

## **2020 PSEGLI Bulk Energy Storage RFI Clarifying Questions & Answers**

Below are clarifying questions timely received from Respondents to PSEG Long Island's Request for Information for the Development of PSEGLI's 2020 Bulk Energy Storage RFP ("RFI") issued on March 3, 2020 and PSEGLI's responses. All capitalized terms used herein which are not otherwise defined are as defined in the RFI. All terms and conditions included in the RFI apply equally to this Q&A.

### **ADMINISTRATIVE**

Q1. The New York Public Service set an energy storage goal of 3,000 MW by 2030 with an interim goal of 1,500 MW by 2025, as well as a new energy efficiency target for the state's investor-owned utilities that aims to more than double utility energy efficiency reductions by 2025. Any input on how PSEG LI plans to meet the States goals and objectives would be helpful (recognizing the targets may imply a need that potentially exceeds the contracting opportunity herein and that certain bulk scale solutions may require a bit more runway to come online)?

A1. As stated in the Background section of the RFI, LIPA intends to meet its share of both of these goals with the Bulk Energy Storage RFPs, along with PSEGLI's/LIPA's other programs.

Q2. How did you determine that LIPA's share of the 2025 goal is 200 MW?

A2. The 200 MW goal is based on LIPA's statewide MW load share.

Q3. Do you anticipate potentially increasing the timeline to develop proposals beyond 3 months and extending the timeline to approximately 4 years between selection and project COD. We note that bulk scale project may require a bit more time to respond and a longer period between selection and COD. A longer runway would allow for the process to be a bit more agnostic or ubiquitous with the lowest cost solution being implemented.

A3. PSEGLI/LIPA wants to allow project developers sufficient time to develop their proposals to provide the best value to LIPA's customers; therefore, we encourage you to discuss the timeline needed to develop a high-quality proposal in your RFI response. PSEGLI/LIPA is open to considering allowing 4 years between selection and project COD.

Q4. Will PSEG LI consider updating the timeline due to the COVID-19 affecting business.

A4. PSEGLI is going to update the timeline so that the RFI Response Submission Deadline is May 15, 2020 instead of April 15, 2020, a one-month extension.

Q5. We wanted additional information around the relationship between PSEG and LIPA? Between those two parties where does the ultimate decision maker sit?

A5. The relationship between PSEG LI and LIPA is fully described in Section 1.1 of the RFI. PSEG Long Island LLC and Servco (collectively referred to as "PSEG Long Island" or "PSEG LI"), as agent of and

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acting on behalf of LIPA per the A&R OSA, will administer this RFI on behalf of LIPA. PSEGLI will similarly administer the RFP and evaluate proposals on behalf of LIPA and make recommendations to LIPA for selections, with all contracts subject to the approval of LIPA's Board of Trustees. LIPA's staff will provide advice and counsel to PSEGLI throughout the process. All contracts resulting from the RFP will be between the developer and LIPA with PSEGLI administering the contract on LIPA's behalf.

Q6. Lastly, what are the roles and responsibilities of PSEG vs. LIPA personnel when it comes to this RFI/ RFP process?

A6. Please see the answer immediately above.

Q7. Does PSEG-LI have an idea of how many offers and offer variations will be allowed to be submitted per Bidder?

A7. This has not been determined yet but is an appropriate topic for RFI responses.

Q8. In addition to scoring the value of the energy storage by MW's, can the energy storage technologies be evaluated using MW-hours of daily storage?

A8. Yes. The evaluation process and criteria used to select projects will be described in the 2020 PSEGLI Bulk Energy Storage RFP when it is issued this year. Respondents are encouraged to propose relevant evaluation criteria in their responses to this RFI.

Q9. Is there any intent to include any distribution value for interconnections at 13kV and below in final site evaluation?

A9. Yes. A key objective of the RFI is to gain information from respondents on potential use cases, including the benefits associated with those use cases, such as distribution capital project deferral and other distribution benefits. This information may be used to refine our approach to scoring the RFP, among other purposes. At this point, we are not prepared to release the final scoring methodology. PSEGLI intends to provide guidance to potential Respondents in its 2020 PSEGLI Bulk Energy Storage RFP.

Q10. Would you accept a COD earlier than the 4 years timeline identified in the RFI? Would you give preference to a project with an earlier COD?

