



## **Kearsarge Solar LLC's Response to the Town of Bow's Request for Proposals for Renewable Energy Resources**

**October 16, 2023**



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## COVER LETTER

October 16, 2023

Town of Bow, NH  
Bow Energy Committee

*Re: Kearsarge Solar LLC's Response to the Town of Bow's Request for Proposals for Renewable Energy Resources*

Dear Members of The Bow Energy Committee:

On behalf of Kearsarge Solar LLC ("Kearsarge"), I am pleased to provide the Town of Bow ("the Town") with the enclosed proposal for Kearsarge's development, ownership, and operation of a 6.2 MW portfolio of rooftop and ground mount arrays located on Town-Owned land.

- Kearsarge was founded in 2009 and owns and operates over 225 MWs/ MWH of solar photovoltaic and battery energy storage systems;
- Kearsarge is a leader in the state of New Hampshire with over 150 MW in-development across the state. We have been awarded projects in Manchester, Concord, Belknap County and Pelham through RFPs. With a local presence, our history and our goal to own and operate anything we develop, we feel we are a very strong option for the town of Bow;
- Kearsarge developed and owns, and operates over 14 projects on Landfills or Brownfields in New England totaling over 69 MW;
- Kearsarge owns and operates New Hampshire's largest municipal net metering project. Located on the Manchester landfill, the 3.3 MW DC project provides Manchester guaranteed electricity savings and additional revenues through long-term lease and tax revenues. Kearsarge was awarded this project through an RFP and can provide excellent references. This project is an excellent example of a Kearsarge partnership where we were able to enlarge the project during the development process as soon as legislation permitted an increase in size, and provide more benefits to the Town;
- Kearsarge has established a leading reputation for partnering with public entities on Leases and/or PPAs including the City of Manchester (NH), the City of Haverhill (MA), the City of Springfield (MA), the City of Amesbury (MA), the City of Leominster (MA), Grafton Water District (MA), Canton Public Schools (MA), the Town of Grafton (MA), the Town of Franklin (MA), the Town of South Kingstown (RI), the Town of Narragansett (RI), the Town of Tiverton (RI), the Town of North Kingstown (RI), Rhode Island Public Transit Authority (RI), the University of Rhode Island (RI), University of Massachusetts (MA) and Narragansett School District (RI);
- We have executed 70 + Site Leases and Power Purchase Agreements with public, non-profit and private entities – our expertise with these contracts will expedite the contracting process;

- Kearsarge does not “flip” or sell projects after development. This ensures that the Town and Kearsarge are aligned and that a new partner will not emerge requesting changes to the agreement, and;
- Finally, Kearsarge is very strong financially, with over \$540 million in assets and no outside capital. This gives us the flexibility to execute projects even as variables change. We are not sensitive to higher interest rates or changing return parameters as we have our own capital and do not have to meet changing return rates—we are long term owners;

Our proposal includes the following Town of Bow projects for the Town to consider.

- an approximately 2.271 MW DC project located at the Former Landfill on Falcon Way; and
- an approximately 2.781 MW DC project located at the Allen Road Gravel Pit; and,
- an approximately 0.282 MW DC project located on the rooftop of Bow Elementary School; and,
- an approximately 0.613 MW DC project located on the rooftop of Bow Memorial School; and,
- an approximately .287 MW DC project located on the rooftop of Bow High School for a total portfolio of approximately 6.2 MW DC. We are open to Bow picking the most attractive options but this will provide economies of scale and the greatest economic benefits for the Town.

Kearsarge has partnered with GZA GeoEnvironmental, Inc. (“GZA”) to lead permitting, stormwater and civil design of the solar projects. Kearsarge and GZA have a long-term relationship, having partnered on over 20 of Kearsarge’s projects. GZA has deep experience permitting solar projects in New Hampshire and across New England and great familiarity with the municipal ordinances and state of New Hampshire laws and regulations that will affect the proposed projects.

The project structure would include a Lease Agreement, Net Metering Credit Sales Agreement (“NMCSA”), and Payment-In-Lieu-of-Taxes (“PILOT”) Agreement between Kearsarge and the Town. Kearsarge has carefully read the provisions of the RFP and all supporting documents and addenda and if selected, is ready to promptly enter negotiations with the Town.

Sincerely,

A handwritten signature in black ink, appearing to read "Andrew Bernstein", with a stylized flourish at the end.

Andrew Bernstein  
Manager - Kearsarge Solar LLC

# 1. PROJECT TEAM AND RESUMES

## A. Project Team

Kearsarge has assembled an established and experienced cross functional team for this project. We believe the team described below, will provide the Town with the highest quality solution in an expedited time frame. Kearsarge has completed every project we have started with excellent results and references.

The team leader for this project will be Andrew Bernstein, Manager and CEO of Kearsarge Solar with over 37 years of experience managing a broad range of organizations and divisions of large publicly traded corporations to early-stage entrepreneurial enterprises. We take pride in every array and manage them tightly to ensure the best results.

Andrew Bernstein

Phone: (617) 393-4222

Email: [abernstein@kearsargeenergy.com](mailto:abernstein@kearsargeenergy.com)

Office Location: 1380 Soldiers Field Road, Suite 3900, Boston MA

Key personnel assigned to this project:

Name	Title	Entity	Project Role
Andrew Bernstein <a href="mailto:abernstein@kearsargeenergy.com">abernstein@kearsargeenergy.com</a>	Founder & CEO	Kearsarge Solar	Team Leader
Everett Tatelbaum <a href="mailto:etatelbaum@kearsargeenergy.com">etatelbaum@kearsargeenergy.com</a>	Senior Vice President	Kearsarge Solar	Financing, Project Management, Regulatory Compliance & Contracts
Sam Feigenbaum <a href="mailto:sfeigenbaum@kearsargeenergy.com">sfeigenbaum@kearsargeenergy.com</a>	Director of New Markets and Regulatory Counsel	Kearsarge Solar	Reg. Affairs and Policy Development
Cassie Eilert <a href="mailto:ceilert@kearsargeenergy.com">ceilert@kearsargeenergy.com</a>	Director of Project Development	Kearsarge Solar	Development, Permitting, Project Management

Name	Title	Entity	Project Role
Alex Young <b>ayoung@kearsargeenergy.com</b>	Asset Mgt & Development Associate	Kearsarge Solar	Project Development, Business Development, Asset Management
Patricia Fennessey <b>pfennessey@kearsargeenergy.com</b>	Vice President Asset Management	Kearsarge Solar	Interconnection and Asset Management
Michael Hyde <b>mhyde@kearsargeenergy.com</b>	Principal Engineer	Kearsarge Solar	Interconnection, Engineering Support & Design, Project Management
Edward Summerly <b>edward.summerly@gza.com</b>	District Office Manager/ Sr. Principal	GZA GeoEnvironmental, Inc.	Engineering and permitting support / Construction phase IE services
Tracy L. Tarr, CWS, CWB, CESSWI <b>tracy.tarr@gza.com</b>	Associate Principal	GZA GeoEnvironmental, Inc.	Geotechnical Analysis, Project Management, Floodplain Analysis

#### KEARSARGE SOLAR RESUMES

ANDREW BERNSTEIN

FOUNDER & CEO

CONTACT: abernstein@kearsargeenergy.com, 617-393-4222

Mr. Bernstein manages overall development of Kearsarge. He is immersed in the local Massachusetts community and is on the board of several foundations and nonprofit entities including volunteer teaching in local public schools as well as guest lecturing in business at colleges and business schools.

- CEO & President of Cymfony Inc., for nine years, a market intelligence and media analysis company which was purchased by TNS Media in 2007 and then WPP.
- Selected Energy Consulting for National Firms focused on renewable and clean energy assets.
- Managing Partner of Hot House Venture Partners, an early-stage venture capital and consulting organization including several projects on renewable development.
- COO and Executive Vice President of Articulate Systems, a software company specializing in voice and data applications acquired by Lernout & Hauspie in 1999.
- Started the international division of a \$600 million apparel and footwear company, The Stride Rite Corporation in 20 countries over five years.
- Kidder, Peabody & Co. equity research and project finance investment banking.

- A.B. Brown University and an MBA from Harvard University.
- Involved or serves on boards for several for-profit and non-profits including the Brookline Community Foundation and the Board of Overseers at the Brigham and Women's Hospital.

EVERETT W. TATELBAUM

SENIOR VICE PRESIDENT

Mr. Tatelbaum played key roles in the development, financing, due diligence, legal affairs, regulatory compliance, and asset management of all operating Kearsarge projects and is currently involved in the development, financing, and construction of Kearsarge's development stage portfolio.

- Leads strategic planning and development at Kearsarge, including overseeing project finance, due diligence, and regulatory affairs. In this role he has worked to permit, finance, construct and operate a portfolio of more than 200 MW and over \$500 million of solar and energy storage projects in multiple markets across the US.
- Previously worked in Research at BCK Law, P.C. with a focus on energy efficiency and renewable energy policy, regulatory affairs, local permitting, and project development and contributed to BCK's successful effort to secure Massachusetts' Department of Public Utilities approval for a major client's \$87 million three-year Energy Efficiency Plan.
- BA, Wesleyan University

SAM FEIGENBAUM

DIRECTOR OF NEW MARKETS AND REGULATORY COUNSEL

Mr. Feigenbaum leads regulatory affairs and policy development for Kearsarge, while also focusing on general project development. Prior to law school, Mr. Feigenbaum served as a legislative aide to a Massachusetts State Representative with a particular focus on renewable energy policy. Mr. Feigenbaum has drafted numerous pieces of legislation relating to net metering, community solar, interconnection, and other issues affecting the solar energy industry. Mr. Feigenbaum also played a key role negotiating passage of electric vehicle charging infrastructure legislation into law, brokering a last-minute compromise between electric utilities, charging station manufacturers, environmental advocates, legislative leadership, and the Governor's Office. Previous to Kearsarge, he worked in White and Case in Boston.

CASSIE EILERT

DIRECTOR OF PROJECT DEVELOPMENT

Ms. Eilert leads early-stage development in New Hampshire at Kearsarge and is responsible for projects from site control through interconnection and permitting. Prior to Kearsarge, Ms. Eilert spent over a decade developing projects in Hawaii. Her efforts helped put Community Solar into practice in Hawaii, leading the early development on the two largest Community Solar projects in Hawaii to date. Her experience in Hawaii has contributed to developing and financing over 80 MWs of distributed rooftop and carport PV across the state and provided opportunities for varied roles and a breadth of experience across the lifecycle of solar, from business development to asset management and operations.

ALEX YOUNG  
ASSET MANAGEMENT AND DEVELOPMENT ASSOCIATE

Mr. Young is responsible for optimizing the performance of Kearsarge's portfolio as both a data sleuth, and operations project manager. In addition to monitoring the installed base, Mr. Young performs analysis for pipeline projects, propelling them through numerous State and National registration and data gathering processes. At project completion Mr. Young is responsible for final document curation and quality, in addition to assisting with spot analysis tying financial results to solar performance in the field.

Previously, Mr. Young worked for two solar energy firms in the Greater Boston area, performing financial analyses and sales support for solar clients. An entrepreneur at heart, Mr. Young has focused his career on new and fast-growing companies in the renewable energy sphere.

Mr. Young received his undergraduate degree from The College of The Holy Cross, where he majored in Environmental Studies. Driving global sustainability through renewable energy has been the motivating force in his career.

PATRICIA FENNESSEY  
VICE PRESIDENT ASSET MANAGEMENT

Ms. Fennessey is the Director of Asset Management concentrating on optimizing solar systems performance and Asset Management for Kearsarge. Ms. Fennessey held senior management and technology leadership roles in a variety of public and private firms in the management consulting, market intelligence, and high technology arenas. Ms. Fennessey was Managing Partner for Utopia Inc., taking the company to a successful acquisition by USWeb. At startup venture HUBX, Ms. Fennessey led Client Services until the company's acquisition by Synxis. At high tech social media company Cymfony, Ms. Fennessey led the development of its flagship technology platform, in addition to managing its Fortune 500 Client Management practice. Most recently, Ms. Fennessey was Sales Director for Visible Technologies, (acquired by Cision, Inc.), acquiring and managing its flagship portfolio of Pharmaceutical, Automotive, and high technology clients.

Ms. Fennessey began her career as a Systems Analyst and DBA in the mainframe era, which instigated her career-long fascination with all things "tech".

MICHAEL HYDE  
PRINCIPAL ENGINEER

Mr. Hyde is an Electrical Engineer by training, starting his career at National Grid as a Protection and Substation Engineer and then joined Nexamp for the last seven years. During his time at Nexamp, Michael held various roles and most recently managed and coordinated the commission and witness test processes for all Nexamp's distributed generation projects, which amounted to 40 projects in 2020 totaling about 200 MWs. At Kearsarge, Michael provides engineering expertise in the areas of Operations and Asset Management, Project Design, Interconnection and Construction and will be supporting the engineering and asset management activities for this project.



## GZA GEOENVIRONMENTAL, INC. RESUMES

### EDWARD SUMMERLY MANAGER/SR. PRINCIPAL

Mr. Summerly is a Principal and Registered Professional Geologist with more than 35 years of experience. He serves as manager and technical lead on multi-disciplinary studies, design and permitting projects focusing on Solid Waste Management Facilities. These have historically included landfill gas control and reuse, assessment and remediation of environmental contamination, as well as human health and ecological risk management. For the past 12 years Mr. Summerly's work has also included the evaluation and development of solar energy facilities on landfills and other Brownfields/underutilized properties. His responsibilities include technical direction, contract management, project planning, budget control, and quality assurance. He has managed solar energy installation programs at several Superfund, RCRA Corrective Action and State landfills/contaminated sites. GZA's work on these facilities has included: project feasibility studies, wetlands evaluation, local and state permitting, site civil/stormwater controls, geotechnical studies, and construction phase support (quality assurance, oversight/documentation, SWPPP inspections, regulatory reporting, etc.).

### TRACY L. TARR, CWS, CWB, CESSWI ASSOCIATE PRINCIPAL

Tracy is an environmental consultant who specializes in wildlife assessment, natural resource identification, and permitting. She manages field teams and oversees complex natural resource data collection and permitting efforts. She specializes in a variety of ecological assessment services including protected species surveys, wetland function-value assessment, vernal pool assessments, wetland delineation, natural community mapping, wildlife habitat assessments, watershed planning, mitigation design, and construction monitoring. She has permitted a wide range of projects types at the local, state, and federal level including residential projects, commercial developments, municipal infrastructure projects, and utility corridors. Tracy previously served as the Chair of the Gilmanton Conservation Commission and as the Secretary of the NH Association of Conservation Commissions. She is currently a member of the NH Association of Natural Resource Scientists Legislative Committee and serves as the northern New England technical practice lead for ecological services at GZA.

