

# COURSE INFORMATION Grid-Connected Photovoltaic (GCPV) Systems Design Course

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).

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. All participants are required to obtain and use only original copies of the training materials.

The assessment of the participant includes:

- active participation in exercises conducted in the class during the 8 days training course;
- active participation in the practical/ physical work conducted during the 7 days training course;
   and
- completion of assignments and exercises which must be submitted upon request by the trainers.

### **Passing requirements**

To pass, each candidate must satisfactorily pass **BOTH** theoretical and practical examinations. The breakdown of the theoretical and practical examination marks is as follows:

#### Theoretical

|    | Examination                        | Marks (%) | Status |
|----|------------------------------------|-----------|--------|
| a. | Fundamental of Solar PV Technology | 80 to 100 | Pass   |
|    |                                    | < 80      | Fail   |
| b. | Design and Sizing of GCPV System   | 90 to 100 | Pass   |
|    |                                    | < 90      | Fail   |

#### • Practical

The assessment is done based on a set of acquired skills obtained during the course. 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, covering:

- Design
- Testing & Commissioning (T&C)
- Acceptance Test



#### Final verdict

|     | Examination result                       |  |           |  |  |
|-----|--|--|-----------|--|--|
|     | Theory                                   |  |           |  |  |
| No. | Fundamental<br>of Solar PV<br>Technology | Design and<br>Sizing of GCPV<br>System | Practical | Status   |  |
| (a) | x ≥ 80%                                  | x ≥ 90%                                | Pass      | Eligible for award of a Qualified Person certificate   |  |
| (b) | x ≥ 80%                                  | x ≥ 90%                                | Fail      | Eligible to request a re-sit of the <b>practical exam</b> only   |  |
| (c) | x ≥ 80%                                  | x < 90%                                | Pass      | Eligible to request a re-sit for theory exam: Design and Sizing of GCPV System only  |  |
| (d) | x ≥ 80%                                  | x < 90%                                | Fail      | Eligible to request a re-sit for theory exam: Design and Sizing of GCPV System and practical exam only                       |  |
| (e) | x < 80%                                  | x ≥ 90%                                | Pass      | Eligible to request a re-sit for theory exam: Fundamental of Solar PV Technology only  |  |
| (f) | x < 80%                                  | x ≥ 90%                                | Fail      | Eligible to request a re-sit for theory exam:  Fundamental of Solar PV Technology and practical  exam only                   |  |
| (g) | x < 80%                                  | x < 90%                                | Pass      | Eligible to request a re-sit for theory exam:  Fundamental of Solar PV Technology and Design and  Sizing of GCPV System only |  |
| (h) | x < 80%                                  | x < 90%                                | Fail      | Eligible to request a re-sit for <b>all exams</b>  |  |

## **Pre-requisites for Course Admittance**

Pre-requisites for participants:

- I. age above 21 years of age;
- II. minimum Diploma in Engineering / Engineering Technology or Degree (BSc.) in Science Physics / Applied Physics / Industrial Physics or equivalent as recognized by SEDA Malaysia; 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.



## How is the course organised?

Must complete the attached application form and send it to the organiser (address on the form). The applicant will then be notified if he/she has been successful in the application. The course date will be announced when 20 participants have registered for the course. The applicant is then required to make a payment to confirm the course registration. During the course all lunches and morning/afternoon teas will be provided by the organiser.

# **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.

For the details of mode of payment, please refer to the Application Form.