A10. PSEGLI/LIPA would accept a COD earlier than the 4-year timeline if it were selected in the RFP based on the evaluation criteria. Since PSEGLI/LIPA has not developed the evaluation criteria yet for the RFP, we cannot say at this time whether we will give preference to a project with an earlier COD.

Q11. Will PSEG LI require, or give favorable consideration to Developers that already have projects in the NYISO Queue?

A11. PSEGLI/LIPA has not yet developed the evaluation criteria that will be used to select projects in the 2020 PSEGLI Bulk Energy Storage RFP; therefore, we are unable to answer your question at this time.

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Q12. Permitting – If we identify our own site for development, will PSEG LI be able to provide letters of support for any required zoning variances or use amendments.

A12. PSEGLI cannot provide such letters. The likelihood of receiving permits is typically a criterion in evaluating proposals.

Q13. Can a developer operate a battery for 1-2 years prior to initiating a procurement contract with PSEG?

A13. Yes.

Q14. With respect to the questions “How will regulatory uncertainty impact the responses to the RFP?” is PSEG specifically referring to NYISO-related uncertainty?

A14. One regulatory uncertainty is NYISO, but there are others including at FERC and state and local permitting. PSEGLI/LIPA is interested in obtaining comments from Respondents on regulatory uncertainties that are of their greatest concern.

Q15. How does PSEG-LI plan to use the \$53MM in RGGI Funds allocated by NYSERDA for the Bulk Storage RFP?

A15. Such plans, if any, will be described in the RFP.

Q16. Will PSEG LI consider providing (NYSERDA) incentives for these projects.

A16. If such incentives are applicable, information will be included in the RFP.

Q17. Will LIPA be implementing a Bulk Storage Incentive program similar to the Joint Utilities of New York, and if yes can details be provided?

A17. See the answer to Question #16.

Q18. Will any portion of the responses to the RFI be made public?

A18. PSEGLI does not intend to publish RFI Responses. However, any confidential information provided in RFI responses should be clearly marked as such. We do not intend to disclose it unless required by FOIL, subpoena or compelled by other law. Notwithstanding the above, neither LIPA nor PSEGLI are undertaking to keep any response confidential, limit its use, or take any specific action to prevent its disclosure.

Q19. In preparation for submitting our response, we would like to establish Non-Disclosure Agreement (NDA). If you could provide the following information, I can send over a draft PIA for your review?

A19. PSEGLI/LIPA does not intend to provide NDAs as part of the RFI process. Instead, Respondents should indicate in their proposals, consistent with Section 87(2) of the Public Officers Law, what information, if any, should not be made publicly available by marking such information as confidential.

**PREFERRED LOCATIONS**

Q20. In Appendix B regarding the list of “LIPA Preferred Locations” included, if possible, please clarify this information to include available site space for storage installations and available interconnection voltages at each location. This information will help us to elaborate our response.

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A20. PSEGLI intends to provide information on available site space to potential Respondents in its PSEGLI Bulk Energy Storage RFP.

Q21. Can you share any of the criteria used to determine LIPA preferred locations?

A21. The LIPA Preferred Locations were developed based on a high-level, preliminary review of all load pockets on the LIPA bulk power system and off-shore wind interconnections in the NYISO interconnection queue. PSEGLI intends to perform technical studies to further inform the LIPA Preferred Locations and include relevant results of such studies in the PSEGLI Bulk Energy Storage RFP.

Q22. Does LIPA have a preferred voltage at each of the preferred POIs listed (i.e., - 13/69/138/345 KV)?

A22. Any preferred voltage level at a LIPA Preferred Location will result from technical studies whose relevant results will be set forth in the 2020 PSEGLI Bulk Energy Storage RFP. See also answer to Q20.

Q23. Can LIPA/PSEG provide more information and rationale on the identification of the preferred locations and which types of benefits/services were envisioned for each of the preferred locations?

A23. Please see the answers to Questions 20, 21, and 22.

Q24. Do you anticipate it being feasible to increase the maximum MW at the “LIPA Preferred Locations” as the preliminary figures imply a maximum project size of 100 MW and may not get the same economies of scale that a larger project would realize?

A24. As stated in Appendix B, the “Estimated Hosting Capacity MW” amounts are preliminary estimates and have the potential to change based on technical studies whose results will be included in the 2020 PSEGLI Bulk Energy Storage RFP.

