SPECTRAPOWER,LLC

"Silicon Valley's Battery Lab"

February 2026

Your Partner for Prototype Cell Fabrication and Evaluation

[FIGURE 1 – SpectraPower Facility, Livermore, CA]

SpectraPower's facility in Livermore, California.

SpectraPower Company Background

SpectraPower is a U.S.-based contract research, development, and consulting firm dedicated to the advanced energy storage industry since 2014. Headquartered in its fully equipped Livermore, California facility, SpectraPower provides integrated prototype cell fabrication, electrode development, and electrochemical testing services to support materials developers, battery startups, OEMs, investors, and government-sponsored research programs. SpectraPower operates as a small pilot-line scale facility focused on helping customers evaluate new materials, electrode designs, and cell architectures without the cost and delay of establishing internal fabrication capability.

SpectraPower's core business is providing independent prototype-scale cell fabrication, electrode development, and electrochemical testing. Its prototyping capabilities include electrode mixing, coating, calendaring, and the fabrication of multilayer pouch cells, as well as coin cells and single-layer pouch cells, coupled with comprehensive electrochemical performance testing. While the company's primary focus is lithium-ion and lithium-metal batteries, SpectraPower also has experience with adjacent energy storage systems and related materials, processes, and technologies.

SpectraPower has experience and capabilities in many different lithium battery chemistries, including graphite, lithium metal, and low- to high-concentration silicon anodes; cathodes ranging from NMC 811 to LFP; solid-state materials; diverse separators and current collectors; and novel electrolytes

and additives. While the company specializes in pouch cells, its personnel have extensive high-volume manufacturing experience across all major cell form factors, including pouch, cylindrical, and prismatic formats.

Customers and Scope of Work

Since its founding, SpectraPower has served more than 250 customers worldwide, ranging from small materials developers and early-stage startups to Tier 1 battery materials and cell manufacturers, major international automotive OEMs, and venture capital firms. A core component of SpectraPower’s business is enabling customers to validate new materials through professional cell builds, allowing them to benchmark performance against industry standards without needing to develop in-house fabrication expertise.

In addition to fabrication and testing, SpectraPower also performs analytical teardowns, reverse-engineering, and selected consulting work related to battery materials, processes, and manufacturing. These capabilities support customer programs by providing additional context for benchmarking, validation, and design feedback.

Manufacturing Pedigree and Prototype Experience

A key strength of SpectraPower is that its prototype fabrication work is rooted in real manufacturing experience. The company’s team includes some of the earliest commercial lithium-ion manufacturing experience in the United States through prior work at PolyStor Corporation in the 1990s. PolyStor qualified its 18650 cylindrical cell with Motorola in 1996 and introduced the first high-volume lithium-ion cell manufactured by a U.S. company in the United States in 1999. PolyStor began production of polymer pouch cells in 2000 and in 2001 pioneered a high-capacity, high-rate polymer cell with opposing large-area tabs under contract to USABC.

[FIGURE 2 – Example Multilayer Pouch Cell Builds]

SpectraPower-built 65x ~2Ah multilayer pouch cells using baseline materials and customer-integrated components for validation testing.

Since its founding, SpectraPower has fabricated prototype pouch cells ranging from approximately 20 mAh to 25 Ah and maintains the tooling and materials required to support these builds. Typical

customer programs involve early-stage materials in limited quantities, with most cells ranging from small single-layer formats (~20 mAh) to multi-layer pouch cells in the 1–5 Ah range.

This institutional manufacturing knowledge continues to inform SpectraPower's present-day prototype builds and helps ensure that they are grounded in high-volume manufacturing best practices.

[FIGURE 3 – PolyStor Lithium-Ion cells)

Cylindrical, Pouch, and Prismatic form factor Polymer high NiCo

[FIGURE 4 – PolyStor Lithium-Ion Production Line (Livermore, CA, circa 1999)]

Historic PolyStor production line showing early U.S. lithium-ion manufacturing infrastructure, including coating and automated cell assembly.

Leadership Experience

SpectraPower's founder and CEO, **James Kaschmitter**, is a lithium-ion industry pioneer with more than 35 years of experience in electrochemical energy storage. He began work in lithium-ion batteries at Lawrence Livermore National Laboratory in 1989, contributing to some of the earliest lithium-ion development efforts in the United States. In 1993, he founded PolyStor Corporation, which became the first U.S. company to commercially manufacture and ship lithium-ion batteries from a domestic production facility and developed lithium-ion cells across cylindrical, prismatic, and

polymer pouch form factors. Following PolyStor, he founded PowerStor Corporation to commercialize carbon aerogel supercapacitors and later founded UltraCell Corporation to develop and manufacture reformed methanol fuel cells for military and defense applications.

