

Appendix A

Example Decommissioning Plan



KCE NY 31
East Shoreham, NY

Site Restoration, Decommissioning and
Recycling

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Site Restoration and Decommissioning

Key Capture Energy has prepared a Decommissioning Plan that outlines the methods and means to decommission the Proposed Action at the end of its useful life.

The purpose of the Plan is to identify the methodology to be used to mitigate potential impacts resulting from the cessation of operation of the Facility.

Utility bulk storage batteries available on the market today and like the batteries proposed for the Proposed Action are typically designed to have a useful lifetime of approximately 20 years. Some replacement of parts might be needed in this period, but the facility is likely to remain in operation for that duration.

The batteries will be continually maintained throughout the life of the Proposed Action.

Performance Criteria for Site Restoration

The list below includes site restoration performance criteria proposed for decommissioning.

(1) Safety and the Removal of Hazardous Conditions

Zero safety incidents is the goal. The removal of all hazardous conditions is an extension of that safety goal. Meeting that goal includes the removal of all above ground facilities and any hazardous waste materials upon decommissioning.

(2) Environmental Impacts

The goal of decommissioning is the safe and efficient removal of all the batteries and battery storage energy facility components. This will include reclamation of the site to conditions as close to pre-construction characteristics as possible. Erosion control and storm water management measures are utilized to maintain water quality and prevent soil erosion and water runoff. All fluids and any other hazardous materials will be removed in accordance with OSHA standards. All above ground facilities will be removed and reseeding will take place.

(3) Aesthetics

Aesthetically, after decommissioning, the Facility Site should be in as close to pre-construction condition as possible. That will be accomplished by removing all above ground facilities and restoring the areas where facilities have been removed and reseeding the affected areas.

(4) Salvage and Recycling

To the extent possible, all project materials will be salvaged and/or recycled. If possible, facilities will be removed, relocated and reused. Metal facilities (steel, copper, aluminum) if not reused, will be salvaged and sold for scrap metal that can be recycled for use for other manufacturing purposes.

(5) Useful Life and Potential Future Uses

The Proposed Action is expected to have an economic and technological lifetime of approximately 20 years, with the potential to extend up to 25-years with additional battery augmentation. The

decommissioning process is expected to take a minimum of three and a half (3.5) months. This includes a minimum of four (4) weeks for preparation of pre-construction submittals, demolition plan and permitting/licensing, one (1) week for mobilization, site preparation and disconnection, seven (7) weeks for decommissioning and demolition, and two (2) weeks for grading, backfilling, and asphalt paving.

At the end of its life, the Proposed Action Site will be decommissioned per the Decommissioning Plan which will be finalized and approved in advance of all Site work. All site structures, battery containers, inverters/transformers, storage facilities, ancillary equipment, the project substation, and all other site infrastructure will be subsequently removed, unless there is mutual agreement between KCE and PSEGLI/LIPA that certain structures are to remain for repowering of future uses, most notably the project substation.

Decommissioning & Restoration Plan

(1) Regulatory Compliance

Key Capture Energy will ensure compliance with all local, state and federal waste handling requirements. In particular, lithium-ion batteries are considered hazardous waste and must comply with hazard waste regulations. All necessary training and permits will be obtained prior to the commencement of decommissioning.

(2) Plan for Decommissioning and Restoration

The Applicant has prepared the Plan to outline the methods and means to decommission the Proposed Action at the end of its useful life. The purpose of the Plan is to identify the methodology to be used to mitigate potential impacts resulting from the cessation of operation of the Facility.

The Proposed Action will have an economical and technological lifetime of approximately 20 years. At the end of its life the Proposed Action will be decommissioned, and batteries, containers, ancillary equipment, buildings and infrastructure subsequently removed.

In general, facility decommissioning will occur in the general sequence outlined below:

- Disconnect battery racks within Container
- Remove Battery Racks
- Battery Disposal
- Remove Containers
- Remove Cabling
- Remove Electrical Equipment

Prior to commencing decommissioning, the Proposed Action will be shut down, de-energized and disconnected from the Long Island Power Authority (LIPA) 138kV electric grid. The Applicant will coordinate de-energization with LIPA and NYISO to ensure no disruption to the overall electrical system.

All aboveground components including buildings, structures and equipment will be removed during

decommissioning. In addition, all foundations will be removed to a certain depth below ground surface, backfilled and then covered with topsoil.

The goal of decommissioning is the safe and efficient removal of all facility components and reclamation of the site to conditions as close to pre-construction characteristics as practicable. The same safety protocols that are used during construction will be used during decommissioning.

The decommissioning process is expected to take approximately three months. This time includes one-week site mobilization and preparation; six-week period to disassemble the facility; an additional five-weeks to remove and reclaim foundations and reclamation work including grading, backfilling, erosion control activity, reseeding will take place.

(3) Packaging and Transportation

The batteries must be packaged by trained contractors with all necessary hazardous materials training. While the United States does not currently allow for the transport of full containers with all batteries installed, it is anticipated that this will be allowed in the near-term. The batteries will be transported by a Class 9 Hazmat qualified contractor.

(4) Recycling

There are three potential methods for battery recycling, two of which are currently commercially viable in the United States. At the end of the Proposed Action's lifetime, KCE will review all available recycling methods and industry standards to select the optimal recycling program. The available recycling methods are:

1. **Pyrometallurgic:** This process uses high temperatures to separate the components of a battery. Metal alloys are retrieved from the process that can be used in industrial uses. Slag is also retrieved and can be used in road construction.
2. **Hydrometallurgic:** This process uses chemicals and mechanical separation to dissolve and extract specific metals from the batteries. The raw metals can then be used in new batteries or in another industrial use.
3. **Direct:** While direct recycling is not commercially available in the United States today, it is the most sustainable recycling option. Electrolytes are removed and purified, which allows re-use in new batteries.

(5) Record Retention

KCE will ensure that all bill-of-lading and evidence of proper waste handling are retained for a minimum of two years or to the duration that the current law requires.