## 2. DESIGN AND SCHEDULE

### A. Design

Please see **Appendix 1** for the initial site designs and **Appendix 2** for Single Line Diagrams. Our designs were developed to maximize system capacity using Hanwha 580-Watt panels, SolarEdge string inverters for the High School, Memorial School, and Elementary School and SunGrow string inverters for the former landfill on Falcon Way and Allen Road Gravel Pit site. The arrays will be connected in a standalone configuration

and all electricity produced by the systems will be exported onto the local distribution grid. kWh produced by the arrays will be valued at the Unitil default supply rate (currently around \$.1325 cents/kWh) per the NH net metering tariff and virtually applied to oftaker bills in the form of net metering credits. Kearsarge has structured the projects in this configuration as it will allow the Town to remain on competitive supply, while benefitting from additional savings attributed to the discount net metering credits allocated to Town electric accounts.

Upon award, the Project Team will conduct further site analysis and due diligence to determine the engineering of the arrays. The Project Team will also conduct rigorous testing on the sites to confirm the proper operations of all the components and conduct detailed, industry standard commissioning plans and will work with a Town representative to ensure they are acceptable to the Town's personnel and standards.

## B. Project Schedule

### Development Schedule – Bow Elementary, Bow Memorial, and Bow High School

Milestone	Milestone Date
Award & Contract Negotiation	Month 0
Submit Interconnection Application	Month 1
Initial Unitil Review Period	Months 2-5
Initial Design Period	Month 5-8
Permitting	Month 9-12
Completion of Balance of System Design	Month 14
Installation	Month 17-19
Substantial Completion	Month 19
LDC Interconnection	Month 19
System Commissioning (Energizing & Testing)	Month 20-21
Delivery of Closeout Documentation <i>*Development Schedule and Final Placed in Service Date will depend on Unitil completing System Impact Study and system upgrade and modification work on time as determined by the Impact Study. This schedule could be improved depending upon the Unitil IC timeframe.</i>	Month 21

Development Schedule – Former Landfill on Falcon Way and Allen Road Gravel Pit

Milestone	Milestone Date
Award & Contract Negotiation	Month 0
Submit Interconnection Application	Month 1
Initial Unutil Review Period	Months 2-6
Initial Design Period	Month 6-9
Permitting	Month 12-15
Completion of Balance of System Design	Month 15
Installation	Month 18-22
Substantial Completion	Month 22
LDC Interconnection	Month 22
System Commissioning (Energizing & Testing)	Month 22-23
Delivery of Closeout Documentation <i>*Development Schedule and Final Placed in Service Date will depend on Unutil completing System Impact Study and system upgrade and modification work on time as determined by the Impact Study. This schedule could be improved depending upon the Unutil IC timeframe.</i>	Month 24

### 3. SYSTEM PERFORMANCE MONITORING, WARRANTY, AND SERVICE OPERATIONS AND MAINTENANCE FOR THE PREMISES

#### A. Monitoring Solution

As the owner-operator of all its solar PV projects, Kearsarge has a robust in-house asset management and monitoring team that utilizes the AlsoEnergy Data Acquisition System (“DAS”) to monitor our portfolio and will incorporate these systems into our current portfolio. AlsoEnergy is a certified DAS and reporting entity in the PTS database. Kearsarge performs daily, weekly, and monthly reconciliation analysis of our meters to confirm each set is within its manufacturer specifications for margin of error. Any discrepancies are immediately checked by technical field personnel for potential issues with site generation or operation of the meters themselves.

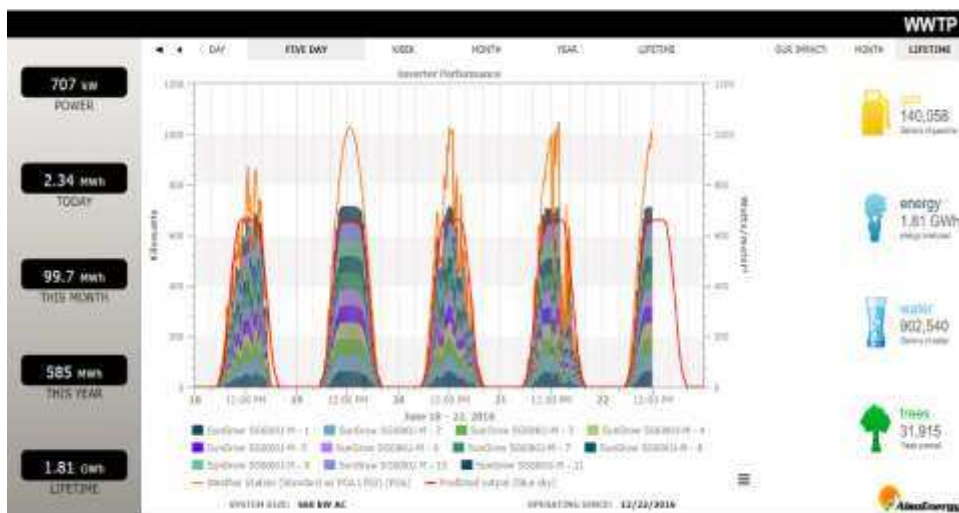
The state-of-the-art energy monitoring solution from AlsoEnergy is web-based software that allows authorized personnel to see system data in real time on any computer, tablet, or mobile device. Each monitoring package includes a revenue-grade meter to measure generation, along with a gateway device to prepare data for the web. Data is pushed out through the local IP network, or by a cellular modem for remote project locations. Data flows through AlsoEnergy’s web servers and then populates PowerTrack,

the company's energy management software solution. The system, which can handle a portfolio of projects, generates alerts and integrates with back-office functions and public facing displays. AlsoEnergy is an ideal tool for Operations and Maintenance ("O&M") as it enables:

- Performance Analysis: AlsoEnergy's PowerTrack software offers the industry's most sophisticated tools for performance modeling, giving a clear picture of expected generation.
- Workflow Management: The Workflow Suite includes specialized tools for scheduling, work order ticketing, and generating reports.
- Project Management: Project management aids include automated performance alerts, customizable reports and displays, agency reporting, and many more tools.
- Support: AlsoEnergy leads the industry for responsive and knowledgeable support. From the resource library to dedicated phone support technicians, AlsoEnergy provides partner-level support at all times.

This monitoring system posts production data online in 15-minute intervals and offers custom reporting that can calculate average, accumulated and total output over a designated period of time. This system also measures environmental factors including ambient temperature, solar irradiation, as well as detailed weather conditions via a weather station installed at the solar arrays. This enables Kearsarge to check how weather patterns are affecting production numbers and can promptly alert Kearsarge directly if there is an Irradiance-to-PV Production inconsistency. More complex weather stations can be configured to include wind sensors, multiple irradiance sensors, and multiple module temperature sensors, if so desired. The monitoring interface also allows the Town to track the environmental benefits of the renewable energy produced, such as equivalent gallons of gasoline saved and carbon emissions reduced.

Please see below for a screenshot of the interface from Kearsarge's Westborough Wastewater Treatment Plant project:



To provide additional insurance against downtime and underperformance, each inverter and segmented portions of the system (zones) report independently of the overall meter monitored production. The system is then configured with production alerts that are triggered in the event of a system failure or

underperformance with a portion of the system, whether it stems from module or inverter malfunction, ground faults, DAS communication failure, loss of weather data, or another type of system error. If there is ever a problem with the system's production, Kearsarge will be notified immediately, assuring that all output issues are identified and addressed promptly. This real-time monitoring allows O&M crews to respond quickly to an event and coordinate with all necessary personnel to address the issue.

## B. Warranties

Kearsarge carries full warranties on all the major equipment for each of our arrays and will do the same for these systems. In the event of change in ownership to the Town, the warranties would be transferred to the Town.

Please see below for specific warranties:

EPC Installation	2 Years
PV Modules	25 Years
Inverters	10 Year
Racking	20 Year

## C. O&M Services, Decommissioning and Town Training

Kearsarge will manage all O&M work in relation to the solar PV arrays.

As the long-term owner- operator of its solar PV portfolio, Kearsarge has a vested interest to maintain its systems in optimal performance condition. Each system will be monitored 24/7 through internet connectivity to observe overall system performance. In the event of any system or sub-system issue, an electronic alert is sent via e-mail to Kearsarge. Once the alert is received, the O&M team will attempt to determine the extent of the problem and resolve the issue from a remote location. If the problem cannot be addressed in this manner, maintenance staff will be contacted and dispatched to the site within 24 hours where a solar technician will troubleshoot the system, isolate the problem area, and implement a solution.

Kearsarge operates a comprehensive program of O&M services for its portfolio of operating projects. Please see below a sample Scope of O&M Services and Preventative Maintenance to be provided by the Project Team.

### SCOPE OF SERVICES

#### 1. Monitoring & Reporting

Description of Service	Scope
------------------------	-------

(1) Monitoring System	<p>(a) Operator will proactively monitor system performance and operations on a daily basis for regular expected performance and performance irregularities, and all alerts from the System DAS and/or inverters. Where applicable, Operator will operate remote re-close and re-start functionality of System.</p> <p>(b) Inverter Direct monitoring: monitor performance of inverters individually as well as cumulatively, so long as such monitoring capabilities or functionalities are available. Inverter-by-inverter data, including DC voltage, AC voltage, AC current, AC power, and AC energy shall be reviewed. If available in System DAS and inverter, factory alarms may be triggered for critical issues such as ground faults, blown fuses in the inverter, AC power losses, etc.</p> <p>(c) If installed and available, sub-array zones are to be monitored and their power production tracked; the System DAS shall detect any power discrepancies in the sub-array zone. For example, permanent partial shading shall be indicated on the sub-array monitoring system.</p> <p>(d) Notification of critical failures of the equipment or outside issues such as ground faults and fluctuations on the electrical grid shall be captured, where possible, and reported according to Reports procedures.</p>
(2) Notifications	<p>Upon occurrence, Operator will promptly notify Manager of System Events via email and/or using software and mutually agreed procedures requested by the Manager of:</p> <p>(a) production related faults or outages;</p> <p>(b) weather adjusted daily performance 10% below expected performance; and</p> <p>(c) observed performance warnings or trends which may indicate developing performance problems.</p>
(3) Reports	<p><i>(a) System Event Reports</i></p> <p>Upon the occurrence of Operator's receipt of material alerts, or other material events pertaining to the operation of the System including completion of site inspections, preventative maintenance work such as electrical measurements, meter readings, thermal images and system test results, vegetation management, troubleshooting or maintenance activities, a service ticket will be provided to the Manager providing evidence, including documentation and photographs as applicable, of the activities related to the System Event and resolution, as well as any recommended next steps including non-conformance issues identifying potential short-term and long-term power production issues (a "System Event"). Such written System Event service ticket shall be provided via interface with Manager's online project management ticketing system or as otherwise agreed.</p> <p><i>(b) System Performance Reports</i></p> <p>Quarterly Reports will include at a minimum:</p> <ul style="list-style-type: none"> <li>i. System Performance &amp; Operations;</li> <li>ii. Down Time, Est. Lost kWh Production &amp; Service Call Log;</li> <li>iii. Maintenance &amp; Inspection Services Performed;</li> <li>iv. Troubleshooting &amp; Repair Services Performed;</li> <li>v. Utility Issues &amp; Resolutions;</li> <li>vi. Warranty Services &amp; Claims;</li> <li>vii. Site/Environmental Issues &amp; Resolutions;</li> </ul>

	<ul style="list-style-type: none"> <li>viii. Safety/Accident Reports;</li> <li>ix. Weather Data;</li> <li>x. Additional System Services; and</li> <li>xi. Any proposed recommended service and maintenance.</li> </ul>
(4) General Requests for System Information	System Owner may make reasonable requests and Operator will provide, if available, additional System information necessary for lender reports, off-taker reports, regulatory compliance, warranty claims and other purposes.
(5) Licenses and Operating Permits	Operator will obtain and maintain all required licenses and permits required to operate and maintain the System.

## 2. Maintenance

Description of Service	Scope
(1) Field Inspection	<p>Field inspections may be combined with other System repairs or troubleshooting site visits. Field Inspections to include visual inspections including:</p> <ul style="list-style-type: none"> <li>o PV Panel Condition <ul style="list-style-type: none"> <li>▪ Inspect for cleanliness, cracked/chipped/scratched/ shattered panels, fading/discoloration, burn marks, seal condition, frame damage or rust.</li> </ul> </li> <li>o PV Mounting Structure <ul style="list-style-type: none"> <li>▪ Inspect mounts and mounting structures (loose panels, loose rack/clips missing hardware, rusted bolts, flashing issues, ballast condition, rack anchor condition).</li> <li>▪ Inspect drainage and stormwater management systems.</li> </ul> </li> <li>o PV Array Ventilation <ul style="list-style-type: none"> <li>▪ Inspect conditions under panels, remove of any large debris or pests; visual check to ensure maximum ventilation under panels.</li> </ul> </li> <li>o PV System Foundations <ul style="list-style-type: none"> <li>▪ Canopy arrays (visual inspection of concrete piers, grounds and vegetation, identify issues related to mud, water pooling, soil erosion, as applicable).</li> </ul> </li> <li>o Balance of System <ul style="list-style-type: none"> <li>▪ Inspect conduit runs (separated/cracked conduits, misaligned wire runs).</li> <li>▪ Inspect panel interconnectivity and string lines (wire/cable wear, wire fading, chewed wire due to pests, identify loose/detached wires).</li> <li>▪ Inspect junction/combiner enclosure(s) condition (seals, rust, damage, locks).</li> <li>▪ Inspect electrical equipment enclosure(s) (seals, rust, damage, door condition, locks, equipment pad(s)).</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>o Inverter(s) <ul style="list-style-type: none"> <li>▪ Inspect inverter structure(s) and enclosure(s) (seals, rust, damage, door condition, switch/handle condition, locks).</li> <li>▪ Inspect inverter equipment pad(s) (cracks, base damage, soil erosion).</li> </ul> </li> <li>o Data Acquisition System (DAS) <ul style="list-style-type: none"> <li>▪ Weather stations condition (alignment of irradiance sensor, condition of wind and temperature meters).</li> <li>▪ DAS device condition (screen, seals, rust, damage).</li> </ul> </li> <li>o Shading Conditions <ul style="list-style-type: none"> <li>▪ Visual inspection to identify any shading issues, preventive care if shading caused by nearby vegetation).</li> </ul> </li> <li>o Vegetation/Pest Conditions <ul style="list-style-type: none"> <li>▪ Vegetation management (inspection for vegetation issues or tree branches or other plants/trees blocking panels/system, recommend corrective actions).</li> <li>▪ Pest Control (review for insects, bird nests, squirrels, spider nests, etc.; Recommend corrective actions if necessary).</li> </ul> </li> <li>o System Security <ul style="list-style-type: none"> <li>▪ Visually inspect fence line or confinement structures for wear, damage, breach, vandalism, or other problems.</li> <li>▪ Visually inspect any electronic surveillance equipment (cameras, alarms, etc.) and identify if operating.</li> <li>▪ Check condition of any locks, chains or other protection measures preventing unauthorized access to the system.</li> </ul> </li> </ul>
(2) Equipment Maintenance	<p>Operator will perform all maintenance activities in accordance with the equipment manufacturer recommendations and warranty requirements.</p> <p>(a) Conduct thermal image testing of all field terminations in combiners, disconnects and inverters. Thermal imaging of combiners, inverters and disconnects by a trained thermographer. Analyze and document all images taken, identify any potential hot spots and propose corrective actions if necessary.</p> <p>(b) Visually inspect system for loose wiring or any other safety or performance hazards including tree growth.</p> <p>(c) Take and log all voltage (Voc) and current readings (Imp) for all strings inside combiner boxes or string inverters and analyze and document any anomalies that effect system performance and propose corrective actions if necessary.</p> <p>(d) Visually inspect, if reasonably accessible, any plug and receptacle connectors between the modules and panels to ensure they are fully engaged. Tighten any loose connectors.</p>