SpectraPower’s Chief Technology Officer, **Steve Pierce**, has more than 30 years of experience in battery manufacturing, engineering, and operations, with particular focus on the design, construction, and operation of prototype and pilot-scale manufacturing lines. Prior to joining SpectraPower, Steve held key manufacturing and operations roles at PolyStor, EnerDel, Enevate, and Natron Energy. His experience includes lithium-ion pilot-line and manufacturing operations, the installation and ramp-up of pilot and production lines for lithium-metal systems, development of silicon-dominant anode manufacturing processes, and the buildout and operation of pilot and early manufacturing lines for sodium-ion batteries.His background provides direct experience in translating laboratory-scale processes into controlled, repeatable manufacturing workflows, which is central to SpectraPower’s role as a prototype fabrication partner.

SpectraPower Team and Capability Summary

Together with its broader team of battery experts and trained technicians, SpectraPower combines more than a decade of contract fabrication experience with deep technical and manufacturing knowledge across electrode fabrication, cell assembly, and electrochemical testing. This experience, together with SpectraPower’s dedicated fabrication and testing facility, allows the company to deliver high-quality prototype cells and development support with the speed, flexibility, and operational efficiency required by battery materials developers and startup customers.

SpectraPower has supported a wide range of internal and externally funded R&D programs for battery materials companies, startups, and strategic partners, including projects involving DOE- and USABC-related development efforts. While most client work is confidential, selected example baseline cell platforms and case studies are included later in this document to illustrate SpectraPower’s experience across electrode fabrication, pouch cell assembly, and electrochemical testing.

Core Business Model and Protection of Customer IP

SpectraPower’s core business is to serve as a dedicated, independent, and non-competitive prototype cell fabrication partner. The company does not develop or commercialize its own battery products; instead, it focuses exclusively on supporting the development and evaluation of its customers’ materials, electrode designs, and cell architectures. This approach allows customers to assess performance and manufacturability in representative cells using controlled, repeatable fabrication processes without the cost, risk, or delay associated with establishing internal capabilities.

A central principle of SpectraPower’s business model is the protection of customer intellectual property (IP). SpectraPower does not claim ownership of customer-provided materials, formulations, or cell designs, and it does not impose licensing restrictions on the independent evaluation of fabricated cells. Customers retain full ownership of their work, and SpectraPower operates strictly as a fabrication and testing partner.

SpectraPower’s internal process knowledge, fabrication methods, and accumulated know-how remain proprietary; however, this know-how is applied solely to ensure high-quality and consistent prototype cell builds for its customers. This separation between customer IP and SpectraPower’s internal know-how enables a “clean” development environment in which customers can confidently evaluate their materials and designs.

All customer materials and fabricated cells are handled within a secure facility and are accessible only to authorized personnel. Upon completion of a project, SpectraPower will return or destroy materials and cells according to customer direction. This ensures that customer work is protected throughout the duration of the project and beyond.

By maintaining a neutral, non-competitive position and strictly respecting customer IP, SpectraPower has developed extensive experience in helping materials developers translate early-stage concepts into practical, testable cell designs. This model enables SpectraPower to act as a reliable bridge between bench-scale research and larger-scale pilot or commercial manufacturing, supporting customers as they advance their technologies toward commercialization.

Prototype Fabrication Facility, Equipment, and Operational Reliability

Facility Overview

SpectraPower operates a dedicated battery fabrication and testing facility in Livermore, California, designed to support complete prototype cell development from raw material processing through final electrochemical evaluation. The facility functions as a small pilot-line scale environment, enabling controlled and repeatable fabrication of electrodes and cells while maintaining the flexibility required for early-stage and custom materials.

The facility supports the full workflow of prototype cell development, including slurry preparation, electrode coating and calendaring, electrode processing, pouch cell assembly, and electrochemical testing. SpectraPower personnel are trained and authorized to perform hazardous goods shipment of experimental cells, both domestically and internationally.

Operational Reliability and Baseline Systems

The resources devoted to prototype cell fabrication are reflected in SpectraPower's sustained investment in its laboratory infrastructure. Over more than a decade of operation, SpectraPower has dedicated significant effort to maintaining reliable and repeatable fabrication capabilities. These ongoing operational efforts include:

- **Equipment and Facility Maintenance:** Routine maintenance and calibration of roll-to-roll coaters, high-shear mixers, glovebox systems, and testing infrastructure, along with continuous upgrades and replacement of tooling.

- **Baseline Cell Maintenance:** Continuous development and testing of internally maintained baseline chemistries (e.g., NMC 811/Graphite, LFP/Graphite, NMC 811/SiOx, and Lithium Metal) to ensure a rigorous control group for all prototyping work.

- **SOP and Protocol Development:** Ongoing refinement of fabrication procedures for novel materials, electrode processing, testing configurations, and cell assembly workflows.

- **Internal Reliability Verification:** Dedicated labor and material resources for verifying fabrication consistency, repeatability, and precision across builds.

These systems enable SpectraPower to provide a controlled fabrication environment in which new materials and designs can be evaluated relative to well-understood baseline systems.

