

Commissioning Plan



[A Commissioning Plan is a documented guide/check list detailing the steps, tasks, activities, and responsibilities necessary to ensure that all parties involved understand and execute the overall project commissioning process effectively.]

A. Introduction

- Project Overview including:
- Rated system power (kW DC or kVA AC)
- PV Modules and Inverters details including manufacturers, model and quantity
- Installation date
- Proposed commissioning date
- List of key stakeholders involved in commissioning including their role and responsibility

B. Commissioning Objective

- Ensure the solar system is installed according to design specifications
- Verify system performance and safety
- Identify and rectify any issues before the system synchronize with the grid

C. Pre-Commissioning Activities

- Verification of all design documents, permits, and agreements
- Conducting thorough site inspection to ensure readiness for commissioning
- Checking all equipment for compliance with specifications and readiness for operation

D. Commissioning Tests

- Visual Inspection of installed system for any visible defects or issues
- Perform insulation resistance tests, continuity tests, and grounding system checks for all the electrical equipment
- Measure the system's performance under various conditions to ensure it meets design expectations
- Verify the operation of safety devices and emergency shutdown procedures

E. Documentation and Reporting

- Document the results of all commissioning tests
- Provide updated drawings for any changes made during installation
- Compile a manual with all necessary information for system operation and maintenance

F. Operations and Safety Training

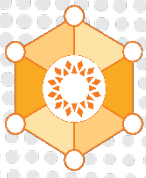
- Train the system operators on proper operation and maintenance procedures
- Provide training on safety protocols and emergency procedures

G. Final Acceptance

- Final inspection with all stakeholders
- Perform final acceptance tests to confirm system readiness
- Commissioning Certificate
- Officially hand over the system to the owner/operator

H. Post-Commissioning Activities

- Performance monitoring
- Warranty and support



Acceptance Test Report



[An Acceptance Test is an evaluation conducted during the commissioning phase by an independent inspector to verify the plant's completion, ensuring the work is accurate and of high quality. This test includes a review of the design, equipment labeling, and a visual inspection of the facility.]

I. Project Information

- Project location
- Contact details of the owner and contractor
- Date of report and prepared by

J. About Report

- Brief on purpose of the acceptance test report
- Scope of tests to be conducted

K. Summary of Tests

- Test dates
- Weather conditions such as temperature, humidity, wind speed, irradiances, etc.
- List of tests and brief results
- List of personnel involved in test process

L. Pre-Test Checks

- Review of all necessary documents, permits and agreements
- Readiness of project site for performing the tests

M. Test Procedures

- Visual inspection for any defects and damages for all the electrical and mechanical installations and labeling
- Electrical tests including insulation resistance test, continuity tests, grounding system tests, etc.
- Performance tests including I-V curve tests, power output tests
- Safety tests including emergency shutdown and safety device checks

N. Test Results

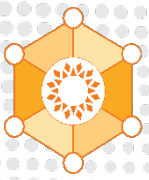
- Summary of test results
- Any corrective actions to be taken to address non-conformities

O. Conclusion

- Overall Assessment of the system performance
- Recommendations for any further action or improvements

P. Signatures

- Test engineer
- Owner Representative
- Contractor representative



STAR-CENTRE

System Commissioning Certificate



[A Grid-Connected Solar Project Commissioning Certificate is an official document that verifies the successful commissioning of a solar power system connected to the grid. It is issued after completing all necessary tests and inspections to ensure the system is properly installed, operates safely, and complies with all relevant standards and regulations.]

A. Project Information
- Project name - Location - Project owner and contractor - Date of Commissioning - Certificate Issuing Authority
B. Certificate Statement
- Statement on successful commissioning of the project - Completions of all tests and inspections - Operational status of the project
C. Commissioning Details
- Rated capacity of the project - Type of project - Grid connection point - Project components details such as inverters, modules, mounting structure, etc.
D. Testing and Inspection Summary
- Date, inspector details and inspection results of tests carried out such as visual inspections, electrical, performance and safety tests, etc.
E. Signatures
- Signatures of commissioning engineer, project owner and developer representatives.