	<p>(e) Check that strain reliefs/cable clamps are properly installed on all cables and cords by pulling on cables to verify. Tighten any loose clamps.</p> <p>(f) If reasonably accessible, check to see that all wiring is neat and well supported. Tighten any loose connections.</p> <p>(g) Inverters:</p> <ul style="list-style-type: none"> <li>i. Conduct preventative maintenance in accordance with manufacturer specifications;</li> <li>ii. Clean and vacuum enclosure, vents and heat sink / remove any identifiable debris and clean any accumulation of dust;</li> <li>iii. Change air filters according to manufacturer specifications;</li> <li>iv. Check fuses/breakers (visually inspect for signs of corrosion/burning of components); and</li> <li>v. General check of wiring (visually inspect for visible wiring for breaks, deterioration or signs of corrosion/burning, check cable wire protection).</li> </ul> <p>(i) Test ground continuity and correct any unsafe or abnormal issues.</p> <p>(j) Check mechanical and structural integrity of the System, notify Manager, and propose repairs to correct any issues.</p> <p>(l) Check all fuses in inverters/combiner boxes/DC &amp; AC disconnects.</p> <p>(m) Check enclosures for dust/water ingress.</p>
(3) Sensors, Meters & DAS Maintenance	<p>Operator will perform all maintenance activities in accordance with the equipment manufacturer recommendations and warranty requirements.</p> <p>(a) Record meter readings as available and upon request.</p> <p>(b) If requested, turn off and on to ensure they are communicating and ensure battery backups are working.</p> <p>(c) Check accuracy of instruments with reference portable instruments.</p> <p>(d) Clear off irradiation sensors; check wind sensors for obstructions.</p> <p>(e) Lubricate moving parts of wind sensor if required by manufacturer.</p> <p>(f) Clear any debris from temperature sensors.</p> <p>(g) Review AlsoEnergy (or equivalent monitoring system, as selected by Manager) equipment configuration, and perform maintenance to system configuration parameters as requested by Manager, and as necessary to maintain optimal system diagnostic, reporting, and alerting integrity.</p>
(4) Warranties	<p>Operator will perform all reasonable activities required to maintain all Equipment warranties and any warranty claims; Enforcement may require support of Manager to implement.</p>
(5) Site Maintenance	<p>Site Maintenance will be carried out on an as needed basis, depending on the site and weather conditions.</p> <p>(a) Vegetation control, as necessary, by use of biodegradable weed killer and/or nylon line brush cutter/weed whacker to maintain optimal performance of PV system and visual appearance of the site in accordance with any site lease conditions and with safe procedures for ensuring equipment is not damaged.</p> <p>(b) Mowing of the lease area, not less than twice per year. At some sites we have used sheep to control mechanical mowing.</p> <p>(c) If applicable, topping up of any gravel areas with matching gravel as necessary.</p>

	(d) Pruning of trees/bushes that cause shading of the System or potential damage to fencing/equipment and maintaining compliance with any final screening plan per local permits as requested by Manager. (e) Operator to carry out repair/replacement of fence and security systems as appropriate. (f) Snow removal as necessary for safe access in compliance with local jurisdictional requirements and/or local electric distribution utility.
(6) System Cleaning	Operator will monitor System including modules and if required recommend System cleaning in accordance with the equipment manufacturer recommendations and industry standards.
(7) Supplemental System Maintenance	(a) String Level IV Curve Tracing <ul style="list-style-type: none"> <li>• Perform string level IV Curve tracing with a minimum of 400 w/m2 irradiance.</li> <li>• Analyze and document any anomalies that effect system performance and propose correct actions if necessary.</li> </ul> (b) Transformer, MV Switchgear Maintenance <ul style="list-style-type: none"> <li>• Transformer – Oil and gas analysis, infrared image connections, positive nitrogen charge, record oil temp, level, PSI, visually inspect terminations.</li> <li>• MV Switchgear - Trip test protection devices, verify electrical controls, download relay event files, operate disconnects, visual inspection of Terminations, verify meter operation.</li> </ul> (c) Drone services and module IR scans

Kearsarge sub-contracts to certified, pre-approved vendors for all O&M services and will contract with one of our existing vendors for O&M services related to these systems. Kearsarge's internal Asset Management Team, led by Patricia Fennessey, manages all O&M vendors, monitors each site's performance and ensures any issues that may arise are taken care of immediately.

#### D. Storm Restoration Plan

Kearsarge takes the necessary precautions and steps to maintain our solar PV arrays. This includes having a robust plan in case a storm or other external event damages any of our operational systems. The first part of this plan includes having detailed site inventory and layout diagrams. These diagrams depict the exact layout and design of our solar arrays. In addition, we have a detailed equipment inventory that lists every part of the system and our spares in inventory. This ensures that we are prepared for any instances where a vital piece of equipment becomes damaged. With the ability to closely monitor our sites remotely and in real time, we will know if any sites are significantly damaged or affected.

The second part of the storm restoration plan focuses on dealing with the aftermath of any storms. We have several steps to properly assess, identify, and resolve any damage. This is outlined below:

1. Assess and categorize the damage.
2. Conduct a thorough site evaluation.
3. File any necessary insurance claims to account for losses and work closely with the insurance company to provide adequate documentation.

## 4. PROPOSER QUALIFICATIONS

### A. Kearsarge Solar LLC Sample Projects

#### **3.3 MW DC – Kearsarge Manchester (Manchester, NH)**



Kearsarge was awarded the right to develop, finance, construct and own this project through a competitive RFP issued by the City of Manchester. This project is New Hampshire's largest net metering project. The facility consists of a 3.3 MW DC ballasted ground-mount array located on the City's municipal capped landfill. The project's Commercial Operations date was December 2021. The City serves as the sole offtaker for the project.

### 693 kW DC – Kearsarge Duxbury (Duxbury, MA)



Kearsarge developed, constructed and financed this combined 693 kW DC rooftop solar array on the Duxbury Middle-High School and the Duxbury Chandler Elementary School. Kearsarge was awarded the rights to develop the project through a public procurement process run by the Town of Duxbury. These two projects highlight the Town of Duxbury's continued leadership in renewable energy and are being leveraged as educational tools and a real-time learning environment for the Elementary, Middle and High School students. Kearsarge worked closely with the Town and School Department to coordinate construction schedules to minimize any impact on school activities and with the local utility to coordinate the interconnection of each system. All energy produced by the systems is being purchased by the School Department to offset its energy consumption and generate significant energy cost savings. The projects were completed in January, 2017.

#### 4.5 MW DC + 3.8 MWh ESS - Amesbury Landfill (Amesbury, MA)



Completed in 2019, Kearsarge was awarded the rights to develop, finance, construct and own and operate this project through a 2017 RFP. Located on 15.8 acres of the City's Titcomb Pit Landfill, this project was the first solar + storage facility built under the MA SMART Solar Program in National Grid territory. Kearsarge partnered with local contractors and the Massachusetts Department of Environmental Protection to permit the project. The facility consists of a 4.5 MW DC ballasted ground-mount array, and a 3.8 MWh battery energy storage system. The City of Amesbury serves as the sole offtaker for the project.

#### B. References

Size (kW DC / kW AC)	Project Name	Location	Project Type	Commencement Date	Completion Date	Contact	Contract
693 kW DC / 528 kW AC	Kearsarge Duxbury	Duxbury, MA	Rooftop arrays on the Duxbury High-Middle School and Elementary School	Nov-15	Jan-17	Barbara E. Bartlett, Special Projects/Energy Manager Duxbury Public Schools 93 Chandler St Duxbury MA 02332 781-934-7600 ext4353 <a href="mailto:bbartlett@duxbury.k12.ma.us">bbartlett@duxbury.k12.ma.us</a>	Energy Management Services Agreement and License under Ch. 25A.
3,300 kW DC / 2,490 kW AC	Kearsarge Manchester	City of Manchester, NH	Ballasted ground-mount on the City of Manchester's municipal capped landfill	Dec-19	Dec-20	Timothy J. Clougherty, Deputy Public Works Director, City of Manchester, One City Hall Plaza, Manchester, NH 03101 (603) 624-6444, <a href="mailto:tclougherty@manchesternh.gov">tclougherty@manchesternh.gov</a>	Lease and PPA with the City of Manchester
9,300 kW DC / 6,880 kW AC	SKSC	South Kingstown, RI	Ground - Mounts located on Brownfield and Superfund sites	Oct-17	Oct-18	Dave Lamb, Director of Facilities Operations, University of Rhode Island, Sherman Building, 60 Tootell Road, Kingston, RI 02881 (401) 874-7896 <a href="mailto:dlamb@uri.edu">dlamb@uri.edu</a>	Site License Agreement with the Town of South Kingstown and Net Meter Power Purchase Agreements with URI, the Town of South Kingstown and the Town of Narragansett.

4,512 kW DC / 3,294 kW AC+ 3.8 MWH ESS	Kearsarge Amesbury	City of Amesbury, MA	Ballasted ground-mount on the Town of Amesbury's capped landfill	Jul-19	Dec-19	Thomas Barrasso, Former Energy Manager, City of Amesbury, Current Sustainability Director, Brookline, (617)997-7351, <a href="mailto:tbarrasso@brooklinema.gov">tbarrasso@brooklinema.gov</a>	AOBC Power Purchase Agreement with the City of Amesbury
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### C. Experience with Public Entities

Kearsarge has worked with municipalities in a variety of capacities, including as either off-takers, site hosts or both. We have had only positive experiences working with our public partners and look forward to applying our extensive experience and track record to this project. Completed projects with municipalities include ground leases, on-site rooftop and ground-mount arrays, in addition to virtual net metered arrangements from off-site projects. Please see below for a list of over 140 MWs of projects Kearsarge has developed and is developing with public entities.

Size (kW DC)	Location	State	Type of Contract with Public Entity	Type of Land Ownership	Off taker(s)	Type	Year of Completion
11,800	Town of Smithfield	RI	PPA	Private	Coventry Public Schools	Ground-Mount	2023
1,500	Town of South Kingstown	RI	Site License and PPA	Public	URI	Carport	2023
2,700	Town of Kingston	MA	Lease and PPA	Public	Town of Kingston	Ballasted ground-mount on the Town's municipal capped landfill	2023
4,600	City of Beverly	MA	Lease and PPA	Public	City of Beverly	Rooftop, canopy, and Ground mount systems on City-owned land.	2023
3,000	Town of Montague	MA	Lease and PPA	Public	City of Springfield	Ballasted ground-mount on the Town's landfill (in process of capping) and parking canopy on adjacent town land	2021
1,100	Town of Walpole	MA	Lease and PPA	Public	Norfolk County Agricultural School	Rooftop, Parking Canopy and Ground-Mount at the Norfolk County Agricultural High School	2021

4,450	Town of South Kingstown	RI	PPA	Private	Town of Tiverton, Narragansett School District	Ground-Mount on a remediated Brownfield	2021
6,300	Town of Bellingham	MA	Lease	Public	Town of Bellingham, City of Amesbury	Ground-mount on Town-owned land	2021
3,300	City of Manchester	NH	Lease and PPA	Public	City of Manchester	Ballasted ground-mount on the City's municipal capped landfill	2021
3,600	City of Haverhill	MA	Lease and PPA	Public	City of Haverhill	Ballasted ground-mount on the City's municipal capped landfill	2020
1,200	Town of Montague	MA	PPA	Private	City of Springfield	Ground-Mount	2020
5,000	Town of Ludlow	MA	PPA	Private	City of Springfield	Ground-Mount	2020
1,900	City of Pittsfield	MA	PPA	Private	City of Springfield	Ground-Mount	2020
1,400	Town of Windsor	MA	PPA	Private	City of Springfield	Ground-Mount	2020
2,900	City of East Providence	RI	PPA	Private	RIPTA	Ballasted Ground-Mount on a Brownfield	2020
6,000	Town of Westerly	RI	PPA	Private	CHARIHO Regional School District, Moses Brown School, Foster-Glocester Regional School District	Ground-Mount	2020
2,900	Town of Tiverton	RI	PPA	Private	Foster-Glocester Regional School District	Ground-Mount	2020
4,500	City of Amesbury	MA	Lease and PPA	Public	City of Amesbury	Ballasted ground-mount on the City's municipal capped landfill	2019
2,800	Town of Acushnet	MA	PPA	Private	Greater New Bedford Regional Vocational Technical High School, Acushnet Schools	Ground-Mount	2019
1,400	Town of Montague	MA	PPA	Private	City of Springfield	Ground-Mount	2019

9,300	Town of South Kingstown	RI	Site License and PPA	Public	Town of South Kingstown, URI, Town of Narragansett	Ballasted Ground-Mount on a landfill and superfund site	2018
2,700	Town of Great Barrington	MA	PPA	Private	Athol-Royalston School District, Town of Westminster, Hampshire Sheriff's Office	Ground-Mount	2018
2,700	Town of Uxbridge	MA	PPA	Private	Blackstone-Millville School District, Town of Hanover	Ground-Mount	2018
6,000	Town of Montague	MA	Lease and PPA	Public	Town of Montague, Town of West Springfield	Ballasted ground-mount on the Town of Montague's municipal capped landfill	2018
4,124	Town of Bellingham	MA	Lease and PPA	Public	Town of Randolph	Ballasted ground-mount on the Town of Bellingham's municipal capped landfill	2016
5,564	Town of Concord	MA	Lease and PPA	Public	Concord Municipal Light Plant	Brownfield, ground-mount on the former WR Grace Superfund site	2016
3,200	Town of Granby	MA	PPA	Private	Granby Public Schools, Grafton Water District, Town of Grafton, City of Leominster	Ground-Mount	2016
645	Town of Athol	MA	PPA	Private	Town of Granby, Town of Grafton, City of Leominster	Ground-Mount	2016
762	Town of Rehoboth	MA	PPA	Private	Quincy Housing Authority	Ground-Mount	2016
576	Town of Norwell	MA	PPA	Private	Town of Norwell	Canopy	2016
990	Town of Westborough	MA	Lease and PPA	Public	Westborough Wastewater Treatment Plant	Ground-Mount for on-site usage at the Westborough-Shrewsbury Wastewater Treatment Plant	2016



693	Town of Duxbury	MA	License and PPA	Public	Town of Duxbury	Rooftop on the Town of Duxbury Elementary and Middle/High Schools	2016
312	Town of Sunderland	MA	Lease and PPA	Public	Town of Sunderland	Ground-Mount at the Town of Sunderland Elementary School	2016
4,925	Town of Southwick	MA	PPA	Private	Town of West Springfield	Ground-Mount	2015
2,400	Town of Barre	MA	PPA	Private	City of Leominster	Ground-Mount	2014
1,723	Town of Concord	MA	Lease and PPA	Public	Concord Municipal Light Plant	Ballasted ground-mount on the Town of Concord's municipal capped landfill	2014
1,900	Town of Barre	MA	PPA	Private	Town of Grafton, Pathfinder Regional Vocational High School	Ground-Mount	2014
2,500	Town of Hubbardston	MA	PPA	Private	University of Massachusetts - Lowell	Ground-Mount	2013
1,720	Town of Grafton	MA	Lease and PPA	Public	Grafton Water District	Ground-Mount	2013
370	Town of Canton	MA	License and PPA	Public	Canton Public School District	Rooftop at the Town of Canton Middle and High School	2013
417	Town of Canton	MA	License and PPA	Public	Canton Public School District	Rooftop at the Town of Canton Middle and High School	2013
4,800	Town of Franklin	MA	PPA	Private	Town of Franklin	Ground-Mount at Mount Saint Mary's Abbey	2013
3,600	Town of Franklin	MA	PPA	Private	Town of Franklin	Ground-Mount at Mount Saint Mary's Abbey	2013
5,740	Town of Salisbury	MA	PPA	Private	Local Municipalities and School Districts	Ground-Mount	2012
<b>140,011</b>							

#### D. Kearsarge Project Experience

Kearsarge continues to be a leader in New England and New York in the development of distributed generation. Please see below for a complete list of distributed generation projects that Kearsarge has completed or has under construction.