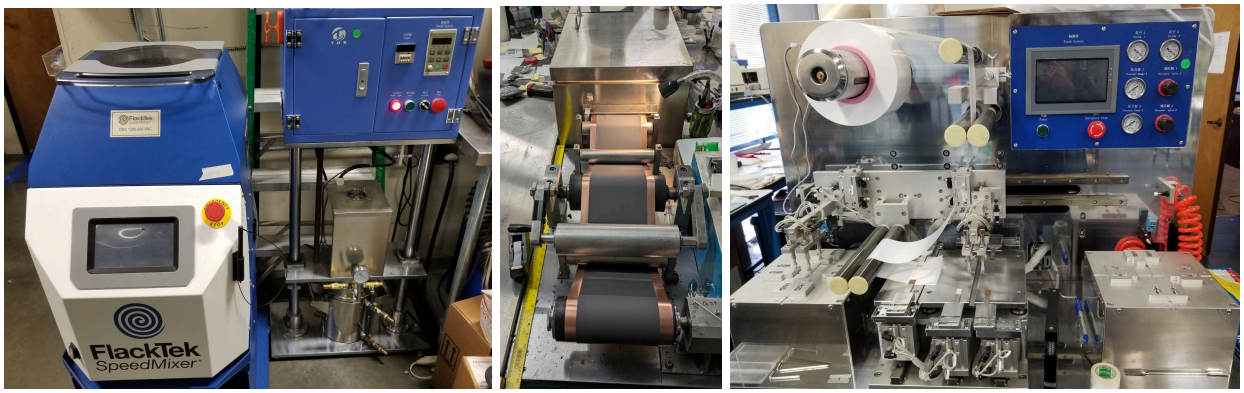
Electrode Manufacturing: Mixing, Coating, and Processing

SpectraPower's electrode manufacturing capabilities include powder handling and slurry preparation using both high-shear and high-viscosity mixing systems. The facility supports a wide range of formulations, including those with high solids loading, high-viscosity binders, and sensitive or novel material systems.

The facility features roll-to-roll electrode coating with foil widths up to 200 mm and typical coating widths of approximately 120–150 mm, with capability for wider coatings depending on project requirements. The coating system supports both single-sided and double-sided coatings and continuous coating runs spanning tens of meters.

[FIGURE 5 – Mixing and Coating Area (Left Side of Lab)]
Mixing and coating area including fume hoods for material processing and teardowns, vacuum ovens for electrode and cell storage, and electrode processing equipment including calendaring and punching.

[FIGURE 6 – Mixing and Coating Equipment]
Left: FlackTek SpeedMixer and TOB vacuum mixer for slurry preparation.
Middle: Blade-over-roll coater with up to 200 mm foil capability.
Right: Semi-automatic Z-fold stacking system used in multilayer pouch cell fabrication.



Post-coating processing includes sheet cutting, precision calendaring, and electrode punching using a wide range of custom dies. SpectraPower has experience working with high areal capacity electrodes (typically in the range of ~4–6+ mAh/cm²), ultra-thin coatings, and challenging material systems requiring careful process control.

For projects requiring larger electrode volumes or extended coating runs, SpectraPower can coordinate and supervise work at third-party facilities to ensure quality and consistency with internal processes.

Cell Assembly

Cell assembly resources include three dedicated argon-filled gloveboxes (moisture levels <10 ppm) configured for air- and moisture-sensitive operations. These are organized to support:

1. Electrolyte filling, vacuum sealing, and ultrasonic tabbing
2. Coin cell assembly, electrolyte mixing, and teardowns
3. Processing of reactive materials such as lithium metal and stacking of air-sensitive electrodes

[FIGURE 7 – Cell Assembly Area and Gloveboxes]

Right side of lab showing three argon gloveboxes configured for filling/sealing and tabbing, coin cell assembly and electrolyte handling, and lithium metal processing and stacking. Includes technician workstations and assembly infrastructure.

Assembly resources include ultrasonic welding for terminal attachment, semi-automatic multilayer pouch cell stacking equipment utilizing a Z-fold configuration, electrolyte filling systems, vacuum degassing equipment, and heat sealing systems. The facility maintains an extensive set of custom tooling, including cup-forming dies, electrode punch dies, and over 500 pressure fixtures to support single-layer and multilayer pouch cell fabrication across a wide range of formats and sizes.

Dedicated workflows and tooling are in place to support complex chemistries such as lithium metal and other sensitive materials, including multi-step glovebox processing and controlled assembly environments.

Cell Formation and Electrochemical Testing

SpectraPower maintains extensive in-house electrochemical testing capabilities to support both validation and performance evaluation of fabricated cells.

[FIGURE 8 – Cell Testing Infrastructure]
Pouch cell testing racks including 6–20A units for single-layer and multilayer cells in fixtures, along with higher current systems (up to 1000A) and environmental chambers.