Q25. Can you please confirm the substation listed as “Holtsville” - is this 8G Holtsville, Holtsville LNG, and/or Holtsville GT? All of these?

A25. It is 8KU Holtsville.

Q26. Can PSEG LI provide the targeted size in MW and MWh at each LIPA Preferred Location / LIPA owned site.

A26. As stated in Appendix B comprehensive studies are required to assess interconnection feasibility and MW values including charging limitations of the LIPA Preferred Locations. Such studies have not been completed at this time but are expected to be complete with results shown in the 2020 PSEGLI Bulk Energy Storage RFP.

Q27. As PSEG-LI is likely aware, land is extremely limited along Long Island and available parcels directly adjacent to substations are rare. Do the “LIPA Preferred Locations” represent interconnections exclusively at specific substations or do they additionally consider line taps on the surrounding electric lines?

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A27. The LIPA Preferred Locations represent interconnections exclusively at specified substations. This does not limit developers from proposing projects at other locations.

Q28. Will line taps be allowed to interconnect energy storage projects to the LIPA bulk power transmission system?

A28. A connection to a point on a transmission line shall require the installation of a substation at the point of connection. The substation shall have three circuit breakers to connect both sides of the tapped circuit and the project. Three terminal line configurations are not acceptable. Preference of interconnection to the LIPA system is to connect directly to an existing substation.

Q29. Can PSEG-LI provide coordinates for the identified substations? Available sources of electric infrastructure mapping use different nomenclature to describe substations and may not match PSEG-LI's nomenclature.

A29. An updated list of LIPA Preferred Locations will be provided in the 2020 PSEGLI Bulk Energy Storage RFP.

Q30. If a bidder has already received NYISO study results conveying that hosting capacity at a preferred location is greater than what is indicated in the right-hand column of Appendix B, will PSEG-LI consider a larger project at that location compared to what is currently listed?

A30. Yes. Respondents can propose larger projects and PSEGLI will evaluate their interconnection costs and impacts.

**TECHNICAL REQUIREMENTS**

Q31. Can you clarify what you mean by "RFP enhancement information" under 2.3.B on page 5 of the RFI?

A31. The "RFP enhancement information" is the information contained in Appendix A relevant to energy storage projects.

Q32. In Section 2.4, please clarify the meaning of "...including customer and utility costs, as well as any other relevant costs". It would be useful to understand what "customer" and "utility" costs are referred to.

A32. PSEGLI requests that Respondents provide estimates of all costs expected to be incurred in implementing any proposed application which could include costs incurred by the developer, utility, the utility's customers, or any third parties.

Q33. In Appendix A section 2 Technical Requirements, please clarify the motivation for "(e) Average state of charge of 50-80%". Is it related to storage technology limitations?

A33. Requiring an average state of charge is intended to provide PSEGLI/LIPA some assurance that a specified amount of energy storage resource will be available to serve its customer load on average and is important for planning purposes. PSEGLI seeks Respondents' comments on what

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is a reasonable average state of charge percentage taking into account the limitations of their storage technology.

Q34. Can you please clarify technical requirement “a”? Is the 5MW at one location a statement about a technology provider’s installation track record or about the scalability of a storage solution?

A34. The 5 MW is the minimum size energy storage project at one location. We included this requirement because it is the minimum sized energy storage project we intend to contract with in this RFP.

Q35. Can you please clarify the definition of state of charge and the requirement for average state of charge of 50-80%? For example, in the case of a 5MW/20MWh BESS, would it be required to have 10-16MWh of dischargeable energy available on average, throughout the PPA period? Does charging contribute to the average SOC as defined? Does stored energy capacity include charging and discharging, or just dischargeable energy?

A35. The definition of “state of charge” is at a particular time, the ratio of (i) the stored energy level of the energy storage project, minus the minimum storage level of the project (specified in the contract) to (ii) the maximum storage level of the project (specified in the contract), expressed as a percentage. An average state of charge of a specified amount is required to ensure that the project is available to provide its output to the system when dispatched by the buyer or NYISO. Stored energy capacity includes charging and discharging.

