Pilot testing
- January 2024 – IES Program Cycle 2 launch

In other words, PURA is prepared to launch the first cycle, and to begin planning for the second cycle within the next year. This positions the IES Program well to apply for federal funding for Cycle 2. Applying federal funding to IES Program Cycle 2 will allow for PURA to incorporate lessons learned from Cycle 1. Each subsequent program cycle is expected to follow a similar timeline, as outlined in Figure 1 above.

a. The replicability, extensibility, and scalability of the project.

Scalability is integrated into the IES Program both the selection of the innovation projects themselves, and through the continuous learning and improvement that will occur during each program cycle. The IES Program embodies an agile process that can grow and adapt to suit a wide array of customer, grid, and market needs. Continuous improvement mechanisms, informed by experiential learning, are a necessary and valuable element of this process, and will enable evolutionary growth towards a more advanced framework in furtherance of stated long-term strategic goals. Feedback and lessons learned from applicants, innovators, and internal stakeholders will prove critical in improving the IES Program over time and promoting a regulatory environment that encourages further innovation. This intrinsic value enables the Program to both expand in Connecticut, and in other states. As PURA learns and becomes more experienced in administering this program, it will be better able to share its lessons learned and best practices for other states interested in implementing a regulatory sandbox framework.

Community Benefits Plan

As previously discussed in this proposal, economic development, environmental justice, and equity are all priorities embedded in the IES Program. Economic impact will be a critical component in project evaluation. As projects move through each phase, innovators will be expected to demonstrate that their projects have a positive impact on the Connecticut economy from both a product innovation perspective, and from a business operations view. Initially through high-level estimates and eventually through more formal analysis, projects will be expected to demonstrate the direct and indirect economic impact of their projects as pilots and at scale. Additionally, innovators will be required to document hiring Connecticut-based staff and vendors wherever possible and provide proof that any such staff are compensated at the prevailing wage.

Local economic benefit can be measured via demonstration of incremental job creation, contracting within Connecticut over the pilot project life, analysis and/or business plans that demonstrate persistent direct and/or indirect job creation over the project's lifetime at scale. The Project Administrator will ensure that expectations regarding tools and methods for ascertaining these impacts are clearly communicated to innovators early in the process and their level of effort is scaled appropriately to each phase. Figure 2 below outlines potential economic benefit metrics by stage. Final metrics will be determined by the Authority, informed by input from the IAC and Program Administrator.

Figure 2: Planned Economic Benefit Metrics and Methods by Cycle Phase

		Ideation & Screening	Prioritization & Selection	Project Deployment	Assessment & Scale
Economic Benefit	Requirements	<ul style="list-style-type: none"> Expected incremental jobs created in-state Action plan for prioritizing in-state providers 	<ul style="list-style-type: none"> In-state hiring plan Identified in-state vendors and partners Budget breakout by in and out of state 	<ul style="list-style-type: none"> Documentation of in-state spending Updates to assumptions as needed for program plan at scale 	<ul style="list-style-type: none"> Updates to assumptions as needed for program plan at scale Modelling of direct and indirect effects
	Methods	<ul style="list-style-type: none"> Credible estimates and documentation 	<ul style="list-style-type: none"> Credible estimates and documentation Standard input spreadsheet 	<ul style="list-style-type: none"> Documentation of spending Assumptions tied to evaluation Standard spreadsheet 	<ul style="list-style-type: none"> Assumptions tied to evaluation Macroeconomic modeling

The IES Program will promote overall inclusivity and program participation by customers in underserved communities. Underserved communities may include low-to-moderate income customers, customers in environmental justice communities defined pursuant to Conn. Gen. Stat. § 22a-20a,⁹ and/or customers in distressed municipalities as defined by the Connecticut Department of Economic and Community Development.¹⁰ Evaluation and measurement will require an initial baseline to be established for participation in underserved communities, and subsequent demonstration that a given offering is forecasted or has been shown to exceed this baseline. Such baseline may use a target of 40 percent participation by customers in underserved communities, consistent with the Justice40 initiative and Connecticut’s Residential Renewable Energy Solutions (RRES) and Energy Storage Solutions programs.¹¹

Net benefits to underserved communities can also be demonstrated through cost-effectiveness analysis, such as segmenting these populations via a modified Ratepayer Impact Measure (RIM) test. Project evaluation may also consider energy burden in identifying customer segments or locations with the greatest needs and opportunities for improvement. Further, evaluation metrics related to underserved communities are expected to be similar to or exceed performance relative to the general population.

Additionally, the IES Program will require proposals to prioritize hiring and working with vendors from underserved communities wherever possible. Proposals will be asked to identify best efforts and results of efforts to engage with these communities. Figure 3 below outlines the planned equity metrics by cycle phase.

Figure 3: Planned Equity Metrics and Methods by Cycle Phase

⁹ An environmental justice community is located within a municipality on the Connecticut Department of Economic and Community Development list of distressed municipalities or in a defined census specified under Conn. Gen. Stat. § 22a-20. See, <https://portal.ct.gov/DEEP/Environmental-Justice/EnvironmentalJustice-Communities>.

