

DECATUR BATTERY ENERGY STORAGE FACILITY

Exhibit A-1.11 COMMISSIONING PLAN (FACILITIES WITH STORAGE ONLY)

Table of Contents

EXHIBIT A-1.11 – COMMISSIONING PLAN (FACILITIES WITH STORAGE ONLY).....	2
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Appendices

EXHIBIT A-1.11-A – COMMISSIONING PLAN	
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EXHIBIT A-1.11 – COMMISSIONING PLAN (FACILITIES WITH STORAGE ONLY)

A-1.11.a – For energy storage projects, provide a Commissioning Plan in compliance with NFPA 855 (4.2.4 & 6.1.3.2).

A Commissioning Plan for the Project has been provided in **Appendix 1.11-A**. The purpose of the Commissioning Plan is to ensure the BESS is installed, configured, and operates safely and as intended before it becomes operational. The Commissioning Plan provides a detailed description of all processes in place during pre-commissioning, functional testing, overall system commissioning, and final acceptance/handover to ensure the BESS is in compliance with technical, safety, and performance specifications.

Appendix 1.11-A: COMMISSIONING PLAN

Project Commissioning Plan

Revision Number	Date	Comments	Author
0.0	03/24/25	Initial Release	M. Gosalia

Table of Contents

1.0 INTRODUCTION.....	3
2.0 PRE-COMMISSIONING.....	3
2.1 Documentation Review	3
2.2 Equipment Inspection	3
3.0 FUNCTIONAL TESTING	3
3.1 Power System Verification	3
3.2 Control System & Communication Tests	3
4.0 OVERALL SYSTEM COMMISSIONING.....	4
4.1 Battery System Testing	4
4.2 Inverter and PCS Testing.....	4
4.3 Grid Connection & Load Testing	4
4.4 Final Acceptance & Handover.....	4

1.0 Introduction

The commissioning plan outlines the procedures to ensure the proper installation, integration, testing, and commissioning of the 50MW x 200MWh Battery Energy Storage System (BESS). The outcome is to verify compliance with technical, safety, and performance specifications.

Commissioning occurs over three phases:

- 1) Pre-Commissioning
- 2) Functional Testing
- 3) Overall System Commissioning

2.0 Pre-Commissioning

2.1 Documentation Review

- Verify design specifications, vendor documents, and compliance to technical specifications.
- Review installation drawings, electrical schematics, and control system architecture.
- Confirm regulatory and environmental approvals.

2.2 Equipment Inspection

- Inspect physical installation of battery racks, inverters, transformers, switchgear, and auxiliary power systems.
- Verify compliance with electrical codes.
- Conduct insulation resistance testing on cables and connections.

3.0 Functional Testing

3.1 Power System Verification

- Verify proper grounding, bonding, and protection settings.
- Conduct phase sequence and polarity checks.
- Confirm communication system integration (SCADA, EMS, BMS, etc.).

3.2 Control System & Communication Tests

- Verify battery management system (BMS) functionality.
- Test remote monitoring and control capabilities.
- Confirm cybersecurity measures are in place.

4.0 Overall System Commissioning

4.1 Battery System Testing

- Perform charge and discharge cycling to conduct a capacity test to verify energy stored in the batteries.
- Monitor temperature and voltage uniformity across cells and racks.
- Validate BMS alarms and protection mechanisms.

4.2 Inverter and PCS Testing

- Test inverter start-up, shutdown, and protection functions.
- Validate power conversion system efficiency.
- Conduct reactive power and frequency response testing.

4.3 Grid Connection & Load Testing

- Synchronize with the grid and perform step-load response tests.
- Conduct ramp-up/ramp-down power delivery verification to determine response times.
- Measure round-trip efficiency and auxiliary power consumption.
- Verify compliance with grid codes and system response under various operating conditions to participate in power market products.

4.4 Final Acceptance & Handover

- Prepare and review final commissioning report.
- Conduct final inspection.
- Transition to operations and maintenance (O&M) team.