Q36. Can you please clarify technical requirement “f”? Are you asking how long the BESS can store and hold energy at 100% SOC? Or are you asking what is the usable SOC for the BESS? Certain non-lithium technologies can discharge a full 100% SOC while lithium has restricted limits.

A36. We are asking if there is an inflection point for your proposed technology at which the costs for imposing a 100% usable state of charge increases dramatically. Respondents should specify the range of days/year that their technology could reasonably hold a charge of a specified % without a significant change in costs.

Q37. Will these technical requirements “e” and “f” apply to all sites and systems? Or are there instances where they will be modified?

A37 PSEGLI is interested in obtaining comments from Respondents on whether these technical requirements and the others listed are reasonable and will provide value to LIPA’s customers. If not, Respondents are encouraged to discuss why alternative technical requirements should be included in the RFP. PSEGLI/LIPA has not decided whether these requirements will be applied to all sites and systems.

Q38. Please provide the definition of “availability” for the purposes of the RFI as this can be defined in different ways by different utilities and can also vary by technology. We also note that BESS and other storage technologies vary in their availability factors and would recommend something in the 95% range vs 98% depending on how it is defined.

A38. “Availability” means that the energy storage project is available for charge or dispatch as requested by either the buyer or the NYISO. The availability factor takes into account the

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shutdown of the station, either partially or fully, when the storage unit is unavailable for dispatching due to forced outages. (See also Q43.) Respondents to the RFI are encouraged to comment on availability factors that they believe are more appropriate for their technology and provide supporting information along with their comments.

Q39. Does PSEG LIPA encourage only those respondents who can accommodate all 4 cases of operation or is PSEG LIPA open for just one case only?

A39. PSEGLI assumes when you refer to “all 4 cases” you are referencing the “Contractual Arrangements” listed on p. 8-9 of the RFI. Given this assumption, these cases are alternative contractual arrangements that selected proposers can enter into with LIPA for their energy storage projects in the RFP. The RFI asks for Respondents to provide comments on which of these cases they prefer and the reasons for their preference. Respondents may also propose alternative contract arrangements than the 4 cases listed to better align with their projects and constraints. When PSEGLI issues the 2020 PSEGLI Bulk Energy Storage RFP, it expects to define permissible contractual arrangements based, in part, on responses to this RFI received from Respondents.

Q40. Does PSEG-LIPA has a preferred list of sub-contractors or companies to execute cases 1, 2 and 3 or will PSEG LIPA only encourages working with one entity?

A40. PSEGLI/LIPA does not have a preferred list of sub-contractors or companies for this purpose.

Q41. Is LIPA/PSEG open to contracting models where the developer operates the BESS, with dispatch periods from LIPA?

A41. Yes.

Q42. Is LIPA/PSEG open to contract terms other than the stated 7, 15, or 20 years?

A42. Yes. If a contract term different than the stated term better fits your technology, please discuss.

Q43. Does this 98% availability requirement include scheduled outages for things such as preventive maintenance?

A43. Scheduled or planned outages are “excused outages” and do not count towards the 98% availability requirement.

Specifically, we wanted to ask if there is any precedent or examples of other projects in Zone K that have either:

Q44. interconnected directly to a high-voltage line by installing their own transformer to step up to 115 kV and installing a breaker and switchgear etc. to tap the 115 KV line or,

A44. PSEG LI does not recommend tapping an existing line if possible and prefers against it. PSEG LI interconnection criteria wouldn't allow a project to tap into a 2-terminal circuit and make a 3-terminal circuit. They require the creation of, at a minimum, a three-breaker bus to tap the circuit where two breakers will protect the ‘in’ and ‘out’ circuits and the third will interconnect the project with all the associated equipment. Typical size of the new 138 kV three-breaker substation is 180’ x 200’.

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Q45. if PSEG has granted an easement or right of way for any projects to run their own high-voltage lead line from a project to a PSEG substation (across land that is either owned by PSEG or land for which PSEG has a right of way to operate and maintain existing transmission lines).

A45. Since LIPA ROW space is very limited on Long Island, a request by a developer for space is reviewed on a case-by-case basis giving consideration to reserving space required for future projects and the benefits to LIPA's customers of the developer's project.

**TECHNOLOGIES**

Q46. Will Thermal Energy Storage, such as ice and chilled water, be acceptable technologies to address this RFI? The technologies are proven with over 40 years of experience, thousands of installations, and thousands of MW-hours of daily energy storage. These technologies are lower in first cost than Li-Ion batteries, higher round trip efficiency, and longer useful life of over 50 years.

