

Jerry Smith Energy Storage Commissioning Services Plan

May 2026

Jerry Smith Storage, LLC
339 Jerry Smith Rd., Lansing, NY
14882

Project Description

Nexamp will be installing a 5 MW / 23.5 MWh standalone Battery Energy Storage System (BESS) project (Jerry Smith Storage) at 339 Jerry Smith Rd., Lansing, NY. The system is comprised of six Tesla Megapack 2XL batteries, each rated at 979.2 kW / 3916.8 kWh. Two 2.5 MVA step-up transformers (34.5 kV/480 V) will connect the BESS to the NYSEG distribution system at the point of interconnection (POI) via customer-owned switchgear and revenue metering.

The Jerry Smith site includes access road improvements, underground conduit, MV transformers, AC switchgear, a data acquisition system (DAS), perimeter fencing, and associated interconnection infrastructure. The site is designed for a 25-year operational life. At end-of-life, the system will be decommissioned with an emphasis on recycling BESS components

Commissioning Process Overview

Commissioning verifies that the system is installed correctly, operates safely, and meets performance and interconnection requirements. The process will include:

- Installation inspections.
- Equipment startups.
- Functional and performance testing.
- Balance-of-system (BOS) verification (transformers, switchgear, SCADA/DAS).
- Utility coordination for interconnection compliance.

The plan defines roles, responsibilities, commissioning documentation, inspections, and tests required to achieve final acceptance.

Participants and Responsibilities

Participant	Role
Nexamp, Inc.	Project Manager (PM) / Construction Manager (CM)
Independent CxA	Commissioning Authority (CxA)
Engineer of Record (EOR)	System Design Engineer
Tesla	OEM / Manufacturer
NYSEG	Utility / Interconnection Authority

Responsibilities

- **PM/CM (Nexamp):** Coordinate site access, distribute documentation, schedule commissioning, support Tesla startup, and resolve deficiencies. Perform insulation resistance and hi-pot testing.
- **CxA:** Generate commissioning plan, inspection sheets, review test results, oversee Tesla and contractor testing, maintain deficiency list.
- **EOR:** Provide design clarifications, ensure installation conforms to approved drawings.
- **Tesla:** Provide startup/commissioning documentation, conduct commissioning with CxA and Nexamp support.
- **Utility (NYSEG):** Witness interconnection testing, approve operational readiness, verify metering.

Commissioning Process

- **Pre-Construction:** Review design documents and incorporate utility/CxA feedback.
- **Construction:** Submit schedules, complete initial testing (insulation resistance, grounding). CxA to inspect Megapacks and BOS equipment (transformers, switchgear, SCADA panels).
- **Equipment Startup:** Tesla and contractors perform Megapack and inverter startup; BOS equipment energized and tested after AHJ approval.
- **System Testing:** Functional performance testing of charge/discharge, SCADA/DAS, alarms, transformer loading, relay settings, protection devices, emergency shutdowns, and interconnection requirements.
- **Training:** Conduct operator and emergency response training with system IOM manuals, including BOS systems.

Documentation

Commissioning documentation includes:

- As-built drawings (SLD, dev set).
- Startup and test reports (Megapacks, transformers, switchgear, SCADA/DAS).
- Utility interconnection approval.
- Deficiency list and closeout report.

Commissioning Activities

Overview

- Inspections: Mechanical/electrical inspections of Megapacks, transformers, MV switchgear/recloser, revenue metering, communications, and SCADA/DAS.
- Testing: Insulation resistance, hi-pot, transformer test suite, relay/protection verification (including recloser and SEL relays), end-to-end trip testing, DTT, and interconnection/witness tests.
- Integration: SCADA/EMS mapping, Tesla Site Controller integration, DAS validation, cybersecurity hardening, and metering validation.

Balance of System (BoS) Components Under Commissioning Scope

- Step up transformers (2 × 2.5 MVA, 34.5 kV/480 V)
- MV recloser & relay controls (e.g., SEL651R) and visible, lockable disconnects
- Customer 3in1 interconnection switchgear (protection, metering, disconnect)
- Revenue metering (e.g., SEL735) and CT/VT circuits
- Direct Transfer Trip (DTT) equipment (e.g., RFL Guard 8000) and telecom
- SCADA/RTU (e.g., SEL3505 RTAC), Tesla Site Controller, DAS cabinet
- Communications network (fiber/Cat6), time sync (GPS/NTP), and firewall

Fire and Safety Systems

- Tesla Megapack 2XL includes deflagration control, BMS, fire detection, fault protection, and SCADA reporting.
- Each safety feature will undergo startup self-tests and verification by Tesla/CxA.

Utility and Grid Compliance

- Protection relay testing per IEEE-1547, NPCC, and NYSEG standards.
- Voltage/frequency ride-through, reactive power, and AGC response testing.

Record of Commissioning

Upon completion, Nexamp will maintain a full commissioning record, including: Tesla commissioning reports, SCADA and communications testing results, interconnection/witness test results, and operator training records.

Transformer Commissioning (each MV Step-up transformer)

Pre-energization: nameplate verification; oil level/condition; grounding and bonding; bushing integrity; tap position; cooling fans/controls; surge arrester installation.

Electrical tests: insulation resistance (winding-to-winding and winding-to-ground); TTR (turns ratio) with phase verification; winding resistance; polarity; excitation current; sweep frequency response (as applicable).

Functional: temperature devices (RTDs), fan/alarms, secondary wiring checks, phase rotation confirmation at LV terminals, MV terminations torque check, and protection device wiring checks.