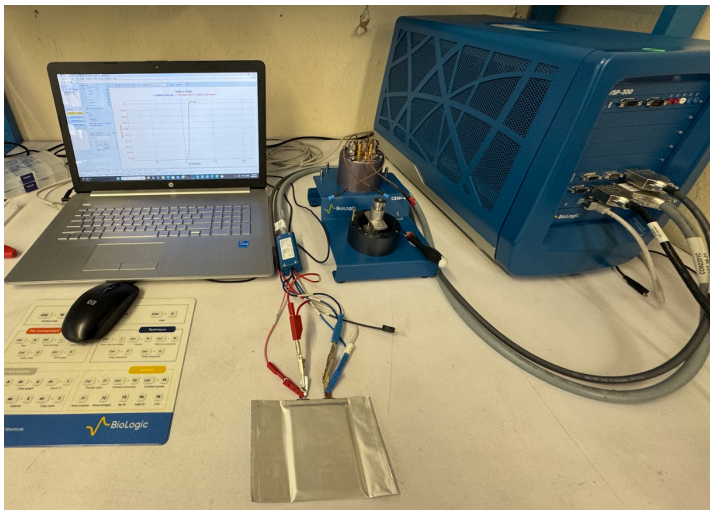
Testing resources include over 700 channels (Neware and Maccor systems) spanning current ranges from milliamps to 1000 amps. Environmental chambers support testing across temperatures from approximately –70 °C to +200 °C.

Additional diagnostic capabilities include a Biologic VMP-300 potentiostat with a booster for large-format cell testing, as well as instrumentation for monitoring temperature and other in situ parameters during testing. The facility also maintains more than 500 pressure fixtures for pouch cells ranging from 20 × 20 mm to 120 × 150 mm, along with specialized fixtures for monitoring cell swelling during cycling.

These capabilities enable SpectraPower to internally validate fabrication quality and performance prior to delivery of cells to customers or third-party testing facilities.

[FIGURE 9 – High-Current Testing and Thermal Chambers]
Thermal Chambers and 4 racks of 8x8 channels of 6A

[FIGURE 10 – Characterization and Diagnostic Equipment]
Representative testing and diagnostic equipment used for electrochemical analysis, impedance spectroscopy, and material evaluation.



Material Characterization and Supporting Capabilities

SpectraPower maintains a range of in-house material characterization and diagnostic capabilities to support fabrication and testing workflows, including:

- Gurley air permeability testing for film porosity
- Low-pressure swelling measurements for monitoring cell expansion during cycling
- Peel, pull, and tensile strength testing for evaluating adhesion and mechanical properties
- Environmental testing across a wide temperature range with integrated electrochemical testing
- Precision dimensional and mass measurement tools

- Thermal shrinkage testing for separator evaluation
- Electrochemical impedance spectroscopy (EIS) using a Biologic system

In addition to in-house capabilities, SpectraPower coordinates external analytical work with qualified partners for specialized techniques such as TGA/DSC, FTIR, XRD, SEM/EDS, FIB-SEM, TEM, and ICP-MS. In these efforts, SpectraPower focuses on cell teardown, sample preparation, and interpretation of results to support iterative R&D and material development.

Summary of Facility Capability

SpectraPower’s facility and operational approach are designed to bridge the gap between laboratory-scale experimentation and pilot-line manufacturing. By combining flexible small-scale processing with manufacturing-informed practices and validated baseline systems, the facility provides an environment where customers can rapidly iterate on materials and cell designs while maintaining relevance to commercial-scale processes.

Cell Formats, Sizes, and Baseline Chemistry Platforms

Cell Formats and Standard Sizes

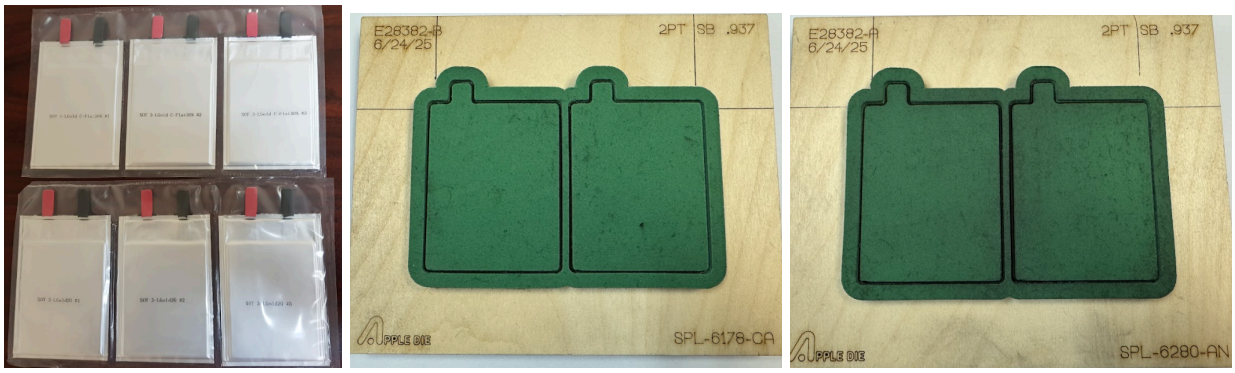
SpectraPower maintains the tooling and expertise to fabricate pouch cells up to approximately 25 Ah, in addition to accommodating custom dimensions based on customer requirements. The focus is on providing efficient and representative cell sizes for technology validation and development, particularly for early-stage materials where quantities are limited.

