1.0 INTRODUCTION

Key Capture Energy NY 31, LLC (KCE NY 31), as expected to be contracted by the Long Island Power Authority ("LIPA"), is proposing to construct and operate an approximately 50-megawatt (MW) Lithium-Ion Battery Energy Storage System Facility (BESS Facility) all within a LIPA-owned site in the hamlet of East Shoreham, Town of Brookhaven, Suffolk County, New York (Proposed Action). The proposed BESS Facility will be located on Suffolk County Tax Map (SCTM) Number 0200-039.00-02.00-002.000, which is 46.98 acres in size. Only a portion of the 46.98-acre lot will provide space for the BESS Facility (approximately 2.29 acres) which will be leased from LIPA. A Site Location Map is provided in **Figure A-1**.

The Proposed Action is subject to review under the State Environmental Quality Review Act ("SEQRA") as an unlisted action. SEQRA is codified as Article 8 of the New York Environmental Conservation Law ("ECL"), as well as the implementing regulations, promulgated at Part 10052 of Title 21 of the New York Codes, Rules and Regulations ("N.Y.C.R.R."), which set forth the requirements for the State Environmental Quality Review ("SEQR") process for the Proposed Action. This Environmental Assessment therefore follows SEQRA.

2.0 PROJECT NEED AND DESCRIPTION

KCE NY 31 will support the achievement of the goal set in New York's Climate Leadership and Community Protection Act (CLCPA), and in a corresponding the Public Service Commission's (PSC) Order, of installing 1,500 MW of energy storage by 2025 and 3,000 MW by 2030. Governor Hochul announced a doubling of the latter goal to 6,000 MW by 2030 during her State of the State address in January 2022, and in June 2024, the PSC approved an updated roadmap filing by New York State Energy Research and Development Authority (NYSERDA)/Department of Public Service (DPS) staff which outlines how this will be achieved.[1] Long Island's electric grid is rapidly changing in preparation for expected offshore wind and solar generation and the retirement of aging power plants. The local grid will need fast-responding, flexible solutions like battery energy storage to accommodate these changes. KCE NY 31 will respond to intermittent grid fluctuations to enhance the power grid by charging during periods of excess generation and discharging during peak load hours. The project will also enhance power grid reliability by providing ancillary services (e.g., voltage uplift) to the New York Independent System Operator (NYISO).

In October 2020, Strategen Consulting LLC prepared the Long Island Fossil Peaker Replacement Study for New York Battery and Energy Storage Technology Consortium (NY-BEST).[2] The study examined operations of Long Island's aging fossil-fueled power plants that operate primarily during peak times and found that it is feasible and cost-effective to replace more than 2,300 MW of Long Island's 4,300 MW fossil-fueled peaker plants with energy storage over the next decade. It also found that approximately half of the peaker plants, around 1,100 MW, could be retired and replaced with energy storage by 2023. The remaining 1,200 MW could be replaced by 2030, in conjunction with New York State's plans to increase solar energy, energy efficiency measures, and offshore wind resources. Over the next decade, fossil peaker replacements could also save LIPA customers as much as $393 million and contribute to a significant reduction in harmful air pollutants.

PSEG Long Island (PSEG LI), on behalf of LIPA, released a request for proposals in April 2021 for up to 175 MW of bulk energy storage projects (i.e., project size greater than 20 MW) on Long Island. With the upcoming retirement of fossil fuel peaking plants, due to the New York State Department of Environmental Conservation (NYSDEC) nitrogen oxides regulations, and the increase in intermittent energy from offshore

[1] NYSERDA Approval of New York's Nation-Leading Six Gigawatt Energy Storage Roadmap Announced. Available from: https://www.nyserda.ny.gov/About/Newsroom/2024-Announcements/2024_06_20-Governor-Hochul-Announces-Approval-Of-New-Yorks-Nation-Leading. Accessed June 2024.

[2] Long Island Fossil Peaker Replacement Study. Available from: https://www.strategen.com/strategen-blog/long-island-fossil-peaker-replacement-study. Accessed April 2024.

wind energy projects interconnecting on Long Island, PSEG LI has identified a need for quick responding, energy-dense resources such as battery energy storage. KCE NY 31 will support LIPA in contributing to achieving the CLCPA goals setting the statewide energy storage goal of installing 1,500 MW of energy storage by 2025 and 3,000 MW by 2030.

KCE is proposing to construct and operate an approximately 50 MW Lithium-Ion BESS Facility on the subject site. The components of the BESS Facility are described in detail in the site plan and include the following: battery modules; augmentation (CMA) units (these will be installed as part of the augmentation phase as described in Section 3.0); medium voltage (MV) transformer units; one (1) auxiliary load transformer; a staging/storage area and associated storage shipping container; a project substation with an approximately 392 square foot (SF) control building; and a new 138 kilovolt underground generation interconnect line. Each battery module will be approximately 29'11" long, 5'5" wide, and 9'4" in height. Each CMA unit will be approximately 5'3" long, 3'7" wide, and 9'4" in height. Each MV unit will be approximately 10'6" long, 11'0" wide, and 7'5" in height. The storage shipping container will be 40'0" long, 8'0" wide and 8'6" tall. All of the battery modules are in containerized enclosures and contain all heating, cooling, sensors, and communication/control equipment necessary to support operation of the system. A water connection/fire hydrant will also be established adjacent to the BESS Facility to the west for emergency response purposes, to the extent required, the specific location to be determined as part of a formal Emergency Operations Procedures (EOP) and finalized with the Wading River Fire Department. Furthermore, the fire safety features included in the BESS Facility include a battery management system, site controller and monitoring, electrical fault protection devices, and explosion control systems. The battery management system can either prevent thermal runaway from occurring in the cell or prohibit the propagation of thermal runaway to adjacent cells by isolating the affected battery module temporarily or permanently disconnecting the module. Remote site monitoring is designed to automatically report faults to a local operations center, alerting them to the need for maintenance or response. The electrical fault protection devices and explosive control systems interrupt a fault current and mitigate the risk of uncontrolled combustion, respectively.