A46. Yes.

Q47. We are providing a micro-CHP that is has black-start capacity and a set of electric batteries with rated capacity of 10 kWh per cycle. The system being micro-CHP is fully dispatchable. What is unique about the system is that its unique design allows us to price it at prices similar to regular domestic boiler; a product people buying anyway – i.e. non-discretionary product. The current system equipped with a battery has 7 kW of electric capacity. Our question is if PSEG would be interest to learn about this solution that when aggregated can reach a significant capacity. We believe we can contract around 1,000 homes providing 5 MW of storage capacity that is 100% dispatchable.

A47. Yes. PSEGLI/LIPA is interested in receiving information on your proposed project, but it may not fit the requirements of the 2020 PSEGLI Bulk Energy Storage RFP. If not, we will pass the information on to the appropriate internal organization at PSEGLI which is considering distribution level programs.

Q48. Will PSEG LI be open to a scenario where a developer builds a larger Energy Storage project (e.g., 300 MW or more) that will improve the overall economics (scale) and provide better siting/operational flexibility, where PSEG LI contracts for only a portion of the MW (e.g., 155-175 MW as outlined)?

A48. Yes, subject to the evaluation criteria in the RFP.

Q49. Will PSEG LI accept proposals that combine different technologies –smaller, shorter duration batteries, for example, combined with a larger, longer duration facility?

A49. If by the word “facility” you mean energy storage project, the answer is “Yes”.

Q50. What types of assets does LIPA/PSEG currently use for black start and other types of resiliency needs (after outages or storms)?

A50. PSEGLI/LIPA has submitted its black start plan to the NYISO in compliance with its requirements. Its black start resources include gas turbines, and other resources listed with the NYISO. Energy



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storage with Black Start capability may be considered in the future based on the evaluation by utility.

**LIPA OWNED PROPERTY**

Q51. Can LIPA provide incremental details around any sites that it owns (KMZ/location, acres, etc.) that may be available for developers to use in providing projects at the “LIPA Preferred Locations” (i.e., substations) or is each developer anticipated to have their own site to feed into each substations?

A51. PSEGLI intends to provide more details on the “LIPA Preferred Locations” when it issues its 2020 PSEGLI Bulk Energy Storage RFP this year.

Q52. If PSEG-LI allows the use of utility owned land, will this be completed through a separate RFP process or through the same RFP? Will developers simply bid into the general RFP process assuming they will use utility owned land?

A52. The 2020 PSEGLI Bulk Energy Storage RFP will provide information to developers on utility owned land that is available for projects and they can then determine whether they wish to propose a project using that property. Generally, rights to use LIPA-owned property are conveyed at fair market value.

Q53. The energy rating for the projects was listed at up to 4 hours. Will there be enough space within or adjacent to substations (LIPA Owned properties) to accommodate a 100MW project? Or will there be any real-estate transactions to be made?

A53. If LIPA makes its owned property available for energy storage projects in the 2020 PSEGLI Bulk Energy Storage RFP each such property will need to be individually reviewed to determine whether it can accommodate a 100 MW project. Respondents are encouraged to provide information regarding space requirements for their projects, which may be useful for developing the RFP.

Q54. Can PSEG LI provide the locations and property information (i.e. site topo surveys) of the prospected LIPA owned sites.

A54. PSEGLI intends to provide more details on the “LIPA Preferred Locations” when it issues its 2020 PSEGLI Bulk Energy Storage RFP by the end of this year.

Q55. Permitting – Regarding the LIPA owned parcels that are available for bidders to use for siting, what is their current zoning (e.g. industrial) of the parcels and will land use variance be required for example for 2<sup>nd</sup> principal use or for the BESS in general.

A55. Each LIPA owned parcel will need to be reviewed separately to determine its current zoning and whether land use variance will be required.

Q56. Is there a publicly available GIS Hosting Capacity Map for the affected area.

A56. No.

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**LEASING**

Q57. Would you entertain an energy storage lease option? My company, XXXXXX offers a 5-year storage lease so I'd like to understand if this contract structure would be considered for certain use cases.

A57. No. The RFP will not contemplate leasing energy storage projects.