To support speed, consistency, and repeatability across projects, SpectraPower maintains three standard electrode and cell size platforms:

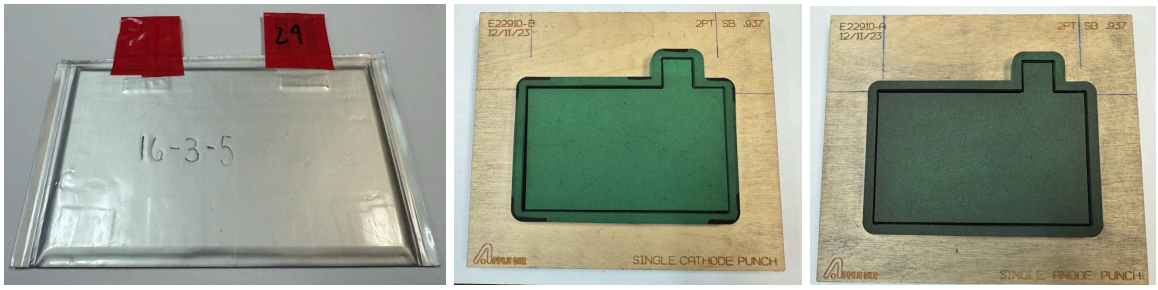
- **Small Standard:** 40 × 50 mm (approximately 0.5 to 1 Ah)
- **Base Standard:** 80 × 60 mm (approximately 1 to 3 Ah)
- **Large Standard:** 85 × 135 mm (approximately 4 to 10 Ah)

These standard formats enable rapid setup and fabrication while maintaining consistent geometry and performance comparisons across different materials and projects.

[FIGURE 11 – Base Standard Cell Size and Tooling]
Base standard pouch cell size (~1–3 Ah), including example cells and corresponding electrode dies.



[FIGURE 12 – Large Standard Cell Size and Tooling]
Large standard pouch cell size (~4–10 Ah), including example cells and corresponding electrode dies.



Chemistry Capability and Tiered Material Systems

SpectraPower’s fabrication processes are designed to support a wide range of material systems at different stages of maturity. These are broadly categorized into three tiers based on material readiness and process complexity:

Tier 1 – Baseline Cell Designs and Materials (Internally Maintained and Validated)
These represent SpectraPower’s internally maintained control chemistries, used for benchmarking, process validation, and internal quality checks. Established materials, slurry formulations, coating parameters, and performance baselines are maintained for:

- **Cathodes:** LFP, NMC (523, 622, 811), and NCA
- **Anodes:** Natural and synthetic graphite, silicon-oxide (SiOx), and silicon-carbon composites

These baseline systems provide a consistent reference point for evaluating new materials and cell designs.

Tier 2 – Specialized Cell Materials (Proven Project Experience)
These materials have been successfully integrated into prior customer programs and require more specialized handling and process control. SpectraPower has experience working with:

- **Cathodes:** LMFP, NMCA, vanadium oxides / high-voltage spinels, Prussian blue materials
- **Anodes:** High-concentration silicon, metallic silicon, pre-lithiated systems, and current collector-less lithium metal
- **Alternative Systems:** Solid-state (sulfide and polymer), lithium titanate (LTO), nickel-zinc, and sodium-ion systems

Tier 3 – Emerging R&D Materials (Custom Process Development)
This tier includes early-stage or first-of-a-kind materials where both performance and processing are not yet established. SpectraPower supports development of these systems through:

- **Slurry Engineering:** Custom solvent and binder systems for novel powders
- **Advanced Coating:** Processing of high surface area, brittle, porous, or high-loading electrodes
- **Sensitive Assembly:** Handling of sodium metal, tin-based systems, and other moisture- or air-sensitive materials requiring controlled environments

These capabilities allow SpectraPower to support technologies typically ranging from early-stage research through intermediate development (approximately TRL 2 to TRL 6).

Baseline Cell Platforms and Representative Performance

SpectraPower maintains a set of internally developed baseline cell platforms that are used for benchmarking, process validation, and customer comparison. These platforms reflect common industry chemistries and are designed to provide reliable reference performance across different electrode and material systems.

Representative baseline platforms include:

- **Fast Charge Platform:** LCO / Graphite multilayer pouch cells optimized for high-rate charging (e.g., ~70% charge in 10 minutes with extended cycling)
- **High-Energy Platform:** NMC 811 / Graphite multilayer cells used as industry-standard EV benchmarks (with areal capacities up to ~5 mAh/cm²)
- **Silicon-Anode Platform:** NMC 811 with SiOx or SiC composite anodes across a range of silicon loadings and cell formats
- **Long-Life / Safety Platform:** LFP / Graphite multilayer cells for stationary storage and long-cycle applications

These baseline systems are typically developed through a progression from single-layer cells to multilayer pouch cells, allowing evaluation of both material performance and scalability.