Project Phase	PTO Year	Capacity (MW AC)	Capacity (PV MW DC + ESS MWh)	Location	Type	Ownership
Operating	2011	0.1	0.2	Lahaina, HI	Rooftop	Kearsarge
Operating	2011	0.1	0.14	Mililani, HI	Rooftop	Kearsarge
Operating	2012	6.0	5.7	Salisbury, MA	Ground-Mount	Kearsarge Partner
Operating	2013	1.5	1.7	Grafton, MA	Ground-Mount	Kearsarge Partner
Operating	2013	3	3.6	Franklin, MA	Ground-Mount	Kearsarge Partner
Operating	2013	4	4.8	Franklin, MA	Ground-Mount	Kearsarge Partner
Operating	2013	0.8	0.8	Canton, MA	Rooftop	Kearsarge Partner
Operating	2013	2	2.5	Hubbardston, MA	Ground-Mount	Kearsarge
Operating	2014	1.5	1.7	Concord, MA	Ground-Mount	Kearsarge
Operating	2014	1.4	1.9	Barre, MA	Ground-Mount	Kearsarge
Operating	2014	2	2.4	Barre, MA	Ground-Mount	Kearsarge
Operating	2014	0.8	0.9	Chicopee, MA	Ground-Mount	Kearsarge
Operating	2014	4.9	6.0	Chester, MA	Ground-Mount	Kearsarge
Operating	2015	3.3	4.9	Southwick, MA	Ground-Mount	Kearsarge
Operating	2016	4.5	5.5	Concord, MA	Brownfield	Kearsarge
Operating	2016	2.2	4.1	Bellingham, MA	Landfill	Kearsarge
Operating	2016	2.3	3.3	Granby, MA 1 -> 5	Ground-Mounts	Kearsarge
Operating	2016	0.4	0.6	Norwell, MA	Carport	Kearsarge
Operating	2016	0.4	0.4	Duxbury, MA	Rooftop	Kearsarge
Operating	2016	0.3	0.3	Duxbury, MA	Rooftop	Kearsarge
Operating	2016	0.7	1.0	Westborough, MA	Ground-Mount	Kearsarge
Operating	2016	0.9	1.3	Shirley, MA	Ground-Mount	Kearsarge
Operating	2016	0.6	0.8	Rehoboth, MA	Ground-Mount	Kearsarge
Operating	2016	0.5	0.6	Athol, MA	Ground-Mount	Kearsarge
Operating	2016	0.2	0.3	Sunderland, MA	Ground-Mount	Kearsarge

Operating	2017	2.0	2.8	Gill, MA	Ground-Mount	Kearsarge
Operating	2017	0.9	1.2	Ayer, MA	Ground-Mount	Kearsarge
Operating	2017	1.5	2.2	Wilmington, MA	Rooftop	Kearsarge
Operating	2018	4.1	6.0	Montague, MA	Capped Landfill	Kearsarge
Operating	2018	1.4	1.9	Oppenheim, NY	Ground-Mount	Kearsarge
Operating	2018	1.9	2.7	Uxbridge, MA	Ground-Mount	Kearsarge
Operating	2018	1.9	2.7	Great Barrington, MA	Ground-Mount	Kearsarge
Operating	2018	6.9	9.3	South Kingstown, RI	Landfill	Kearsarge
Operating	2018	3.4	4.7	Johnstown, NY	Ground-Mount	Kearsarge
Operating	2018	0.9	1.4	Carver, MA	Ground-Mount	Kearsarge
Operating	2019	1.9	2.8	Acushnet, MA	Ground-Mount	Kearsarge
Operating	2019	3.3	4.4 + 3.8 MWh ESS	Amesbury, MA	Landfill + BESS	Kearsarge
Operating	2019	0.9	1.4	Turners Falls, MA	Ground-Mount	Kearsarge
Operating	2020	2.4	2.9	Tiverton, RI	Ground-Mount	Kearsarge
Operating	2020	4	6.0	Westerly, RI	Ground-Mount	Kearsarge
Operating	2020	2	2.9	East Providence, RI	Brownfield	Kearsarge
Operating	2020	4.9	6.9	New Bedford, MA	Ground-Mount	Kearsarge
Operating	2020	0.8	1.2	Montague, MA	Ground-Mount	Kearsarge
Operating	2020	3.7	5.0	Ludlow, MA	Ground-Mount	Kearsarge
Operating	2020	1.4	1.9	Pittsfield, MA	Ground-Mount	Kearsarge
Operating	2020	0.9	1.4	Windsor, MA	Ground-Mount	Kearsarge
Operating	2020	0.8	1.1	Watertown, MA	Garage Canopy & Rooftop	Kearsarge
Operating	2020	0.7	1.1	Walpole, MA	Canopy & Rooftop	Kearsarge
Operating	2020	2.8	3.6 + 9 MWh ESS	Haverhill, MA	Landfill + BESS	Kearsarge
Operating	2021	2.5	3.0 + 5.1 MWh ESS	Montague, MA	Landfill + BESS	Kearsarge
Operating	2021	2.8	4.2	Richmond, RI	Ground-Mount	Kearsarge
Operating	2021	4.4	6.3 + 9.5 MWh ESS	Bellingham, MA	Ground-Mount + BESS	Kearsarge
Operating	2021	2.5	3.3	Manchester, NH	Landfill	Kearsarge
Operating	2021	3.9	5.3	Burrillville, RI	Ground-Mount	Kearsarge
Operating	2021	3.1	4.5	South Kingstown, RI	Brownfield	Kearsarge
Operating	2023	0.9	1.4 + 3.9 MWh ESS	Franklin, MA	Ground-Mount + BESS	Kearsarge
Operating	2022	4.9	6.7	Portsmouth, RI	Ground-Mount	Kearsarge
Operating	2022	8.0	11.8	Smithfield, RI	Brownfield	Kearsarge

Operating	2022	1.0	1.5	South Kingstown, RI	Canopy	Kearsarge
Operating	2022	3.2	4.1 + 6.4 MWh ESS	Beverly, MA 1->7	RT/ GM / CP + BESS	Kearsarge
Construction	2022	0.5	0.8	Watertown, MA	Garage Canopy	Kearsarge
Operating	2023	0.9	2.7 + 4.5 MWh ESS	Kingston, MA	Landfill + BESS	Kearsarge
<b>Total Developed</b>			225 MW DC / MWh ESS			

## 5. PERMITTING

Kearsarge has a strong track record of installing, owning and operating ballasted ground mount systems on landfills, gravel pits, and rooftops with public entities in New England. Our Company has developed extensive in-house experience and knowledge on the local permitting regimes, interconnection and regulatory requirements, incentive programs, and federal incentives that apply to ensuring the success of each solar project. Kearsarge has become a pioneer in the New Hampshire Solar market after developing, owning and operating New Hampshire's largest municipal net metering project, located on the City of Manchester's capped landfill.

Each project is unique with its own set of challenges that require the kind of specialized knowledge and expertise and flexibility that Kearsarge is known for. Below is a list of permitting authorities Kearsarge has worked with on previous projects.

- Local:
  - Planning Boards
  - Conservation Commissions
  - Building, Fire and Police Departments
  - Inspectors, Etc.
- State:
  - NHDES
  - NHDOE
  - NHPUC
- Federal:
  - EPA
  - FAA

Kearsarge has developed a strong working relationship with the New Hampshire Department of Environmental Services through permitting the Manchester Landfill project. This project required both a Type 1B Modification to Solid Waste Management Permit and Alteration of Terrain Permit. We expect these permits to be required for the Former Landfill on Falcon Way and we expect an Alteration of Terrain Permit to be required for the Gravel Pit on Allen Road. In addition, we expect that the High School, Memorial School, Elementary School, and Landfill will be permitted with the Town via a Special Exception for Commercial Electric Generating Facilities located on parcels zoned Civic (CV). It is expected

that the Gravel Pit on Allen Road will require a Zoning Variance from the Town given that Commercial Electric Generating facilities are not currently permitted as a use in the Rural (RU) district.

## 6. CAPITAL FINANCE CAPABILITY

Kearsarge is an exceptionally strong financial partner with assets under control totaling over \$540 million. Kearsarge's senior lenders hold Kearsarge to the highest standards of creditworthiness and is fully audited each year.

Kearsarge will finance the Town's projects pursuant to its proven model:

- **100% of project equity funding has been pre-approved and reserved by the Kearsarge Investment Committee** and is available and reserved in our bank account.
- Kearsarge will form a special purpose entity ("SPE") to execute all project agreements and serve as the long-term 100% equity owner of the Town's project and all related entitlements and equipment.
- The SPE will draw a commercial loan closer to completion, from Kearsarge's pre-approved syndicate financing. **While many project developers use third parties to arrange project financing, Kearsarge works directly with its financiers to maximize efficiency and savings.**
- Kearsarge also maintains substantial cash reserves to further enhance the long-term financial stability of its projects:
  - **Working Capital Reserves** for regular project operations at the project level. These funds are calculated per project and are based on normal quarterly operating expenses for each project.
  - **Restricted Cash Debt Reserves** as required by commercial lenders at the project level.
  - **Decommissioning Reserves** at the project level as required by certain municipalities. These funds are either escrowed cash accounts, letters of credit, or other forms of sureties.
  - **Project Level Business Interruption Insurance.** Each project that Kearsarge completes takes out a business interruption insurance coverage policy. Such policies ensure liabilities will be funded in the event of any unforeseen operational issues.

Upon request, Kearsarge can provide any additional materials necessary to demonstrate financing capability.

## 7. PROPOSAL PRICING

### Lease Revenue:

Kearsarge is pleased to offer an annual lease payment at the rates provided below beginning on the Commercial Operations Date of the projects with a 1.5% annual escalator. Total lease revenue is expected to be \$71,585 in Year 1, \$1,655,330 over 20 years, and \$2,687,244 over 30 years. The range in pricing for each project is tied to Interconnection cost estimates, type of construction and size of arrays. In addition,

Kearsarge is excited to offer a \$10,000 per MW DC upfront payment to the Town/Schools with a floor of \$50,000. This means that if Kearsarge builds a 6.2 MW DC portfolio, the Town/Schools will get an upfront payment of \$62,000

Former Landfill on Falcon Way: \$13,000 per MW DC

Allen Road Gravel Pit: \$13,000 per MW DC

Bow Elementary School: \$5,000 per MW DC

Bow Memorial School: \$5,000 per MW DC

Bow High School: \$5,000 per MW DC

Year	Former Landfill on Falcon Way (2.271 MW DC) Annual Lease Revenue	Allen Road Gravel Pit (2.761 MW DC) Annual Lease Revenue	Bow Elementary School (0.282 MW DC) Annual Lease Revenue	Bow Memorial School (0.613 MW DC) Annual Lease Revenue	Bow High School (.287 MW DC) Annual Lease Revenue	Total Lease Revenue	Total Cumulative Lease Revenue
1	\$ 29,523	\$ 36,153	\$ 1,410	\$ 3,065	\$ 1,435	\$ 71,586	\$ 71,586
2	\$ 29,966	\$ 36,695	\$ 1,431	\$ 3,111	\$ 1,457	\$ 72,660	\$ 144,246
3	\$ 30,415	\$ 37,246	\$ 1,453	\$ 3,158	\$ 1,478	\$ 73,750	\$ 217,995
4	\$ 30,872	\$ 37,804	\$ 1,474	\$ 3,205	\$ 1,501	\$ 74,856	\$ 292,851
5	\$ 31,335	\$ 38,371	\$ 1,497	\$ 3,253	\$ 1,523	\$ 75,979	\$ 368,830
6	\$ 31,805	\$ 38,947	\$ 1,519	\$ 3,302	\$ 1,546	\$ 77,118	\$ 445,949
7	\$ 32,282	\$ 39,531	\$ 1,542	\$ 3,351	\$ 1,569	\$ 78,275	\$ 524,224
8	\$ 32,766	\$ 40,124	\$ 1,565	\$ 3,402	\$ 1,593	\$ 79,449	\$ 603,673
9	\$ 33,257	\$ 40,726	\$ 1,588	\$ 3,453	\$ 1,617	\$ 80,641	\$ 684,314
10	\$ 33,756	\$ 41,337	\$ 1,612	\$ 3,504	\$ 1,641	\$ 81,851	\$ 766,165
11	\$ 34,263	\$ 41,957	\$ 1,636	\$ 3,557	\$ 1,665	\$ 83,078	\$ 849,244
12	\$ 34,777	\$ 42,586	\$ 1,661	\$ 3,610	\$ 1,690	\$ 84,325	\$ 933,568
13	\$ 35,298	\$ 43,225	\$ 1,686	\$ 3,665	\$ 1,716	\$ 85,590	\$ 1,019,158
14	\$ 35,828	\$ 43,874	\$ 1,711	\$ 3,720	\$ 1,741	\$ 86,873	\$ 1,106,031
15	\$ 36,365	\$ 44,532	\$ 1,737	\$ 3,775	\$ 1,768	\$ 88,176	\$ 1,194,208
16	\$ 36,911	\$ 45,200	\$ 1,763	\$ 3,832	\$ 1,794	\$ 89,499	\$ 1,283,707
17	\$ 37,464	\$ 45,878	\$ 1,789	\$ 3,889	\$ 1,821	\$ 90,842	\$ 1,374,548
18	\$ 38,026	\$ 46,566	\$ 1,816	\$ 3,948	\$ 1,848	\$ 92,204	\$ 1,466,752
19	\$ 38,597	\$ 47,264	\$ 1,843	\$ 4,007	\$ 1,876	\$ 93,587	\$ 1,560,340
20	\$ 39,176	\$ 47,973	\$ 1,871	\$ 4,067	\$ 1,904	\$ 94,991	\$ 1,655,331
21	\$ 39,763	\$ 48,693	\$ 1,899	\$ 4,128	\$ 1,933	\$ 96,416	\$ 1,751,747
22	\$ 40,360	\$ 49,423	\$ 1,928	\$ 4,190	\$ 1,962	\$ 97,862	\$ 1,849,609
23	\$ 40,965	\$ 50,165	\$ 1,956	\$ 4,253	\$ 1,991	\$ 99,330	\$ 1,948,939
24	\$ 41,580	\$ 50,917	\$ 1,986	\$ 4,317	\$ 2,021	\$ 100,820	\$ 2,049,759
25	\$ 42,203	\$ 51,681	\$ 2,016	\$ 4,381	\$ 2,051	\$ 102,332	\$ 2,152,092
26	\$ 42,836	\$ 52,456	\$ 2,046	\$ 4,447	\$ 2,082	\$ 103,867	\$ 2,255,959
27	\$ 43,479	\$ 53,243	\$ 2,077	\$ 4,514	\$ 2,113	\$ 105,425	\$ 2,361,384
28	\$ 44,131	\$ 54,042	\$ 2,108	\$ 4,582	\$ 2,145	\$ 107,007	\$ 2,468,391
29	\$ 44,793	\$ 54,852	\$ 2,139	\$ 4,650	\$ 2,177	\$ 108,612	\$ 2,577,003
30	\$ 45,465	\$ 55,675	\$ 2,171	\$ 4,720	\$ 2,210	\$ 110,241	\$ 2,687,244

