

## **WSQ Perform Design and Installation of PV Systems**

### **WSQ Perform Maintenance of PV Systems**

**\*\*2 WSQ Statement of Attainment**

**Date: 16, 17, 18, 19, 20, 23, 24, 25, 26, 27 March 2015**

**Time: 8.30 am to 5.30 pm**

**Venue: SEAS Training Centre/ITE College East, Singapore**

The Singapore Workforce Skills Qualifications (WSQ) system is a national framework developed by the Singapore Workforce Development Agency (WDA) and the industries for adult workers to increase their competency and add value to the industries by taking up continuing education and training modules. WSQ caters to adult workers and aims to make skills upgrading accessible to the workforce as well as assist them in the advancement and development of their career.

SEAS is accredited by the Singapore Workforce Development Agency (WDA) to conduct two WSQ modules. They are “Perform Design and Installation of Photovoltaic Systems” and “Perform Maintenance of Photovoltaic Systems”. SEAS will be offering these two modules as a single programme and the candidate will only need to take one integrated assessment to achieve 2 Statement of Attainment (SOAs). No re-assessment allowed for this course.

#### **Objective of module**

On completion of this unit, learners will have the basic knowledge and ability

- to design, install, test and commission PV systems
- to inspect and maintain PV systems

#### **Target Audience**

- PMEs (i.e. contractors, M&E consultants, academics and researchers) who are currently employed in Construction, Real Estate Management & Maintenance and Process industries, and whose work focuses on design, installation, test, commission, inspection and maintenance of photovoltaic systems

#### **Assumed Skills and Knowledge**

- preferably have knowledge of electrical installation work
- preferably have knowledge of SS CP5:1998 Code of Practice for Electrical Installation
- have basic knowledge and skills in handling common tools
- be able to listen and speak English at a proficiency level equivalent to the Employability Skills System (ESS) level 4;
- be able to read and write English at a proficiency level equivalent to ESS level 4; and
- be able to process numbers at a proficiency level equivalent to ESS level 4

#### **Mode of delivery**

Lectures, in-class exercise and practical sessions

Organised By:



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## Career Opportunities

- PV system integration business in Singapore and regionally, with very high market growth rates starting from a low base

## Module outline

WSQ Perform Design and Installation of PV Systems	WSQ Perform Maintenance of PV Systems
<ol style="list-style-type: none"> <li>1. Develop PV system designs               <ol style="list-style-type: none"> <li>1.1 Determine PV system sitting.</li> <li>1.2 Design PV systems according to client's requirements.</li> <li>1.3 Select PV system equipment.</li> <li>1.4 Prepare drawings for PV installation.</li> </ol> </li> <li>2. Plan the installation of PV systems               <ol style="list-style-type: none"> <li>2.1 Check work site for hazards before work commences.</li> <li>2.2 Select and use appropriate access equipment.</li> <li>2.3 Apply safe practices for working on PV equipment.</li> <li>2.4 Isolate and restart system safely.</li> </ol> </li> <li>3. Install and commission PV systems               <ol style="list-style-type: none"> <li>3.1 Prepare tools and equipment for installing and commissioning PV system.</li> <li>3.2 Install supporting racks and PV array.</li> <li>3.3 Wire and terminate PV modules to associated equipment.</li> <li>3.4 Inspect, test and commission the completed installation.</li> <li>3.5 Prepare testing and commissioning reports according to organisational requirements.</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1. Prepare for Maintenance of PV systems               <ol style="list-style-type: none"> <li>1.1 Use appropriate personal protective equipment.</li> <li>1.2 Check work site for hazards before work commences.</li> <li>1.3 Select appropriate access equipment.</li> <li>1.4 Take precautions against shock hazards when working on PV systems in daylight conditions.</li> <li>1.5 Isolate and restart system safely.</li> </ol> </li> <li>2. Plan the maintenance of PV systems               <ol style="list-style-type: none"> <li>2.1 Determine the types of PV systems to be maintained.</li> <li>2.2 Interpret technical particulars of the system components and characteristics.</li> <li>2.3 Plan the maintenance tasks for the identified PV systems</li> </ol> </li> <li>3. Perform maintenance works on PV systems               <ol style="list-style-type: none"> <li>3.1 Conduct visual inspections for physical damage or deterioration of all system components</li> <li>3.2 Carry out cleaning of PV modules.</li> <li>3.3 Shutdown and isolate PV system from mains and restart PV system.</li> <li>3.4 Complete general inspection and maintenance reports according to organisational requirements.</li> </ol> </li> </ol>

## About the Trainer

Reneil attained his electrical engineering degree in 2012 and has worked at Global Sustainable Energy Solutions (GSES) for the last two years as both a project engineer and RTO training member. Reneil currently manages the theory and practical training which is conducted by GSES.

Reneil has aided in the design of grid-connected PV systems ranging in size from 25kW to 100kW. Reneil conducts both theoretical and practical training courses for Global Sustainable Energy Solutions Pty Ltd. (GSES)

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