Components of the project substation include the following: feeder breaker bays, disconnect switches, bus supports, a main power transformer (MPT) to increase and decrease the voltage of the energy entering and leaving the BESS, circuit breakers, and an underground generation interconnect line which will connect the project substation to the existing LIPA substation located approximately 485 feet the south of the proposed BESS Facility on the same property. The tallest features of the project substation will be the nine (9) existing lightning masts, each approximately 55'2" in height. Upgrades to the existing LIPA substation will also be implemented prior to it being connected to the project substation via the interconnect line. These upgrades include installing disconnect switches, one (1) circuit breaker, metering PT & CT, a termination structure with a ground switch, and an enclosure to contain the additional relay panels for the interconnection.

The LIPA-owned property is industrial in nature and is developed with warehouses, outdoor storage, an electrical substation, power supply support facilities, and low-voltage distribution lines. The area where the BESS Facility is proposed currently houses a training facility. Site work in this area is anticipated to include: removal of the existing metal trailer (to be relocated to the east on the site); removal of electrical, water, drainage, and sanitary infrastructure; removal and disposal of concrete walls, curbs and columns, portions of the existing fencing, the existing gravel driveway, and areas of existing grass cover; construction of internal site driveways; installation of chain link fencing where needed; installation of a stormwater management system consisting of drywells and associated yard inlets consistent with NYSDEC standards; and installation of the underground interconnection line. It is anticipated that 2.29 acres of the Site will be disturbed during construction of the BESS Facility/interconnect line. The existing training facility will be relocated from where the BESS Facility is proposed, to an area just east of where the BESS facility will be located, which is currently developed with an unused two-story brick administrative building, approximately 146' long and 139' wide. Site work in this area is anticipated to include: demolition of the existing two-story administrative building; relocation of the existing metal trailer as described above, and general site

preparation (e.g. grading, stabilization). It is anticipated that relocation of the training facility will result in approximately 2.10 acres of land disturbance.

3.0 OPERATIONS AND MAINTENANCE

KCE NY 31 is designed to be an unmanned facility that will be operated and monitored remotely by trained personnel on a continuous 24-hour basis. The facility's Operation and Maintenance (O&M) Plan will be based on the O&M manual from the battery and other equipment vendors. The O&M Plan will be compliant with the appropriate federal, state, and local laws and manufacturers' recommendations through their supplied O&M material. In addition, a Health, Safety, Environmental, and Quality (HSEQ) Management Plan will be in place to provide a safe environment for employees of KCE, contractors, and visitors working at the Site.

The Project O&M Manual will consolidate the necessary and prescribed maintenance schedules for the components in the system. The O&M will be led by KCE's O&M Manager and will be completed by a local firm with expertise in medium and high voltage electrical systems. The maintenance schedules will include work for onsite inspections and preventative maintenance. The schedule will include daily and weekly remote inspections, plus monthly, quarterly, or yearly onsite inspections as appropriate for specific components of the project. Maintenance logs will be maintained and recorded for all appropriate work completed at the facility. This work will include:

- Facility inspection, cleaning, and maintenance once per quarter;
- Electrical inspections once per quarter;
- System calibration;
- Power conversion system maintenance;
- Switchgear preventive inspection;
- Medium voltage vacuum CB preventive inspection;
- Protective relays preventive inspection;
- Substation transformers preventive inspection;
- Fire alarm test and inspection;
- System augmentation; and
- Equipment replacement (as needed).

KCE will select an O&M Contractor based upon the final BESS vendor and design used for the system. O&M will be managed by KCE directly overseeing a qualified third-party provider. The third-party provider may be the BESS integrator or another qualified service party. KCE will provide a copy of the O&M Plan to LIPA for reference when the third-party provider is selected.

Utility-scale lithium-ion batteries slowly degrade over time, resulting in decreased capacity as the project ages. To ensure KCE NY 31 can maintain its full energy capacity throughout its operating life, KCE will augment the system periodically, tentatively starting in the third year of operations. This augmentation will

consist of adding the CMA units, and possibly medium voltage power conversion systems. KCE NY 31's system design in this application depicts the footprint and equipment after all augmentation is completed throughout the project life. To the extent possible, KCE will prepare the Proposed Action Site during initial construction (e.g., grading, foundations, internal site driveways, etc.) in anticipation of project battery augmentation.

4.0 DECOMMISSIONING

KCE's decommissioning plan is created prior to project commissioning and is updated throughout the project's operational lifetime to adhere to current standards and take advantage of new industry insights. The decommissioning plan considers:

- Regulatory compliance, including all end-of-life equipment handling and any battery recycling requirements;
- Onsite equipment and plan to decommission the facility;
- Packaging and transport of batteries, specifically to ensure compliance with hazardous material transport laws; and
- Record retainment for final compliance.

Both pyrometallurgic and hydrometallurgic recycling options exist within the U.S. today and will be considered for all end-of-life batteries to reduce environmental impact. An Example Decommissioning Plan has been included as **Appendix A**.