¹⁰ Updated annually, the Distressed Municipalities list identifies the state’s most fiscally and economically distressed municipalities, based on tax base, personal income of residents, and the residents’ need for public services. See, https://portal.ct.gov/DECD/Content/About_DECD/ResearchandPublications/02_Review_Publications/Distressed-Municipalities.

¹¹ More information about Connecticut’s RRES Program can be found at <https://portal.ct.gov/pura/electric/office-of-technical-and-regulatory-analysis/clean-energy-programs/residential-renewable-energy-solutions-program>; More information about Connecticut’s ESS Program can be found at <https://portal.ct.gov/pura/electric/office-of-technical-and-regulatory-analysis/clean-energy-programs/energy-storage-solutions-program>.

		Ideation & Screening	Prioritization & Selection	Project Deployment	Assessment & Scale
Equity	Requirements	<ul style="list-style-type: none"> Credible action plan for prioritizing underserved providers and vendors Identification of target underserved segments and current level of service 	<ul style="list-style-type: none"> Hiring plan for underserved communities Identified underserved vendors and partners Budget breakout by underserved communities Costs and benefits identified for underserved communities 	<ul style="list-style-type: none"> Documentation of spending on underserved communities Updates to assumptions for program plan at scale Verification of initial assumptions for customer segments 	<ul style="list-style-type: none"> Verification of initial assumptions for customer segments and total addressable market Formal confirmation with community-based organization or community representative
	Methods	<ul style="list-style-type: none"> Credible estimates and documentation 	<ul style="list-style-type: none"> Standard input spreadsheet 	<ul style="list-style-type: none"> Assumptions tied to evaluation and total spending Benefit-cost ratios consistent with customer segments broken out 	<ul style="list-style-type: none"> Standard letter of support Assumptions tied to evaluation and total spend Benefit-cost and economic benefits separately reported for underserved communities

Addendum A

I. Multi-Stakeholder Collaboration

The Authority is well situated to successfully implement the IES Program as outlined above. Since the issuance of its Equitable Modern Grid Decision in 2019, PURA has issued final decisions in 9 of the 11 reopener dockets; many of which have resulted in the creation of new clean energy, modernization, or resilience programs. Though some are still in the pre-launch phase, PURA now oversees five active programs: three distributed energy resources programs, an EV charging infrastructure program, and an energy storage deployment program.

Much of the success in administering these programs comes from the highly collaborative energy network in Connecticut. The Authority, the two EDCs, the Department of Energy and Environmental Protection, and the Connecticut Green Bank coordinate to provide this variety of successful programs statewide. The IES Program is no exception to this.

As described in Section I of this Proposal, the IES Program is partially overseen by an advisory council that includes all the above parties, and others, to ensure balanced perspectives in the administration of the IES Program. The IAC provides a representative forum for stakeholders that have varied interests to provide valuable programmatic and strategic inputs into the IES Program and assist in the Phase 1 concept proposal screening process. Since the Connecticut Green Bank is currently serving as the Co-Chair of the IAC, they have signed on as Team Members to this Project.

Additionally, the selected consultant, Strategen Consulting, that serves both as an extension of Authority Staff and as the Program Administrator, was also the consultant selected through another competitive process to assist the Authority in the original IES Program Design in Docket No. 17-12-03RE05. This means that the Program Administrator has a deep fundamental understanding of the program design, rules, objectives, and intention. Strategen is a highly regarded and recognized consultant with experience across regulatory programs in the nation.

II. EDC Collaboration

Last, the EDCs play a highly involved and important role in the IES Program. While it is the intent of the Authority to be the primary administrator of this program, in conjunction with the Program Administrator who has been retained by the Authority, the EDCs will also be expected to play a role in overall program administration. Specifically, the EDCs will be asked to support projects across all three pathways and identify their needs to be able to execute against the goals and obligations laid out in the IES Program.

1. **Grid Needs Assessment:** The Authority intends to solicit and select projects that can support both customer needs and grid needs. For example, grid needs may include, but are not limited to, shifting or shaving system peak, reducing transmission system constraints (e.g., potential constraints caused by increased offshore wind development),

and managing demands on distribution system. The EDCs will leverage existing information to provide qualitative and quantitative assessments of grid needs that inform IES program cycle objectives and guide potential third-party applicants. A high-level solicitation exhibit that summarizes grid needs will be developed and links to additional detail for third-party developers to review will be provided. In future IES program cycles, the EDCs will update this information as appropriate. The Grid Needs Assessment will be summarized from the Baseline Distribution System, Financial, and Distributed Energy Resources (DER) Deployment Data and Information from Docket No. 17-12-03RE07, PURA Investigation into Distribution System Planning of the Electric Distribution Companies – Non-Wires Alternatives.¹²

2. **Customer Needs Assessment:** The Authority further expects that the EDCs will support the identification of emergent and ongoing customer challenges as a means of surfacing opportunities for innovators to add value. This should include, but not be limited to, summaries of research, broken down by geographic/customer segment, of the following:
 - a. Market research on customer sentiment/value propositions;
 - b. Energy burden, including percentage of energy burden in environmental justice and historically minority communities;
 - c. Arrearages, non-hardship, hardship (non-medical), and medical hardship;
 - d. Outages, with a focus on underperforming circuits during both blue sky days and major storms.