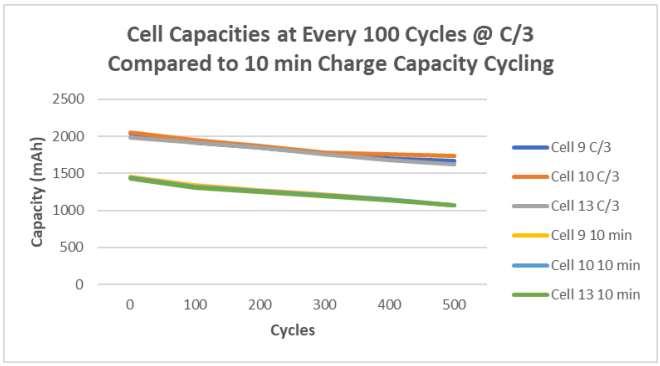
[FIGURE 13 – Baseline Cell Performance and Comparative Data]

Representative performance data for baseline systems, including fast-charge, silicon-containing, high-energy NMC, and LFP cells.

XFC Fast Charge (all 500 cycles were fast charged, C/3 discharge with C/3 full cycle checks every 100 cycles) 2Ah Cell Standard Size

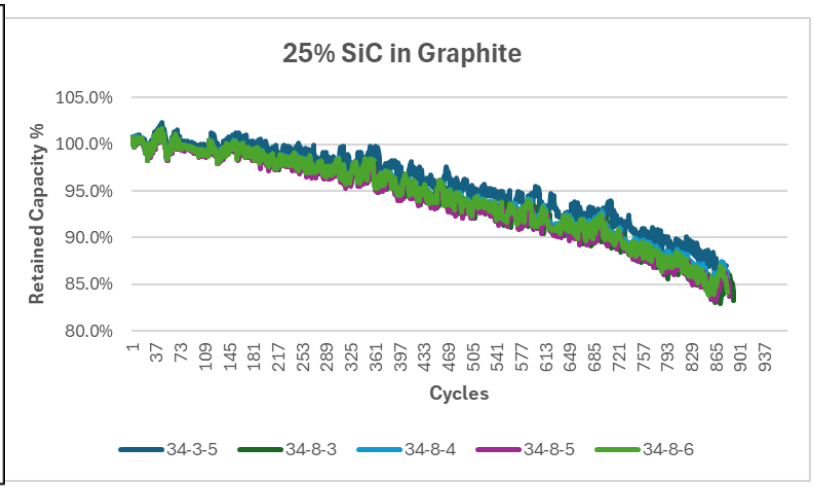
	Capacity					
	Cell 9	Full	Cell 10		Cell 13	
	10 min Charge	C/3 Discharge	10 min Charge	C/3 Discharge	10 min Charge	C/3 Discharge
Cycles	*Capacity*	*Capacity*	*Capacity*	*Capacity*	*Capacity*	*Capacity*
	mAh	*mAh*	*mAh*	*mAh*	*mAh*	*mAh*
0	1454	2043	1440	2052	1427	1984
100	1340	1920	1322	1955	1308	1919
200	1271	1853	1257	1872	1246	1844
300	1214	1775	1206	1783	1194	1756
400	1148	1702	1145	1754	1134	1675
500	1072	1671	1073	1733	1068	1624

	Retained Capacity					
Cycles	*10 min*	*C/3*	*10 min*	*C/3*	*10 min*	C/3
0	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
100	92.2%	94.0%	91.8%	95.3%	91.7%	96.7%
200	87.4%	90.7%	87.3%	91.2%	87.3%	92.9%
300	83.5%	86.9%	83.8%	86.9%	83.7%	88.5%
400	79.0%	83.3%	79.5%	85.5%	79.5%	84.4%
500	73.7%	81.8%	74.5%	84.5%	74.8%	81.9%