## PILOT Revenue:

Kearsarge is pleased to offer an annual PILOT payment of \$2,000 per MW DC beginning on the Commercial Operations Date of the projects. Total PILOT revenue is expected to be \$12,468 in Year 1, \$249,360 over 20 years, and \$374,040 over 30 years.

Year	Former Landfill on Falcon Way (2.271 MW DC) Annual PILOT Revenue	Allen Road Gravel Pit (2.781 MW DC) Annual PILOT Revenue	Bow Elementary School (0.282 MW DC) Annual PILOT Revenue	Bow Memorial School (0.613 MW DC) Annual PILOT Revenue	Bow High School (.287 MW DC) Annual PILOT Revenue	Total PILOT Revenue	Total Cumulative PILOT Revenue
1	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 12,468
2	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 24,936
3	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 37,404
4	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 49,872
5	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 62,340
6	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 74,808
7	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 87,276
8	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 99,744
9	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 112,212
10	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 124,680
11	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 137,148
12	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 149,616
13	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 162,084
14	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 174,552
15	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 187,020
16	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 199,488
17	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 211,956
18	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 224,424
19	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 236,892
20	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 249,360
21	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 261,828
22	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 274,296
23	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 286,764
24	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 299,232
25	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 311,700
26	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 324,168
27	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 336,636
28	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 349,104
29	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 361,572
30	\$ 4,542	\$ 5,562	\$ 564	\$ 1,226	\$ 574	\$ 12,468	\$ 374,040

## Electricity Bill Savings:

Kearsarge is pleased to offer three different PPA options under our proposal. Kearsarge has determined the Town has an appetite for approximately 2,700,000 kWh of Net Metering Credits based on review of the Town's electricity bills. PPA options include: 1) A PPA with a fixed percentage discount per kWh off the current net metering rate. 2) A fixed rate PPA with a 20 year initial term and 3) A fixed rate PPA with a 25 year initial term.

### A. Fixed Rate Percentage Discount PPA

Under option A, Kearsarge is offering a 12.5% discount off the net metering rate with no floor, providing the Town with guaranteed savings. Total electricity bill savings are expected to be approximately \$44,718 in Year 1, \$1,085,196 over 20 years, and \$1,810,606 over 30 years.

Year	Net Metering Credits (kWh)	Unitil Net Metering Rate (\$/kWh)	NMC 12.5% Discount (\$/kWh)	Town of Bow Annual Electricity Bill Savings	Town of Bow Cumulative Electricity Bill Savings
1	2,700,000	\$ 0.13	\$ 0.02	\$ 44,718.75	\$ 44,718.75
2	2,686,500	\$ 0.14	\$ 0.02	\$ 45,607.54	\$ 90,326.29
3	2,673,068	\$ 0.14	\$ 0.02	\$ 46,513.98	\$ 136,840.27
4	2,659,702	\$ 0.14	\$ 0.02	\$ 47,438.45	\$ 184,278.72
5	2,646,404	\$ 0.15	\$ 0.02	\$ 48,381.29	\$ 232,660.01
6	2,633,172	\$ 0.15	\$ 0.02	\$ 49,342.87	\$ 282,002.88
7	2,620,006	\$ 0.15	\$ 0.02	\$ 50,323.56	\$ 332,326.43
8	2,606,906	\$ 0.16	\$ 0.02	\$ 51,323.74	\$ 383,650.17
9	2,593,871	\$ 0.16	\$ 0.02	\$ 52,343.80	\$ 435,993.97
10	2,580,902	\$ 0.17	\$ 0.02	\$ 53,384.13	\$ 489,378.10
11	2,567,997	\$ 0.17	\$ 0.02	\$ 54,445.14	\$ 543,823.24
12	2,555,157	\$ 0.17	\$ 0.02	\$ 55,527.24	\$ 599,350.48
13	2,542,382	\$ 0.18	\$ 0.02	\$ 56,630.84	\$ 655,981.32
14	2,529,670	\$ 0.18	\$ 0.02	\$ 57,756.38	\$ 713,737.70
15	2,517,021	\$ 0.19	\$ 0.02	\$ 58,904.29	\$ 772,641.98
16	2,504,436	\$ 0.19	\$ 0.02	\$ 60,075.01	\$ 832,716.99
17	2,491,914	\$ 0.20	\$ 0.02	\$ 61,269.00	\$ 893,985.99
18	2,479,454	\$ 0.20	\$ 0.03	\$ 62,486.72	\$ 956,472.71
19	2,467,057	\$ 0.21	\$ 0.03	\$ 63,728.65	\$ 1,020,201.36
20	2,454,722	\$ 0.21	\$ 0.03	\$ 64,995.25	\$ 1,085,196.61
21	2,442,448	\$ 0.22	\$ 0.03	\$ 66,287.03	\$ 1,151,483.64
22	2,430,236	\$ 0.22	\$ 0.03	\$ 67,604.49	\$ 1,219,088.13
23	2,418,085	\$ 0.23	\$ 0.03	\$ 68,948.13	\$ 1,288,036.26
24	2,405,994	\$ 0.23	\$ 0.03	\$ 70,318.47	\$ 1,358,354.73
25	2,393,964	\$ 0.24	\$ 0.03	\$ 71,716.05	\$ 1,430,070.78
26	2,381,995	\$ 0.25	\$ 0.03	\$ 73,141.41	\$ 1,503,212.19
27	2,370,085	\$ 0.25	\$ 0.03	\$ 74,595.09	\$ 1,577,807.28
28	2,358,234	\$ 0.26	\$ 0.03	\$ 76,077.67	\$ 1,653,884.95
29	2,346,443	\$ 0.26	\$ 0.03	\$ 77,589.71	\$ 1,731,474.66
30	2,334,711	\$ 0.27	\$ 0.03	\$ 79,131.81	\$ 1,810,606.47



## B. Fixed Rate PPA with 20 year initial term

Under option B, Kearsarge is pleased to offer a fixed rate discount of \$.115/kWh for an initial 20 year term of the PPA and \$.1330/kWh for the 2 x 5 year mutual extension periods of the PPA. Total electricity bill savings are expected to be approximately \$47,250 in Year 1, \$2,757,883 over 20 years, and \$5,384,830 over 30 years.

Year	Net Metering Credits (kWh)	Unitil Net Metering Rate (\$/kWh)	Fixed Rate Discount (\$/kWh)	Town of Bow Annual Electricity Bill Savings	Town of Bow Cumulative Electricity Bill Savings
1	2,700,000	\$ 0.13	\$ 0.115	\$ 47,250.00	\$ 47,250.00
2	2,686,500	\$ 0.14	\$ 0.115	\$ 55,912.78	\$ 103,162.78
3	2,673,068	\$ 0.14	\$ 0.115	\$ 64,709.12	\$ 167,871.90
4	2,659,702	\$ 0.14	\$ 0.115	\$ 73,641.85	\$ 241,513.75
5	2,646,404	\$ 0.15	\$ 0.115	\$ 82,713.90	\$ 324,227.65
6	2,633,172	\$ 0.15	\$ 0.115	\$ 91,928.20	\$ 416,155.85
7	2,620,006	\$ 0.15	\$ 0.115	\$ 101,287.79	\$ 517,443.65
8	2,606,906	\$ 0.16	\$ 0.115	\$ 110,795.74	\$ 628,239.39
9	2,593,871	\$ 0.16	\$ 0.115	\$ 120,455.19	\$ 748,694.58
10	2,580,902	\$ 0.17	\$ 0.115	\$ 130,269.33	\$ 878,963.90
11	2,567,997	\$ 0.17	\$ 0.115	\$ 140,241.42	\$ 1,019,205.33
12	2,555,157	\$ 0.17	\$ 0.115	\$ 150,374.80	\$ 1,169,580.12
13	2,542,382	\$ 0.18	\$ 0.115	\$ 160,672.84	\$ 1,330,252.97
14	2,529,670	\$ 0.18	\$ 0.115	\$ 171,139.02	\$ 1,501,391.99
15	2,517,021	\$ 0.19	\$ 0.115	\$ 181,776.84	\$ 1,683,168.83
16	2,504,436	\$ 0.19	\$ 0.115	\$ 192,589.91	\$ 1,875,758.74
17	2,491,914	\$ 0.20	\$ 0.115	\$ 203,581.89	\$ 2,079,340.62
18	2,479,454	\$ 0.20	\$ 0.115	\$ 214,756.51	\$ 2,294,097.13
19	2,467,057	\$ 0.21	\$ 0.115	\$ 226,117.58	\$ 2,520,214.72
20	2,454,722	\$ 0.21	\$ 0.115	\$ 237,669.00	\$ 2,757,883.72
21	2,442,448	\$ 0.22	\$ 0.133	\$ 205,450.64	\$ 2,963,334.35
22	2,430,236	\$ 0.22	\$ 0.133	\$ 217,614.50	\$ 3,180,948.86
23	2,418,085	\$ 0.23	\$ 0.133	\$ 229,979.72	\$ 3,410,928.58
24	2,405,994	\$ 0.23	\$ 0.133	\$ 242,550.50	\$ 3,653,479.09
25	2,393,964	\$ 0.24	\$ 0.133	\$ 255,331.13	\$ 3,908,810.21
26	2,381,995	\$ 0.25	\$ 0.133	\$ 268,325.96	\$ 4,177,136.18
27	2,370,085	\$ 0.25	\$ 0.133	\$ 281,539.47	\$ 4,458,675.65
28	2,358,234	\$ 0.26	\$ 0.133	\$ 294,976.20	\$ 4,753,651.85
29	2,346,443	\$ 0.26	\$ 0.133	\$ 308,640.78	\$ 5,062,292.63
30	2,334,711	\$ 0.27	\$ 0.133	\$ 322,537.93	\$ 5,384,830.55

### C. Fixed Rate PPA with 25 year initial term

Under option C, Kearsarge is pleased to offer a fixed rate discount of \$.115/kWh for an initial 25 year term of the PPA and 1 x 5 year mutual extension period of the PPA. Total electricity bill savings are expected to be approximately \$47,250 in Year 1, \$2,757,883 over 20 years, and \$5,814,710 over 30 years.

Year	Net Metering Credits (kWh)	Unitil Net Metering Rate (\$/kWh)	Fixed Rate Discount (\$/kWh)	Town of Bow Annual Electricity Bill Savings	Town of Bow Cumulative Electricity Bill Savings
1	2,700,000	\$ 0.13	\$ 0.115	\$ 47,250.00	\$ 47,250.00
2	2,686,500	\$ 0.14	\$ 0.115	\$ 55,912.78	\$ 103,162.78
3	2,673,068	\$ 0.14	\$ 0.115	\$ 64,709.12	\$ 167,871.90
4	2,659,702	\$ 0.14	\$ 0.115	\$ 73,641.85	\$ 241,513.75
5	2,646,404	\$ 0.15	\$ 0.115	\$ 82,713.90	\$ 324,227.65
6	2,633,172	\$ 0.15	\$ 0.115	\$ 91,928.20	\$ 416,155.85
7	2,620,006	\$ 0.15	\$ 0.115	\$ 101,287.79	\$ 517,443.65
8	2,606,906	\$ 0.16	\$ 0.115	\$ 110,795.74	\$ 628,239.39
9	2,593,871	\$ 0.16	\$ 0.115	\$ 120,455.19	\$ 748,694.58
10	2,580,902	\$ 0.17	\$ 0.115	\$ 130,269.33	\$ 878,963.90
11	2,567,997	\$ 0.17	\$ 0.115	\$ 140,241.42	\$ 1,019,205.33
12	2,555,157	\$ 0.17	\$ 0.115	\$ 150,374.80	\$ 1,169,580.12
13	2,542,382	\$ 0.18	\$ 0.115	\$ 160,672.84	\$ 1,330,252.97
14	2,529,670	\$ 0.18	\$ 0.115	\$ 171,139.02	\$ 1,501,391.99
15	2,517,021	\$ 0.19	\$ 0.115	\$ 181,776.84	\$ 1,683,168.83
16	2,504,436	\$ 0.19	\$ 0.115	\$ 192,589.91	\$ 1,875,758.74
17	2,491,914	\$ 0.20	\$ 0.115	\$ 203,581.89	\$ 2,079,340.62
18	2,479,454	\$ 0.20	\$ 0.115	\$ 214,756.51	\$ 2,294,097.13
19	2,467,057	\$ 0.21	\$ 0.115	\$ 226,117.58	\$ 2,520,214.72
20	2,454,722	\$ 0.21	\$ 0.115	\$ 237,669.00	\$ 2,757,883.72
21	2,442,448	\$ 0.22	\$ 0.115	\$ 249,414.71	\$ 3,007,298.42
22	2,430,236	\$ 0.22	\$ 0.115	\$ 261,358.75	\$ 3,268,657.18
23	2,418,085	\$ 0.23	\$ 0.115	\$ 273,505.25	\$ 3,542,162.43
24	2,405,994	\$ 0.23	\$ 0.115	\$ 285,858.40	\$ 3,828,020.83
25	2,393,964	\$ 0.24	\$ 0.115	\$ 298,422.49	\$ 4,126,443.32
26	2,381,995	\$ 0.25	\$ 0.115	\$ 311,201.87	\$ 4,437,645.19
27	2,370,085	\$ 0.25	\$ 0.115	\$ 324,201.00	\$ 4,761,846.19
28	2,358,234	\$ 0.26	\$ 0.115	\$ 337,424.42	\$ 5,099,270.60
29	2,346,443	\$ 0.26	\$ 0.115	\$ 350,876.75	\$ 5,450,147.35
30	2,334,711	\$ 0.27	\$ 0.115	\$ 364,562.72	\$ 5,814,710.08

#### Buyout Option:

Kearsarge is offering buyout options in years 10, 15, 20 at the fair market value of the systems.