3. **General program administration and support:** It is expected that staff from the EDCs will support projects across all three participation pathways. General support for program development may include fielding questions from interested third-party developers about existing programs, or about information on grid needs and customer demographics. The EDCs will collaborate and coordinate with the Authority, the Program Administrator, and the IAC through each phase of the IES programmatic process. Each EDC will each have a sitting member on the IAC who will be responsible for coordination with the EDC's technical staff and Subject Matter Experts (SMEs) to provide the support required to ensure successful IAC engagement and successful IES program execution. Last, the Authority will include specific direction to the EDCs on the necessary support for projects.

¹² See, Docket No. 17-12-03RE07, Notice of Issuance of Straw Proposal and Request for Written Comments dated July 30, 2021, Attachment A – Straw Non-Wires Alternative Program Design, Appendix B, <http://www.dpuc.state.ct.us/2nddockcurr.nsf/8e6fc37a54110e3e852576190052b64d/940a274f8bd5c38c852587520079950a?OpenDocument>.

4. **Project Integration Plan:** The EDCs will be expected to support timely integration and interconnection of any projects that are deployed as a part of this process. For the first cycle of the IES program, the EDCs will develop a document to clarify the project integration approach for the IAC and third-party developers. This document can be included as an exhibit in the solicitation and will describe project integration and interconnection approaches for projects selected through the IES process. In future rounds, the EDCs will update this document as needed.

The EDCs will support the integration and interconnection of appropriate projects deemed safe for deployment for the IES Program. All pilot proposals or projects requiring interconnection will be required to follow the Authority-approved process. The EDCs are bound by the Authority-approved Guidelines for Interconnection, where it states that “all customers will be treated fairly and uniformly, on a first-come, first-serve basis, without preferential treatment and in a non-discriminatory manner.” Based on this requirement, all interconnection applications are to be reviewed in the order in which they are received. The EDCs will provide any project-specific insights on interconnection barriers or other related considerations into the Phase 2 process. It should be noted that consistent, transparent, and streamlined integration of a wide range of innovative solutions will be critical to ensure cost-effective and equitable outcomes from the IES Program. Wherever possible, the EDCs should leverage other planned or ongoing efforts related to grid modernization, DERs, or the EMG process. While the IES Program will potentially accelerate deployment of specific solutions, integration work required here will likely mirror many of the requirements in other contexts.

5. **Data Privacy and Security Plan:** Releasing readily available energy-related data via open and transparent mechanisms will support Connecticut in meeting its EMG goals and facilitate the objectives of the IES Program. The ability of innovators to deliver smart, economically sound energy solutions and the ability of customers to share their energy usage data will animate markets, facilitate customer choice, and provide systemic benefits to all customers. In conjunction with useful data access, it is necessary to ensure that the proper protections exist for information technology (IT) systems, data systems, and customers’ privacy. As evidenced in Connecticut and neighboring states, easy and ready access to energy data is critical to developing a robust ecosystem of innovation. New Hampshire and New York are both in the process of implementing open data platforms to this very end, ensuring that customers are able to securely share their data with potential solution providers in a frictionless and standardized manner. While it is beyond the scope of the IES Program to implement a statewide integrated data access platform, the EDCs will be expected to provide credible plans for how they will collaborate on a common method of data transfer that provides timely data to customers and solution providers of their choosing in a manner that creates value for all parties.

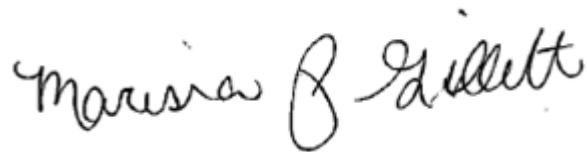
The EDCs will provide readily available energy-related data via open and transparent mechanisms to facilitate the objectives of the IES Program. For the first cycle, the EDCs will develop a document to summarize data compilation and transfer, along with data privacy and security, for potential third-party developers. This document can be included as an exhibit in the solicitation that contains a high-level description of these topics with links to existing documents. In future cycles, the EDCs will update this document as needed. The EDCs will leverage existing and developing information in developing the Data Compilation and Transfer Plans, as well as the Data Privacy and Security Plan, which will align with industry standards, best practices, any relevant state or federal regulations, and Authority direction provided in other, related dockets designed to protect customer data and prevent cybersecurity attacks.

6. Cost Recovery Proposal: The EDCs will be required to develop a cost recovery proposal for costs incurred to undertake overall program administration.

Conclusion

The Authority greatly appreciates the opportunity to submit a concept proposal into this FOA and recognizes the enormous potential of this funding and the many solutions it may enable nationwide.

Sincerely,

A handwritten signature in black ink that reads "Marissa P. Gillett". The signature is written in a cursive style with a large, stylized initial "M".

Marissa P. Gillett
Chairman
Public Utilities Regulatory Authority