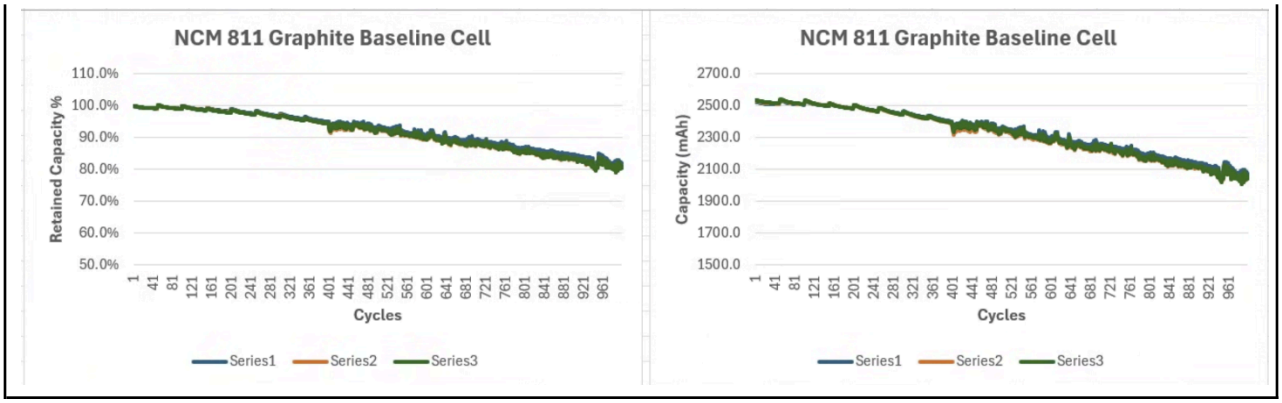


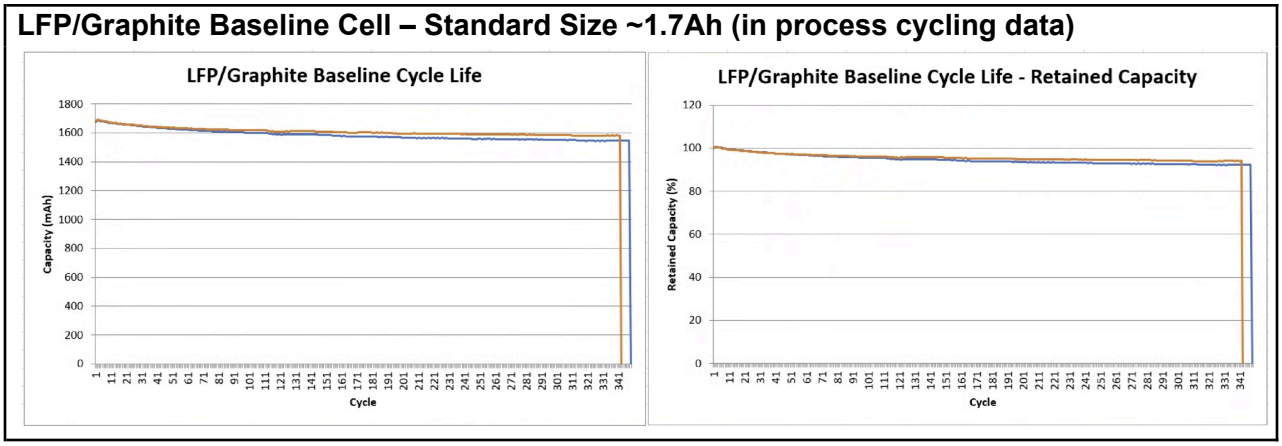
Silicon Baseline NCM811 vs (25% SiC in Graphite) Single Layer Cell, 4mAh/cm2 Areal Capacity

Developed chemistry, conductive additives, binders, and electrolyte to achieve very good cycling results. Like other projects we start with single layer cells then scale to multi-layer. Our standard multilayer cell with this same electrode size would scale to exceed >320 Wh/kg. In this case, we haven't scaled this yet.



NCM811/Graphite Baseline Cell – Standard Size >2.5Ah (proposed chemistry for project)



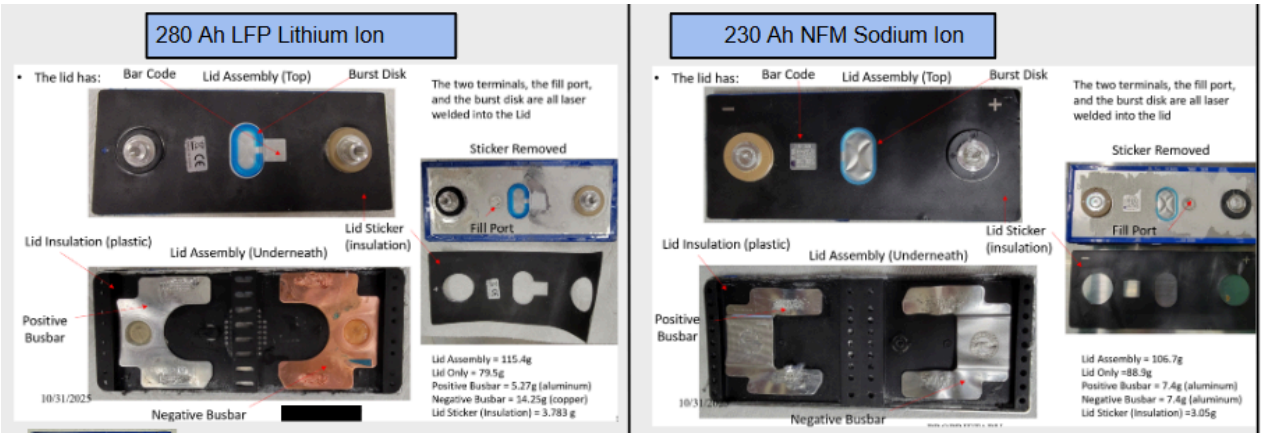


Commercial Relevance and Forensics Feedback Loop

SpectraPower’s understanding of cell design and performance is informed not only by fabrication experience, but also by its work in analytical teardowns and comparative analysis of commercial cells. This includes evaluation of state-of-the-art lithium-ion and emerging sodium-ion formats.