Acceptance: review of factory test reports and onsite results against manufacturer tolerances.

Recloser and Protection Relays

Inspection: cubicle/enclosure integrity, heaters, space clearances, labeling, torque checks, ground bus continuity.

Instrument transformers: CT/VT ratio and polarity checks; secondary burden checks; point-to-point wiring verification.

Relay settings & logic: load and verify final settings per approved coordination study; password management and NERCCIP aligned user roles; time synchronization.

Functional tests:

- **Recloser/SEL651R:** close/open, manual and remote; reconfirm reclosing disabled/enabled per NYSEG requirements; verify safe trip circuit.
- **Trip schemes:** 27/59/81 (UV/OV/UF/OF), 50/51/50G/51G overcurrent, 59N NVD, sync/ant islanding, and 79.
- **End-to-end tests:** secondary injection and end to end trip to Megapack PCS via site controller; breaker fail logic and interlocks.

Direct Transfer Trip and Telecom

- **DTT path verification:** continuity and quality of the DTT channel(s) between site and utility substation; alarm on channel loss.
- **Functional:** simulate DTT receive; confirm immediate trip of BESS export and event logging.
- **Redundancy/alarms:** verify comm fail alarms to SCADA; document cutover and failover behavior.

Revenue Metering

- **Device & wiring checks:** meter model/firmware, CT/VT ratios, burdens, and wiring; seal integrity as required by NYSEG.
- **Accuracy tests:** primary or secondary injection to validate meter constants; NYSEG witness.
- **Telemetry:** real time delivery of W, VAR, PF, V, A, frequency, and energy to utility and Nexamp DAS; tie to settlement requirements.

SCADA/RTU/Tesla Site Controller/DAS

- **Architecture & cybersecurity:** network diagram signoff; VLANs; firewall rules; remote access controls; time sync (NTP/GPS).
- **Point-to-point mapping:** verify DNP3/IEC points from Tesla Site Controller → RTU (SEL3505) → DAS/Utility.
- **Controls & commands:** dispatch charge/discharge, MW/MVAR setpoints, AGC/automatic dispatch where applicable; confirm command authority hierarchy and interlocks.
- **Alarms & events:** verify alarm priorities, latching behavior, and SOE timestamps; loss of comms behavior; data archival.

Interconnection and Grid Performance Tests (Witnessed)

- **Open circuit energization:** transformer/MV bus energization and no-load verification.
- **Protection response:** verify UV/OV/UF/OF trip thresholds and clearing times; NVD; OC elements; compare to approved settings.
- **Ride through & dynamic tests:** frequency/voltage ride through demonstrations; reactive capability (leading/lagging) and power factor control.
- **Ant islanding:** functional demonstration per utility test procedure.
- **System performance:** capacity test (discharge to rated energy at rated power), RTE, ramp rate and AGC step response, thermal behavior under sustained dispatch.
- **Revenue metering & telemetry:** final validation with utility before Permission to Operate (PTO).

Conclusion

This Commissioning Plan provides a structured process to ensure the Jerry Smith Storage Project is safely constructed and commissioned. Nexamp, Tesla, the CxA, and NYSEG will collaborate to ensure all requirements are met, performance is verified, and the project delivers reliable grid services to NY.

Attached to this Services Plan is a typical scope of work for commissioning a Battery Energy Storage System. Nexamp has used this scope of work as the basis for its services for infrastructure that it currently maintains. In the following, the corresponding parties are identified for responsibility as designated.

Below are the primary services under the scope of commissioning. In addition, Nexamp will coordinate with Tesla on all commissioning activities.

The primary services under the scope of commissioning the site include the following:

Commissioning Matrix I-1

Document	Responsible Party												Milestone Due By
	Executing/Documenting				Approval				Forms				
	Nexamp	Nexamp's Electrical Sub	MV Contractor	Manufacturer	Nexamp	Nexamp Asset Management	Manufacturer	Nexamp's 3rd Party Engineer	Nexamp Supplied	Manufacturer Supplied	Contractor Supplied	3rd Party Engineer Supplied	
(AA) Mechanical Component Torque Certification Letter	X				X								PRE-MC
(B) & (C) Megohmmeter Form	X				X								PRE-MC
VLF Test Report									X				PRE-MC
(D) Grounding System Test Report	X or			X	X or		X	X		X			PRE-MC
(E) Combiner Box and/or Inverter DC Commissioning Pre-Check Form with IV Curve Trace Test	X or												PRE-MC
(MC) Mechanical Completion Request & Checklist (Engineering Grp.)	X		X		X				X				PRE-MC
(WT) Witness Test Scheduling Request (GRID Integration Team)	X							X		X			Pre-WT
(NEC-B) DAS Commissioning Form	X or				X and		X	X	X				SC
Transformer commissioning	X						X and			X			PRE-MC/SC
Dissolved Gas Analysis	X				X and		X	X					PRE-MC/SC
Fluid Dielectric Testing	X				X and				X				PRE-MC/SC
Recloser commissioning													SC
Recloser programing					X and		X and	X		X			SC
Relay commissioning					X and		X and		X				SC
Switchgear commissioning					X and					X			SC
Energy Storage PCS Commissioning	X				X and		X	X					SC
Energy Storage HVAC & Auxiliaries Commissioning					X and				X	X			SC
Energy Storage Fire Suppression Commissioning	X or												SC
Energy Storage System Commissioning	X or				X and		X and						SC