Operation & Maintenance of PV Systems (5/6 – 7/6/2023)

1. Course Title: Operation & Maintenance of PV Systems

2. Course Description:

This course provides training in Operation and Maintenance of commercially sized photovoltaic systems in order to help qualified engineers & technicians effectively and safely operate, maintain and inspect PV systems according to the international standards. Also, it identifies guidelines, requirements, best practices of PV servicing, repairing, performance evaluation, and troubleshooting techniques using different types of analytical tools.

The training material for this training course has been developed by experts from the "German Solar Association (BSW)" and was adapted by a local trainer. The course will be delivered in both Arabic and English languages, using PowerPoint slides, sharing case examples, and practical exercises including complete O&M tasks of PV Systems. This Course will combine the theoretical knowledge with hands-on experience, which is required to become a qualified PV operator.

The attendees will learn the theory behind and gain hands-on experience with a wide range of state-of-the-art analytical tools.

3. Course Structure

Introduction

- Basics electrical quantities
- Workplace safety
- Meteorological Basics
- Yield and simulation

Components - Design and Aspects of Operation & Maintenance

- Module technology and PV generator
- Shading
- Inverter
- Cables, DC/ AC protection technology
- Mounting systems

Monitoring - operational management

- Tasks - Possibilities
- Technical components
- Allocation of tasks - Response times - Other contractual agreements
- Reporting systems

Repairs - preventive maintenance

- Measurements: recurring tests - use in case of abnormalities
- Service Modula
- Service inverter
- BOS components

Outlook

- Smart-grid

4. Learning Outcomes

By the end of this course, attendees will be able to:

- Assess the quality and aging degree of a PV system by visual inspection.
- Measurements necessary for the safety of the plant
- Necessary repairs like module exchange and inverter service requests
- Interpretation of measurement data in monitoring
- Deduce necessary measures from the interpretation

5.Course Duration
Hours/ day : 8 hours
Total Time : 24 hours

Operation & Maintenance of PV Systems (5/6 – 7/6/2023)

6. Training Schedule: **Location:**

DAY 1: (Monday)	**[9:00 am- 5:00 pm]**	**[5/6/2023]**	German Energy Academy in Jordan Amman, King Abdullah II St 242 King Hussein Business Park Al Hussein Technical University (HTU) Building A03, 2nd floor Jordan
DAY 2: (Tuesday)	**[9:00 am- 5:00 pm]**	**[6/6/2023]**	German Energy Academy in Jordan Amman, King Abdullah II St 242 King Hussein Business Park Al Hussein Technical University (HTU) Building A03, 2nd floor Jordan
DAY 3: (Wednesday)	**[9:00 am- 5:00 pm]**	**[7/6/2023]**	German Energy Academy in Jordan Amman, King Abdullah II St 242 King Hussein Business Park Al Hussein Technical University (HTU) Building A03, 2nd floor Jordan

7.Trainer:

Eng. Moath Odatallah

Proficient in Project Management, Construction, Mega Scale Solar PV Plants development, design, planning, construction and testing-commissioning, Management of O&M processes, contract negotiation and Management, Compliance with Distribution and Transmission Utilities requirements, Due diligence process with lenders and Projects Costing Management, and Insurance Policies management. Furthermore, Eng. Moath has more than 10 years of experience in project management, PMI-RMP® certified.

8. Target Attendees: Engineers and technicians working at the manufacturing companies and whose tasks are to operate and maintain the PV systems at their companies.

9. Prerequisite of Attendees: Diploma degree level (at least). English language (is preferable), basic knowledge in PV terminologies.

10. Assessment Criteria:

All participants that are present during all 24 hours of training will receive a certificate of presence. At the end of the training, there will be a short test (30 minutes) on the content of the training. Each participant with a score of 50 % or above will receive a certificate of successful participation.