This forensics-to-fabrication feedback loop ensures that the prototype cells developed at SpectraPower are informed by commercial cell designs and manufacturing considerations. As a result, the cells produced are not only suitable for laboratory evaluation, but are also relevant for translation to larger-format pilot lines and commercial manufacturing environments.

[FIGURE 15 – Teardown and Comparative Analysis (LFP and Na-ion Cells)]
Excerpt from teardown and comparative analysis work highlighting commercial cell architectures and design considerations.



Selected Case Studies and Program Experience

SpectraPower has supported a wide range of internal and externally funded R&D programs for battery materials companies, startups, and strategic partners, including projects involving DOE- and USABC-related development efforts. While most customer work remains confidential, selected examples are provided below to illustrate the scope of materials, cell designs, and performance targets supported across fabrication and testing programs.

Example Program Areas

SpectraPower’s project experience spans multiple categories of materials development and cell design, including:

- High-energy lithium-ion systems (e.g., NMC 811-based cells)
- Fast-charge electrode and cell designs
- Silicon-containing and silicon-dominant anodes
- Lithium metal and next-generation anode systems
- LFP and other long-life chemistries for stationary applications
- Solid-state and hybrid electrolyte systems
- Sodium-ion and alternative chemistries

These programs typically involve integrating customer-provided materials into controlled electrode fabrication processes and assembling representative cells for electrochemical evaluation and benchmarking.

Representative Case Studies

High-Energy NMC-Based Cells
Development and fabrication of multilayer pouch cells using high-loading NMC cathodes and graphite or silicon-containing anodes. Work included optimization of slurry formulation, coating

parameters, and electrode density to achieve high areal capacity and energy density targets, along with electrochemical testing for cycle life and rate capability.

Fast-Charge Cell Development
Fabrication and evaluation of fast-charge cell architectures designed to achieve high state-of-charge in reduced time. Programs included optimization of electrode thickness, porosity, and electrolyte systems, with validation through high-rate cycling and degradation analysis.

Silicon-Anode Integration
Integration of silicon-oxide and silicon-composite anodes into multilayer pouch cells across a range of silicon loadings. Work included electrode formulation, coating process development, and cycling evaluation to assess capacity retention and volumetric expansion behavior.

Lithium Metal and Advanced Systems
Assembly and testing of lithium metal-based pouch cells and other next-generation chemistries requiring controlled environments and specialized handling. Programs included electrolyte development, separator evaluation, and iterative design of cell architectures.

LFP and Long-Life Systems
Fabrication of LFP-based pouch cells for applications requiring long cycle life, safety, and stability. Work included development of electrode formulations and validation of long-term cycling performance under controlled conditions.

Role in Customer Development Programs

Across these programs, SpectraPower typically serves as the fabrication and testing partner responsible for:

- Translating customer materials into processable electrode formulations
- Producing consistent, repeatable electrodes and cells
- Establishing baseline performance and benchmarking results
- Supporting iterative design and testing cycles
- Providing feedback on manufacturability and process sensitivity

This role enables customers to focus on material innovation while leveraging SpectraPower’s fabrication infrastructure and experience to generate reliable, comparable performance data.

Additional Capabilities and Supporting Services

While SpectraPower’s primary focus is prototype cell fabrication, electrode development, and electrochemical testing, the company also provides a range of supporting capabilities that

complement customer R&D programs. These additional capabilities are intended to complement SpectraPower’s core fabrication and testing work. By combining cell builds, performance evaluation, teardown analysis, and technical guidance, SpectraPower provides a more complete development environment for customers working across different stages of battery technology development.

Analytical Teardowns and Benchmarking

SpectraPower performs detailed teardown and reverse-engineering of commercial and developmental battery cells. This work includes disassembly, documentation of cell architecture, electrode analysis, and comparison of materials and design approaches.

These efforts provide valuable context for customer programs by enabling benchmarking against state-of-the-art commercial cells and identifying key design and process considerations.

Material and Cell Characterization Support

In addition to in-house testing capabilities, SpectraPower coordinates external analytical work with qualified partners for specialized characterization techniques such as thermal analysis, spectroscopy, microscopy, and elemental analysis.

SpectraPower supports these efforts through:

- Cell teardown and sample preparation
- Coordination of external testing
- Interpretation of results in the context of cell design and performance

Consulting and Technical Support

SpectraPower provides targeted consulting and technical support related to battery materials, electrode fabrication, and cell design. This includes:

- Guidance on electrode formulation and processing
- Input on cell architecture and design considerations
- Support for scaling considerations from lab to pilot-line environments
- Independent evaluation and technical due diligence for investors and partners

These services are typically integrated with fabrication programs or provided as standalone engagements, depending on customer needs.