#### Assumptions:

- Solar facility production assumes a 0.5% annual degradation rate
- Pricing assumes the former landfill on Falcon Way project will receive the brownfield adder under the Federal Investment Credit for an ITC of 40%. For the Allen Road Gravel Pit, Bow Elementary School, Bow Memorial School, and Bow High School, we have assumed an ITC of 30%.
- Assumes a Year 1 Default Service Eversource Net Metering rate of \$.1325 with a 2.5% annual escalator.
- Assumes the projects will participate in the NH Group Net Metering Program.

## Appendices

## Appendix 1 – Initial Site Designs



# Bow Elementary School Layout



Bow Memorial School

Anticipated P.O.I

Bow Elementary School

Bow School District  
HelioScope

JONES TTS  
CLINTON W + ANNE  
M

BYNUM LAURA C

Bow Center Rd

MORRISON  
REVOCABLE

Bow



# Bow Memorial School Layout

BOW SCHOOL  
DISTRICT

Bow Memorial School

MORRISON  
REVOCABLE

Anticipated P.O.I.





# Bow High School Layout

Anticipated P.O.I





# Allen Road Gravel Pit Layout

DYKE JOHN R +  
VIRGINIA A

TOWN OF BOW

TOWN OF BOW

Anticipated P.O.I.

NINA K

HelioScope





# Former Landfill on Falcon Way Layout



TOWN OF BOW

ODOM B  
TR

BOW SCHOOL  
DISTRICT

Falcon Way

Anticipated P.O.I.

HelioScope

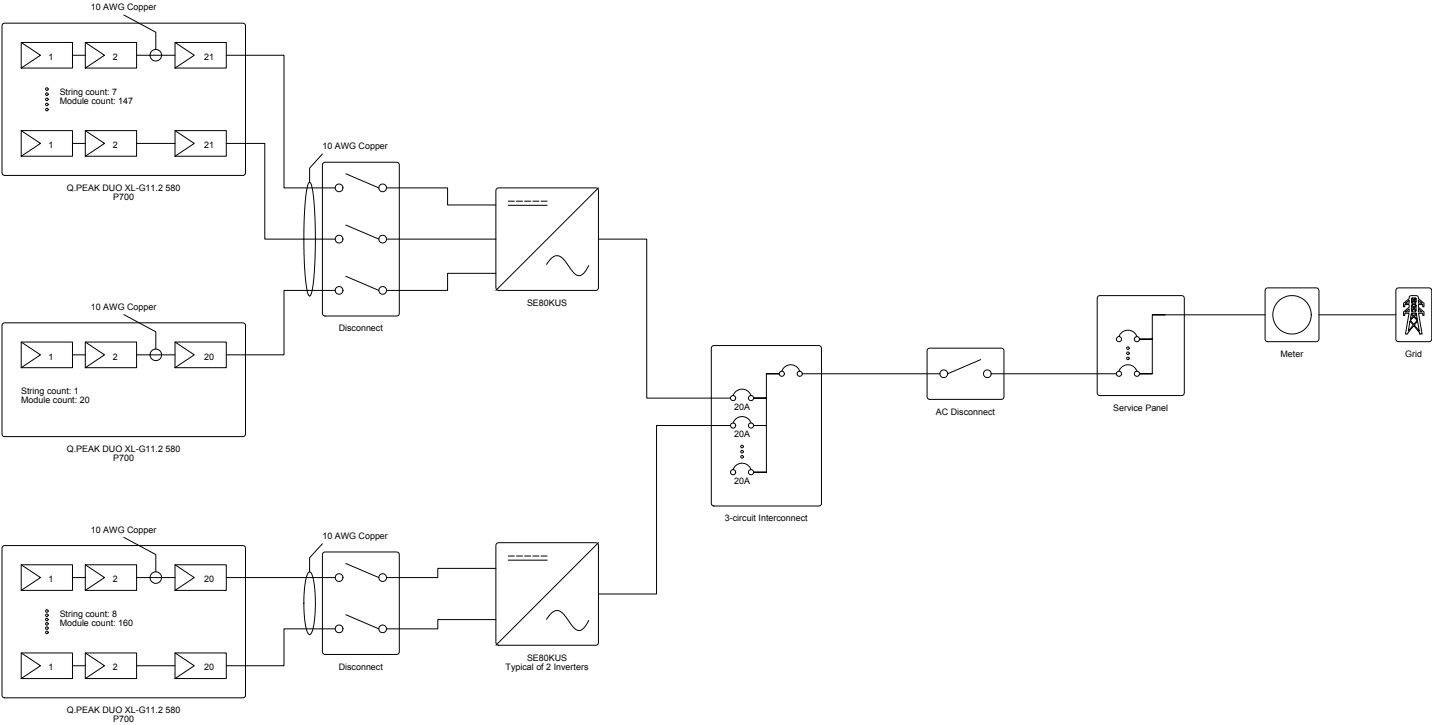
The Media Lab Senate

Falcon Way



## Appendix 2 – Preliminary Single Line Diagrams

# Bow Elementary School Preliminary SLD

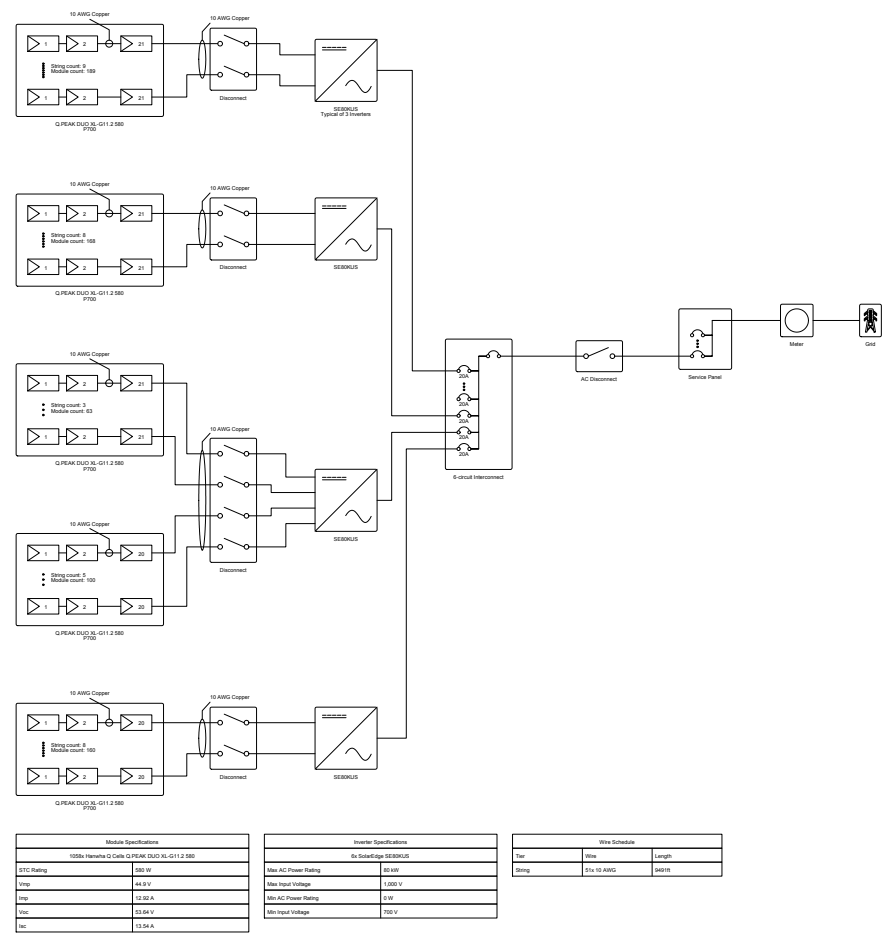


Module Specifications	
487x Hanwha Q Cells Q.PEAK DUO XL-G11.2 580	
STC Rating	580 W
Vmp	44.9 V
Imp	12.92 A
Voc	53.64 V
Isc	13.54 A

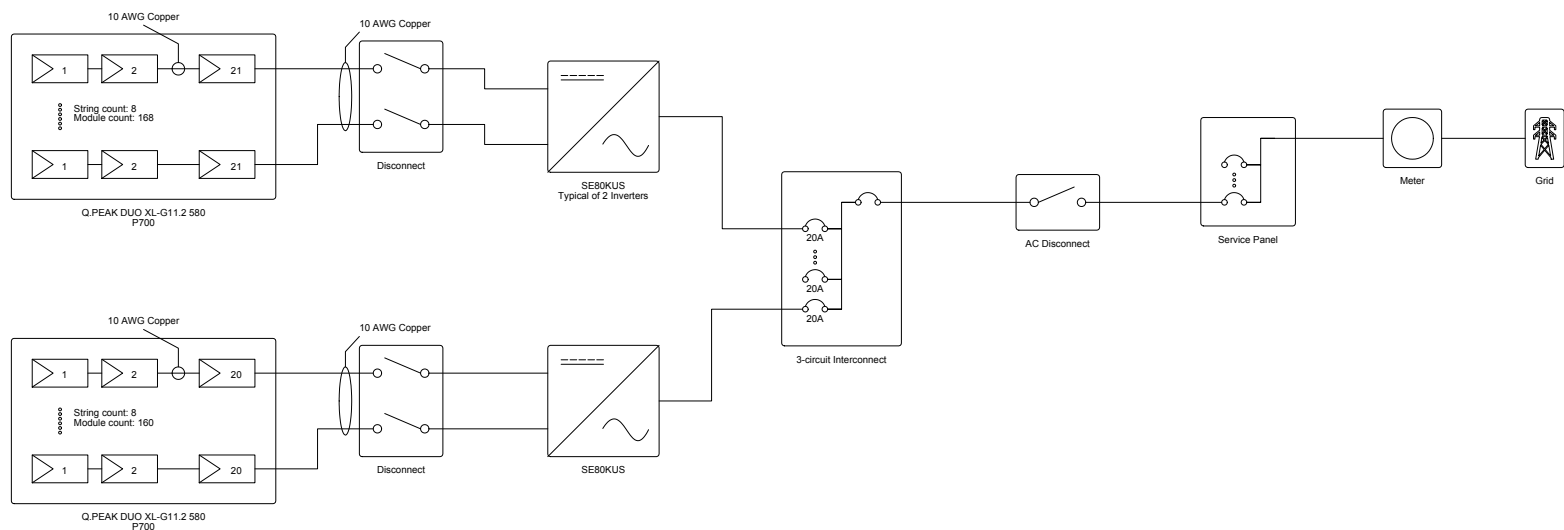
Inverter Specifications	
3x SolarEdge SE80KUS	
Max AC Power Rating	80 kW
Max Input Voltage	1,000 V
Min AC Power Rating	0 W
Min Input Voltage	700 V

Wire Schedule		
Tier	Wire	Length
String	24x 10 AWG	4728ft

# Bow Memorial School Preliminary SLD



# Bow High School Preliminary SLD

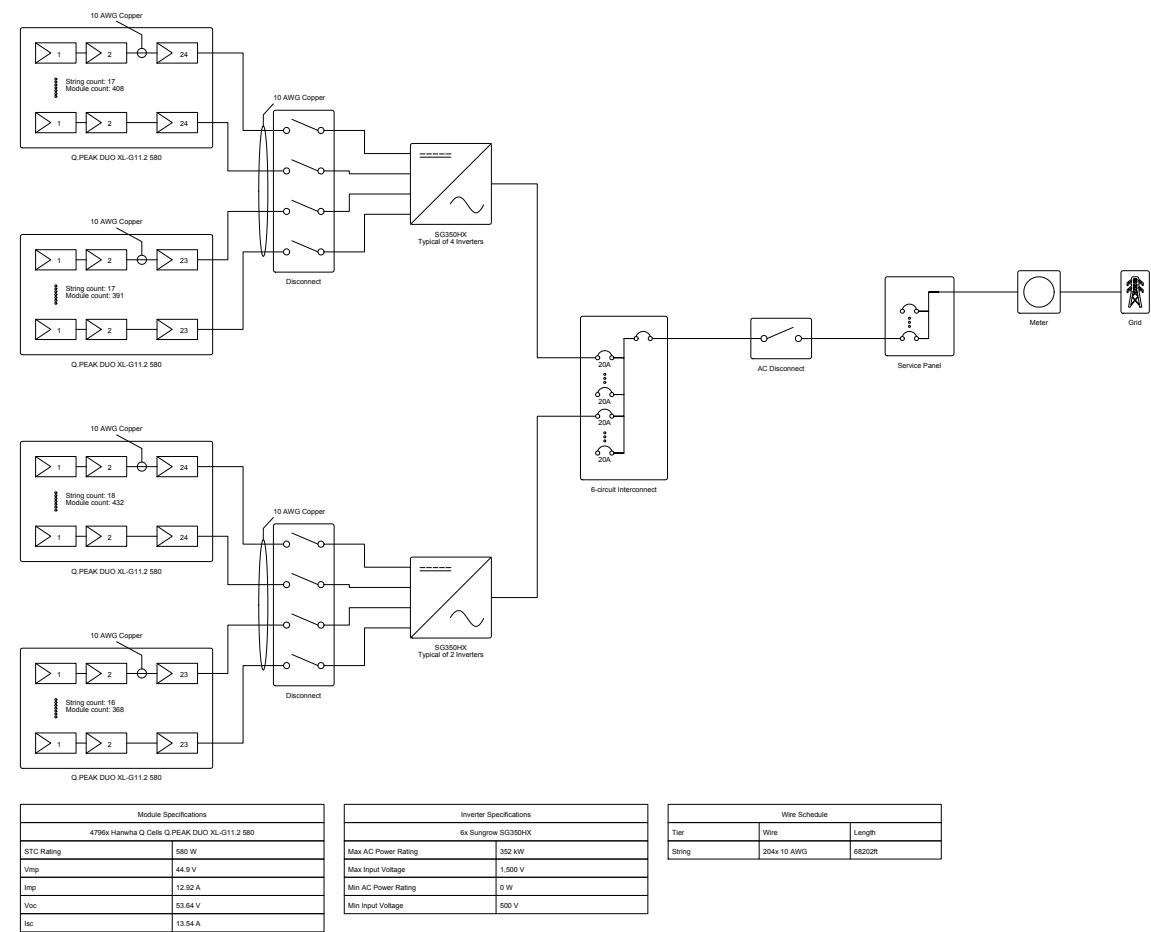


Module Specifications	
496x Hanwha Q Cells Q.PEAK DUO XL-G11.2 580	
STC Rating	580 W
Vmp	44.9 V
Imp	12.92 A
Voc	53.64 V
Isc	13.54 A

