TITLE OF TRAINING PROGRAM

SEDA Malaysia Grid-Connected Photovoltaic (PV) Systems Design Course

TARGET GROUP

This course is offered to those who want to:

- Learn and enhance knowledge about grid-connected solar PV systems.
- Design Grid-Connected PV systems which include solar PV modules, inverter and associated equipment that is suitable for Malaysia climate condition.

(Note: the electrical connection between the inverter to the electricity supply (AC side) can only be undertaken by licensed electricians issued by Suruhanjaya Tenaga).

OVERVIEW

The course is based on the manual: “Grid-Connected Photovoltaic (GCPV) Design Course”. To successfully complete the course, each participant must show that they are competent in all skills and tasks as defined by this training course. The 8-day course will encompass both theoretical and practical sessions, ending with a competency examination.

The course covers:

- Design of grid-connected PV systems which include solar PV modules, inverter and associated equipment that is suitable for Malaysia climate conditions.
- Information about grid-connected solar PV systems.
- Relevant Malaysian requirements and standards for a grid-connected PV system.

PRE-REQUISITES FOR COURSE ADMITTANCE

Pre-requisites for participants:

I. age above 21 years of age;

II. minimum Diploma in Engineering or Degree in Applied Science (Physics); and

III. proficient in English.

As a minimum all course participants should have the following skills:

- some knowledge of safe work practices;
- mathematics for solving standard problems; and
- reading for comprehending technical subject matter.

All course participants must be able to read, understand and converse comfortably in English. It is preferred that the participants already have knowledge and skills in:

- electricity, electrical terms and common formulae;
- working knowledge of tools and meters used in the installation and maintenance of electrical systems; and
- basic customer education and service practices.

Although having these skills is preferred, the participants can learn these skills during the course or with extra work prior to attending the course.

Requirements of the Participant

Each participant shall:

- bring a notebook and/or paper, writing paraphernalia and calculator for taking notes and doing exercises; and
- wear suitable attire and correct footwear for physical activities.

Note: Participant can bring his/her own multi-meter and other tools if needed.

TRAINING METHODOLOGY

The 8-day course will encompass both theoretical and practical sessions, ending with a competency examination. The candidates will be assessed based on these skills and each candidate will be given a status of “PASS” or “FAIL”. This status is given to each candidate by the evaluators when the evaluators are satisfied that the candidate has met the minimum criteria for passing.

DURATION

8 days (9am-5pm)

TRAINING PROGRAM OUTLINE

DAY	TIME	SUBJECT	DESCRIPTION
1 (Monday)	0900 ~ 0930	Lecture	Welcoming and Course Outline
	0930 ~ 1030	Lecture	Fundamental Chapter 1: Safety Practices Chapter 2: Basic Electricity Chapter 3: Introduction to Photovoltaic system
	1030 ~ 1045	Break	Refreshment is provided
	1045 ~ 1300	Lecture	Fundamental Chapter 4: Basic Solar Engineering
	1300 ~ 1400	Break	Lunch is provided
	1400 ~ 1530	Lecture	Fundamental Chapter 5: Photovoltaic Technology
	1530 ~ 1545	Break	Refreshment is provided
	1545 ~ 1700	Lecture	Fundamental Chapter 5: Photovoltaic Technology
2 (Tuesday)	0900 ~ 1030	Lecture	Fundamental Chapter 6: Mounting structure
	1030 ~ 1045	Break	Refreshment is provided
	1045 ~ 1300	Lecture	Fundamental Chapter 7: Other BOS components
	1300 ~ 1400	Break	Lunch is provided
	1400 ~ 1530	Lecture	Fundamental Chapter 8: End of life issues
	1530~ 1545	Break	Refreshment is provided
	1545 ~ 1700	Lecture	Fundamental Chapter 9: Concept of lightning protection system
3 (Wednesday)	0900 ~ 1030	Lecture	Design Chapter 1: GCPV system Chapter 2: Grid interactive inverter
	1030 ~ 1045	Break	Refreshment is provided
	1045 ~ 1300	Lecture	Design Chapter 3: Dimensioning of PV array
	1300 ~ 1400	Break	Lunch is provided
	1400 ~ 1530	Lecture	Design Chapter 3: Dimensioning of PV array

	1530 ~ 1545	Break	Refreshment is provided
	1545~ 1700	Lecture	Design Chapter 4: Sizing with string or central inverter
4 (Thursday)	0900 ~ 1030	Lecture	Design Chapter 4: Sizing with string or central inverter
	1030 ~ 1045	Break	Refreshment is provided
	1045 ~ 1300	Lecture	Design Chapter 5: Sizing with microinverter
	1300 ~ 1400	Break	Lunch is provided
	1400 ~ 1530	Lecture	Design Chapter 6: Sizing with DC optimiser
	1530 ~ 1545	Break	Refreshment is provided
	1545 ~ 1700	Lecture	Design Chapter 7: System performance and evaluation
5 (Friday)	0830 ~ 0900	Break	Refreshment is provided
	0900 ~ 1300	Practical	Solar assessment; PV module measurements; Testing and commissioning; Acceptance test; Operation and maintenance
	1300 ~ 1400	Break	Lunch is provided
	1400 ~ 1530	Practical	Solar assessment; PV module measurements; Testing and commissioning; Acceptance test; Operation and maintenance
	1530 ~ 1545	Break	Refreshment is provided
	1545~ 1700	Practical	Solar assessment; PV module measurements; Testing and commissioning; Acceptance test; Operation and maintenance
6 (Monday)	0830 ~ 0900	Break	Refreshment is provided
	0900 ~ 1300	Examination	Practical [one-on-one candidate demonstrates and interviewed]
	1300 ~ 1400	Break	Lunch is provided
	1400 ~ 1530	Examination	Practical [one-on-one candidate demonstrates and interviewed]
	1530 ~ 1545	Break	Refreshment is provided
	1545 ~ 1700	Examination	Practical [one-on-one candidate demonstrates and interviewed]

7 (Tuesday)	0900 ~ 1030	Lecture	Tutorial
	1030 ~ 1045	Break	Refreshment is provided
	1045 ~ 1300	Lecture	Tutorial
	1300 ~ 1430	Break	Lunch is provided
	1430 ~ 1530	Open	Q & A
	1530 ~ 1545	Break	Refreshment is provided
	1545 ~ 1700	Open	Q & A
8 (Wednesday)	0830 ~ 0930	Break	Refreshment is provided / Documentation
	0930 ~ 1230	Examination	GCPV Design - Comprehensive Open Book (3 hours)
	1230 ~ 1400	Break	Lunch is provided
	1400 ~1600	Examination	Fundamental – Comprehensive Open Book (2 hours)
	1600 ~1630	Break	Refreshment is provided

COURSE ADMINISTRATION

Fee: RM 6,113.23 for Malaysian (Inclusive SST 8%)
RM 7,132.10 for non-Malaysian (Inclusive SST 8%)

Date: 21-25, 28-30 April 2025

Venue: Selangor Human Resource Development Centre, No. 1, Ground Floor, Block 2, Pusat Perniagaan Worldwide, Section 13, 40100 Shah Alam, Selangor, MALAYSIA.

Please contact En Kamal further assistance

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