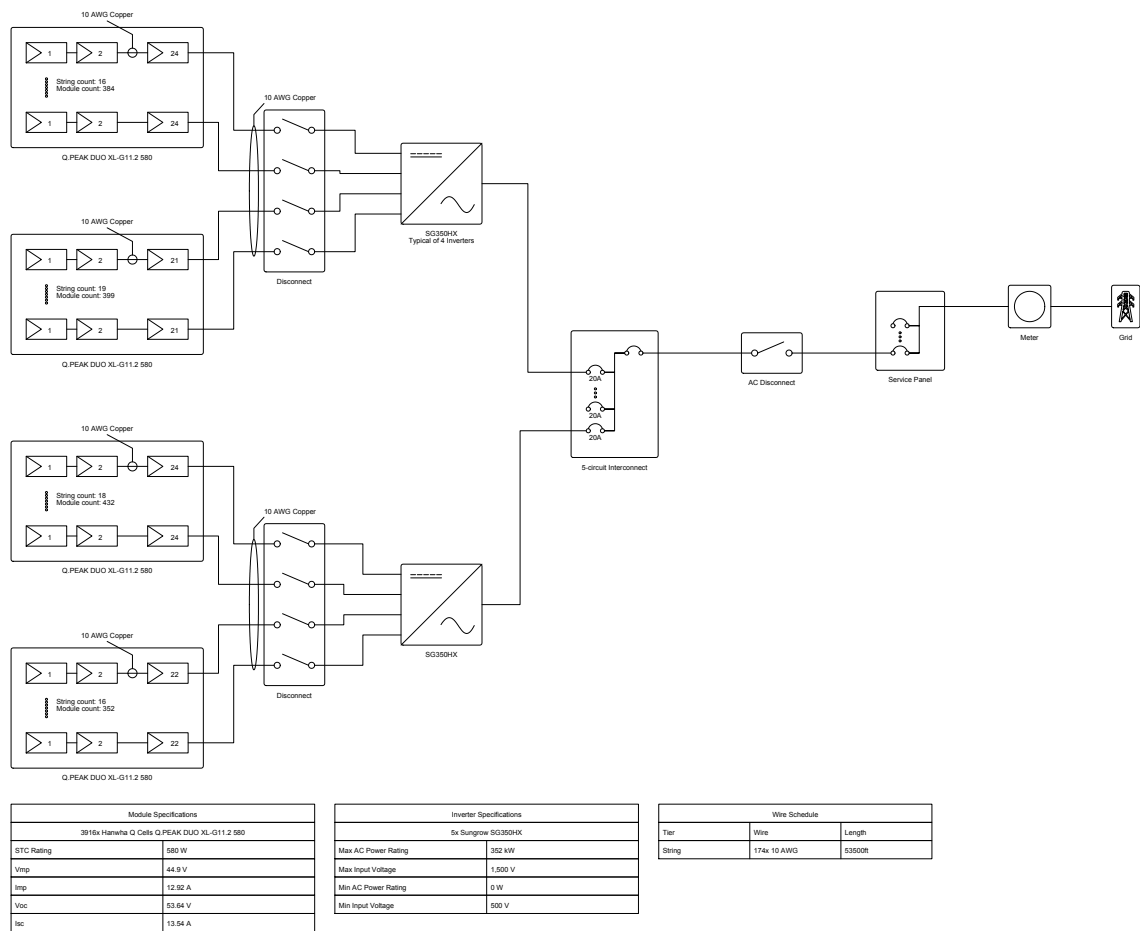
Inverter Specifications	
3x SolarEdge SE80KUS	
Max AC Power Rating	80 kW
Max Input Voltage	1,000 V
Min AC Power Rating	0 W
Min Input Voltage	700 V

Wire Schedule		
Tier	Wire	Length
String	24x 10 AWG	6336ft

# Allen Road Gravel Pit Preliminary SLD



# Former Landfill on Falcon Way Preliminary SLD



## Appendix 3 – Decommissioning Plan



## **Decommissioning Plan**

The purpose of this Decommissioning Plan is to establish the approach to conduct decommissioning activities for the permanent closure of the Project. The facility is intended to operate for 20 or more years. This Plan describes the approach for removal and/or proper abandonment of facilities and equipment associated with the Project and describes anticipated land restoration activities to take place following the end of the Project's life.

The Decommissioning Plan covers the following elements.

1. Removal of solar module structures and all appurtenant above ground equipment;
2. Removal of overhead poles and above ground electrical lines within the Project site;
3. Removal of the on-site switchgear, as applicable;
4. Restoration of disturbed soil on the site to a condition consistent with the pre-development conditions;
5. Restoration or reclamation of Project roads to their pre-construction condition unless the landowner requests to retain the improved roads for access throughout the landowner's property;

Documentation of the pre-construction condition of the project site, including photographic record, will be collected by the property owner.

### *Summary of the Solar Facility*

The proposed Project includes the installation of PV modules which will convert sunlight into DC electricity. The PV-generated DC power will be collected from each of the multiple rows of PV modules and conveyed to inverters. The inverters will convert the DC power to AC power, which will then flow to a medium-voltage transformer that converts the output of the inverter to utility voltages where the power will be delivered to the regional electrical grid.

The facilities will consist of an approximately 6.2 MW (DC) solar power generating facilities. The facilities will include the following features:

- An array of photovoltaic (PV) modules and mounting system
- Racking supporting the photovoltaic modules
- Transformers and inverters
- An existing perimeter chain link fence for the ground mounted arrays
- Conduit and wires in cable trays and minimal underground wires on the landfill site
- Above ground wooden utility poles
- Overhead wires
- Metal security gates providing access for the ground mounted arrays

Site preparation will be conducted in accordance with the plans submitted by the solar project owner as approved by the New Hampshire Department of Environmental Services and the Town of Bow for the Site.

### *Project Decommissioning and Recycling*

The activities involved in the facility closure would depend on the expected future use of the site. The property owner has the option to request removal at the end of the lease term. Assuming the project will be removed, certain facility equipment and features are assumed to be left in place for future uses, including roads and fences. In general, decommissioning would attempt to maximize the recycling of all facility components. The individual Project components to be decommissioned will be recycled to the maximum extent practicable or removed from the site and disposed of at an appropriately licensed disposal facility. The general decommissioning approach would be the same whether a portion of the Project or the entire Project would be decommissioned.

#### *Decommissioning Preparation*

The first step in the decommissioning process would be to assess existing site conditions and prepare the site for demolition. Site decommissioning and equipment removal is anticipated to require 2-3 weeks. Therefore, access roads, fencing, electrical power, and other facilities will temporarily remain in place for use by the decommissioning workers until no longer needed. Demolition debris will be placed in temporary onsite storage area(s) pending final transportation and disposal and/or recycling according to the procedures listed below.

#### *Permits and Approvals*

Depending on the regulatory requirements at the time of decommissioning, permits or approvals may be required for the decommissioning activities. These approvals will likely at a minimum require demolition/building permit from the Town and the New Hampshire Department of Environmental Services. Appropriate applications for approvals and permits would be submitted and approved issued prior to decommissioning activities, including for use of appropriate low ground pressure vehicles and best practices for landfill construction activities.

#### *Erosion Control*

Prior to commencement of decommissioning activities, erosion control measures would be implemented. The type and extent of these measures would be dictated by the regulatory requirements at the time of decommissioning.

#### *Health and Safety*

A Health and Safety Plan will be developed prior to decommissioning activities. The plan will be designed to ensure worker and public safety during decommissioning. A Health and Safety Manager will be assigned to the decommissioning activities to provide worker training and health and safety monitoring.

#### *PV Equipment Removal and Recycling*

During decommissioning, Project components that are no longer needed would be removed from the site and recycled or disposed of at an appropriately licensed disposal facility. Above ground portions of the PV module supports will be removed. The demolition debris and removed equipment may be cut or dismantled into pieces that can be safely lifted or carried with the onsite equipment being used. The debris and equipment will be processed for transportation and delivery to an appropriately licensed disposal facility or recycling center. Modules will be recycled in accordance with the current recycling program. No hazardous materials or waste will be used during operation of the solar facility, and disposal of hazardous materials or waste will not be required during decommissioning.

### *Power Components*

The inverters, transformers, and switch gear will be dismantled and recycled. The cast-in-place concrete foundation will be broken up, removed and recycled unless requested to remain in place by the property owner. The overhead and underground equipment and conductors of the system will be removed, and the poles and pole foundations will be removed. Aluminum and copper from the conductors will be recycled or removed from the site to an appropriately licensed disposal facility. After removal of the conductor, the underground conduit will be cutoff three feet below the ground surface and will remain in place.

### *Roads*

Access roads will remain in place to accomplish decommissioning at the end of the Project's life. At the time of decommissioning, if the property owner determines that some of these roads will be beneficial for future use of the site; those roads may remain after decommissioning. Roads that will not be used will be restored to be similar to pre-construction conditions. The area of the roads will be graded, consistent with existing land contours.

### *Fencing*

Project site perimeter fencing will be left in place at the end of the decommissioning project unless otherwise directed by the landowner.

### *Site Restoration*

Once removal of all Project equipment is complete, the vegetative cover of the ground mount arrays will be left in place and allowed to grow to natural, unmaintained conditions. We assume that at the time of removal of the system, the vegetative cover will be in good condition.

### *Future Land Use*

While the decommissioning plan is based upon the site being returned to a condition consistent with preconstruction use, the actual activities involved in the facility closure would depend on the actual future use of the property by the property owner and any regulatory requirements. Certain facility equipment may be utilized for future uses, such as electrical facilities and roads. Therefore, the actual extent of site closure activities would be determined at the time of the closure.

### *Decommissioning Cost*

The scope of work includes the removal, recycling and disposal of system components. The cost estimates for disposal requirements are based on current costs and regulations. The majority of equipment and materials are recyclable. Labor and equipment represent the majority of the costs.

### *Assumptions:*

- System equipment including Inverters, Transformers and Switchgear to be removed from their respective concrete pads and recycled or returned to their manufacturer for processing.
- Chain-link fencing to remain in place.
- PV Modules to be resold or recycled.
- Racking system to be cut, stacked, and recycled.

- The concrete pads will be recycled or removed.
- AC and DC wiring that can be disconnected and removed from equipment and earth will be consolidated for recycling. Underground PVC conduit would be abandoned in place and is excluded.
- On site power poles and medium voltage wiring shall be removed.
- Reseeding as necessary.

Future cost is based on 2.0% annual inflation escalator over 20 years.

<b>Component/Activity</b>	<b>2023 Cost</b>	<b>2043 Est. Cost</b>
Labor Cost	\$77,678.48	\$113,162.89
Restore, Loam, and Seed	\$16,039.21	\$23,366.10
Equipment and Shipping	\$28,326.48	\$41,266.34
Scrap Value	\$(31,774.06)	\$(46,288.81)
Net Total:	\$90,270.12	\$131,506.53

## Appendix 4 – Equipment Specification Sheets

# Q.PEAK DUO XL-G11 SERIES



**570 - 585 Wp | 156 Cells**  
**21.4 % Maximum Module Efficiency**

**MODEL** Q.PEAK DUO XL-G11.3/BFG



## Bifacial energy yield gain of up to 20 %

Bifacial Q.ANTUM solar cells make efficient use of light shining on the module rear-side for radically improved LCOE.



## Low electricity generation costs

Q.ANTUM DUO Z combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology for higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 21.4%.



## A reliable investment

Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty<sup>1</sup>.



## Enduring high performance

Long-term yield security with Anti LeTID and Anti PID Technology<sup>2</sup>, Hot-Spot Protect.



## Frame for versatile mounting options

High-tech aluminum alloy frame protects from damage, enables use of a wide range of mounting structures and is certified regarding IEC for high snow (5400 Pa) and wind loads (2400 Pa).



## Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behavior.

<sup>1</sup> See data sheet on rear for further information.

<sup>2</sup> APT test conditions according to IEC/TS 62804-1:2015 method B (~1500 V, 168 h) including post treatment according to IEC 61215-1-1 Ed. 2.0 (CD)

**The ideal solution for:**



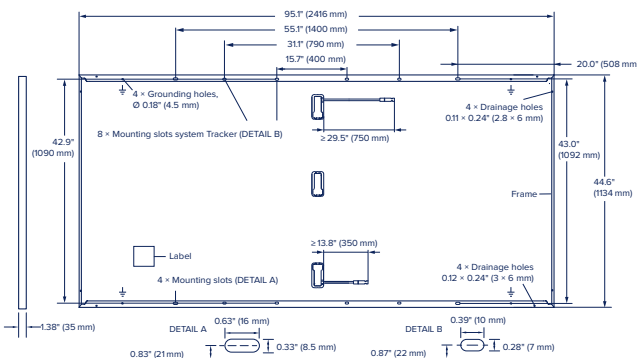
Ground mounted  
solar panels



# Q.PEAK DUO XL-G11 SERIES

## Mechanical Specification

Format	95.1in × 44.7in × 1.38in (including frame) (2416 mm × 1134 mm × 35 mm)
Weight	75.8 lbs (34.4 kg)
Front Cover	0.08 in (2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	0.08 in (2 mm) semi-tempered glass
Frame	Anodised aluminium
Cell	6 × 26 monocrystalline Q.ANTUM solar half cells
Junction box	2.09-3.98 × 1.26-2.36 × 0.59-0.71in (53-101mm × 32-60 mm × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm <sup>2</sup> Solar cable; (+) ≥ 29.5in (750 mm), (-) ≥ 13.8in (350 mm)
Connector	Stäubli MC4; Stäubli MC4-Evo2; - IP68



## Electrical Characteristics

POWER CLASS			570	575	580	585				
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W / -0 W)										
Minimum			BSTC*		BSTC*		BSTC*		BSTC*	
	Power at MPP <sup>1</sup>	P <sub>MPP</sub> [W]	570	623.5	575	629.0	580	634.4	585	639.9
	Short Circuit Current <sup>1</sup>	I <sub>SC</sub> [A]	13.50	14.77	13.52	14.80	13.55	14.83	13.57	14.86
	Open Circuit Voltage <sup>1</sup>	V <sub>OC</sub> [V]	53.50	53.69	53.53	53.72	53.56	53.75	53.59	53.78
	Current at MPP	I <sub>MPP</sub> [A]	12.83	14.03	12.87	14.09	12.92	14.14	12.97	14.19
	Voltage at MPP	V <sub>MPP</sub> [V]	44.44	44.43	44.66	44.65	44.88	44.87	45.10	45.09
	Efficiency <sup>1</sup>	η [%]	≥ 20.8		≥ 21.0		≥ 21.2		≥ 21.4	

Bifaciality of P<sub>MPP</sub> and I<sub>SC</sub> 70 % ± 5 % • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

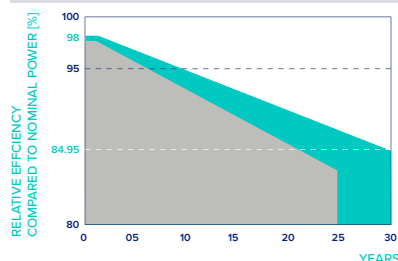
<sup>1</sup> Measurement tolerances P<sub>MPP</sub> ± 3 %; I<sub>SC</sub>, V<sub>OC</sub> ± 5 % at STC: 1000 W/m<sup>2</sup>; \*at BSTC: 1000 W/m<sup>2</sup> + φ × 135 W/m<sup>2</sup>, φ = 70 % ± 5 %, 25 ± 2 °C, AM 1.5 according to IEC 60904-3

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT<sup>2</sup>

Minimum	Power at MPP	P <sub>MPP</sub> [W]	429.1	432.9	436.6	440.4
	Short Circuit Current	I <sub>SC</sub> [A]	10.87	10.89	10.91	10.93
	Open Circuit Voltage	V <sub>OC</sub> [V]	50.60	50.63	50.66	50.68
	Current at MPP	I <sub>MPP</sub> [A]	10.09	10.14	10.18	10.22
	Voltage at MPP	V <sub>MPP</sub> [V]	42.51	42.71	42.89	43.08

<sup>2</sup> 800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

## Qcells PERFORMANCE WARRANTY

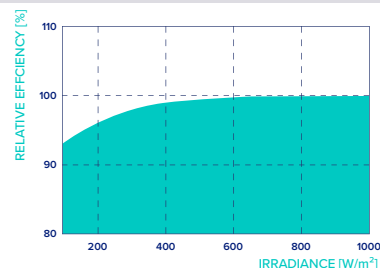


At least 98% of nominal power during first year. Thereafter max. 0.45% degradation per year. At least 93.95% of nominal power up to 10 years. At least 84.95% of nominal power up to 30 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

\*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m<sup>2</sup>).

## TEMPERATURE COEFFICIENTS

Temperature Coefficient of I <sub>SC</sub>	α	[%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β	[%/K]	-0.27
Temperature Coefficient of P <sub>MPP</sub>	γ	[%/K]	-0.34	Nominal Module Operating Temperature	NMOT	[°F]	109 ± 5.4 (43 ± 3 °C)

## Properties for System Design

Maximum System Voltage	V <sub>sys</sub>	[V]	1500	PV module classification	Class II
Maximum Series Fuse Rating		[A DC]	25	Fire Rating based on ANSI/UL 61730	TYPE 29 <sup>4</sup>
Max. Design Load, Push/Pull <sup>3</sup>		[lbs/ft <sup>2</sup> ]	75 (3600 Pa)/33 (1600 Pa)	Permitted Module Temperature on Continuous Duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push/Pull <sup>3</sup>		[lbs/ft <sup>2</sup> ]	113 (5400 Pa)/50 (2400 Pa)		

<sup>3</sup> See Installation Manual

<sup>4</sup> New Type is similar to Type 3 but with metallic frame

## Qualifications and Certificates

UL 61730, CE-compliant,  
IEC 61215:2016,  
IEC 61730:2016,  
U.S. Patent No. 9,893,215  
(solar cells)



Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.

Harwha Q CELLS America Inc. 400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL hqc-inquiry@qcells.com | WEB www.qcells.com

qcells

# Three Phase Inverter with Synergy Technology

For the 277/480V Grid for North America

SE80KUS / SE100KUS / SE110KUS / SE120KUS

INVERTER



## Powered by unique pre-commissioning process for rapid system installation

- Pre-commissioning feature for automated validation of system components and wiring during the site installation process and prior to grid connection
- Easy 2-person installation with lightweight, modular design (each inverter consists of 2 or 3 Synergy units and 1 Synergy Manager)
- Independent operation of each Synergy unit enables higher uptime and easy serviceability
- Built-in thermal sensors detect faulty wiring, ensuring enhanced protection and safety
- Built-in arc fault protection and rapid shutdown
- Built-in PID mitigation for maximized system performance
- Monitored\* and field-replaceable surge protection devices, to better withstand surges caused by lightning or other events
- Built-in module-level monitoring with Ethernet or cellular communication for full system visibility

\*Applicable only for DC and AC SPDs



# / Three Phase Inverter with Synergy Technology

## For the 277/480V Grid for North America

### SE80KUS / SE100KUS / SE110KUS / SE120KUS

MODEL NUMBER	SE80KUS	SE100KUS	SE110KUS	SE120KUS	
APPLICABLE TO INVERTERS WITH PART NUMBER		SExxK-USx8lxxxx			UNITS
OUTPUT					
Rated AC Active Output Power	80000	100000	110000	120000	W
Maximum AC Apparent Output Power	80000	100000	120000	120000	VA
AC Output Line Connections	3W + PE, 4W + PE				
Supported Grids	WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT				
AC Output Voltage Minimum-Nominal-Maximum <sup>(1)</sup> (L-N)	244 – 277 – 305				Vac
AC Output Voltage Minimum-Nominal-Maximum <sup>(1)</sup> (L-L)	422.5 – 480 – 529				Vac
AC Frequency Min-Nom-Max <sup>(1)</sup>	59.5 – 60 – 60.5				Hz
Maximum Continuous Output Current (per Phase, PF=1)	96.5	120	144.3		Aac
GFDI Threshold	1				A
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes				
Total Harmonic Distortion	≤ 3				%
Power Factor Range	+/-0.2 to 1				
INPUT					
Maximum DC Power (Module STC) Inverter / Synergy Unit	140000 / 70000	175000 / 58300	210000 / 70000		W
Transformer-less, Ungrounded	Yes				
Maximum Input Voltage DC+ to DC-	1000				Vdc
Operating Voltage Range	850 – 1000				Vdc
Maximum Input Current	2 x 48.25	3 x 40	3 x 48.25		Adc
Reverse-Polarity Protection	Yes				
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit <sup>(2)</sup>				
CEC Weighted Efficiency	98.5				%
Nighttime Power Consumption	< 8	< 12			W
ADDITIONAL FEATURES					
Supported Communication Interfaces <sup>(3)</sup>	2 x RS485, Ethernet, Wi-Fi (optional), Cellular (optional)				
Smart Energy Management	Export Limitation				
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection				
Arc Fault Protection	Built-in, User Configurable (According to UL1699B)				
Photovoltaic Rapid Shutdown System	EC 2014, 2017 and 2020, Built-in				
PID Rectifier	Nighttime, built-in				
RS485 Surge Protection (ports 1+2)	Type II, field replaceable, integrated				
AC, DC Surge Protection	Type II, field replaceable, integrated				
DC Fuses (Single Pole)	25A, integrated				
DC SAFETY SWITCH					
DC Disconnect	Built-in				
STANDARD COMPLIANCE					
Safety	UL1699B, UL1741, UL1741 SA, UL1741 SB, UL1998, CSA C22.2#107.1, Canadian AFCI according to T.I.L. M-07				
Grid Connection Standards	IEEE 1547-2018, Rule 21, Rule 14 (HI)				
Emissions	FCC part 15 class A				

(1) For other regional settings please contact SolarEdge support.

(2) Where permitted by local regulations.

(3) For specifications of the optional communication options, visit the [Communication product page](#) or the [Resource Library](#) to download the relevant product datasheet.

# / Three Phase Inverter with Synergy Technology

## For the 277/480V Grid for North America

SE80KUS / SE100KUS / SE110KUS / SE120KUS

MODEL NUMBER	SE80KUS	SE100KUS	SE110KUS	SE120KUS
APPLICABLE TO INVERTERS WITH PART NUMBER		SExxK-USx8Lxxxx		UNITS
INSTALLATION SPECIFICATIONS				
Number of Synergy Units per Inverter	2	3		
Ac Max Conduit Size	2 ½"			in
Max AWG Line / PE	4/0 / 1/0			
DC Max Conduit Size	1 x 3"; 2 x 2"			in
DC Input Inverter/ Synergy Unit	8 / 4 pairs; 6-12 AWG	12 / 4 pairs; 6-12 AWG		
	2 pairs / 1 pair, Max 2 AWG; copper or aluminum	3 pairs / 1 pair, Max 2 AWG; copper or aluminum		
Dimensions (H x W x D)	Synergy Unit: 22 x 12.9 x 10.75 / 558 x 328 x 273 Synergy Manager: 14.17 x 22.4 x 11.6 / 360 x 560 x 295			in / mm
Weight	Synergy Unit: 70.4 / 32 Synergy Manager: 39.6 / 18			lb / kg
Operating Temperature Range	-40 to +140 / -40 to +60 <sup>(4)</sup>			°F / °C
Cooling	Fan (user replaceable)			
Noise	< 67			dBA
Protection Rating	NEMA 3R			
Mounting	Brackets provided			

(4) For power de-rating information refer to the [Temperature De-rating - Technical Note \(North America\)](#).

SolarEdge is a global leader in smart energy technology. By leveraging world-class engineering capabilities and with a relentless focus on innovation, SolarEdge creates smart energy solutions that power our lives and drive future progress.

SolarEdge developed an intelligent inverter solution that changed the way power is harvested and managed in photovoltaic (PV) systems. The SolarEdge DC optimized inverter maximizes power generation while lowering the cost of energy produced by the PV system.

Continuing to advance smart energy, SolarEdge addresses a broad range of energy market segments through its PV, storage, EV charging, UPS, and grid services solutions.

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Cautionary Note Regarding Market Data and Industry Forecasts: This brochure may contain market data and industry forecasts from certain third-party sources. This information is based on industry surveys and the preparer's expertise in the industry and there can be no assurance that any such market data is accurate or that any such industry forecasts will be achieved. Although we have not independently verified the accuracy of such market data and industry forecasts, we believe that the market data is reliable and that the industry forecasts are reasonable.



# SG350HX-US

Multi-MPPT String Inverter for 1500 Vdc System



## HIGH YIELD

- Up to 16 MPPTs with max. efficiency 99%
- 20A per string, compatible with 500Wp+ module
- Data exchange with tracker system, improving yield



## LOW COST

- Q at night function, save investment
- Power line communication (PLC)
- Smart IV Curve diagnosis, active O&M



## GRID SUPPORT

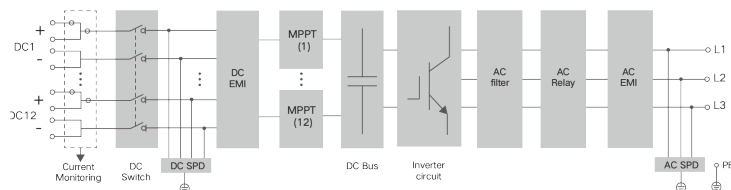
- $SCR \geq 1.15$  stable operation in extremely weak grid
- Reactive power response time <30ms
- Compliant with global grid code



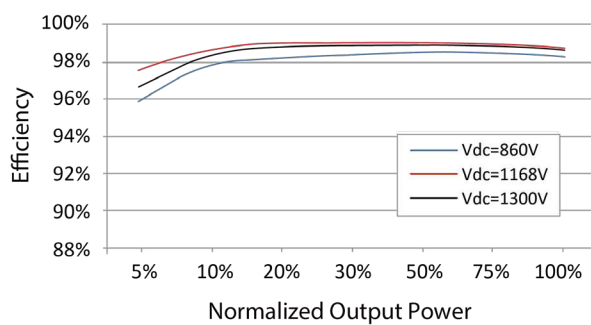
## PROVEN SAFETY

- 2 strings per MPPT, no fear of string reverse connection
- 24h real-time AC and DC insulation monitoring

## CIRCUIT DIAGRAM



## EFFICIENCY CURVE



Type designation	SG350HX-US
<b>Input (DC)</b>	
Max. PV input voltage	1500 V
Min. PV input voltage / Startup input voltage	500 V / 550 V
Nominal PV input voltage	1080 V
MPP voltage range	500 V – 1500 V
No. of independent MPP inputs	12 (optional: 16)
Max. number of input connector per MPPT	2
Max. PV input current	12 * 40 A (Optional: 16 * 30 A)
Max. DC short-circuit current per MPPT	60 A
<b>Output (AC)</b>	
AC output power	352 kVA @ 30°C / 320 kVA @40 °C
Max. AC output current	254 A
Nominal AC voltage	3 / PE, 800 V
AC voltage range	640 – 920V
Nominal grid frequency / Grid frequency range	60 Hz / 55 – 65 Hz
THD	< 3 % (at nominal power)
DC current injection	< 0.5 % In
Power factor at nominal power / Adjustable power factor	> 0.99 / 0.8 leading – 0.8 lagging
Feed-in phases / Connection phases	3 / 3
<b>Efficiency</b>	
Max. efficiency / European efficiency / CEC efficiency	99.02 %/ 98.5%
<b>Protection</b>	
DC reverse connection protection	Yes
AC short circuit protection	Yes
Leakage current protection	Yes
Grid monitoring	Yes
Ground fault monitoring	Yes
DC switch / AC switch	Yes / No
PV string current monitoring	Yes
Q at night function	Yes
Anti-PID and PID recovery function	Optional
Surge protection	DC Type II / AC Type II
<b>General Data</b>	
Dimensions (W*H*D)	1165 * 870 * 361 mm (45.9" * 34.3" * 14.2")
Weight	≤122 kg(≤269 lbs)
Isolation method	Transformerless
Degree of protection	IP66 (NEMA 4X)
Power consumption at night	< 6 W
Operating ambient temperature range	-30 to 60°C(-22 to 140 °F)
Allowable relative humidity range	0 – 100 %
Cooling method	Smart forced air cooling
Max. operating altitude	4000 m (> 3000 m derating) / 13123 ft (> 9843 ft derating)
Display	LED, Bluetooth+APP
Communication	RS485 / PLC
DC connection type	MC4 ( Max.10AWG, optional 8AWG )
AC connection type	Support OT/DT terminal (Max. 750 Kcmil)
Compliance	UL1741, UL62109-1, CSA C22.2 No.107.1-16, IEEE1547-2018, IEEE1547.1-2020, UL1741 SA/SB, California Rule21, HECO SRD V2.0
Grid Support	Q at night function, LVRT, HVRT, active & reactive power control and power ramp rate control, Q-U control, P-f control