

**B.7 Application of a monitoring methodology and description of the monitoring plan:****B.7.1 Data and parameters monitored:**

<b>Data / Parameter:</b>	<b>Electricity Quantity, <math>EG_y</math></b>
Data unit:	MWh
Description:	Net electricity supplied to the grid by renewable technology in the year y
Source of data to be used:	Exported data will be sourced from the watt-hour meter. Double checked by receipt of sales from the KPX. Imported data will be sourced from the bill issued by KEPCO(Korea Electricity Power Corporation).
Value of data	22,183MWh
Description of measurement methods and procedures to be applied:	The net(Export – Import) electricity would be calculated based on Export & Import data. * $EG_y = \text{Export electricity} - \text{Import electricity}$ All electricity measuring meters are watt-hour meter type and the meters consists of five watt-hour meter to grid and one watt-hour meter from grid. Exported electricity means only electricity quantity supplied to the grid. Import electricity means only auxiliary consumption supplied from the grid. Import electricity will be checked by KEPCO'S bill.
QA/QC procedures to be applied:	- QA/QC procedure is prepared - Watt-hour meters with $\pm 0.5\%$ error will be installed for electricity export, and $\pm 1.0\%$ for import. - According to SSC CDM, meter (import, export) will be re-calibrated in every 3 years.
Any Comments:	- The export electricity will be continuously monitored and every five minutes recorded. - Data will be kept for two years after the last issuance of CERs for this project activity.

**Quality control (QC) and quality assurance (QA) procedures****1. Monitoring equipment**

- 1-1. Electricity measuring meters shall be set up transparently in accordance with “Measures act” and “Act on operation of the electricity market” and shall be sealed after receiving the affirmation of Korea Power Exchange.
- 1-2. Calibration shall be performed at the first installation, and re-calibration shall be done at least once in three years for the meter in accordance with the General guideline to SSC CDM methodologies.

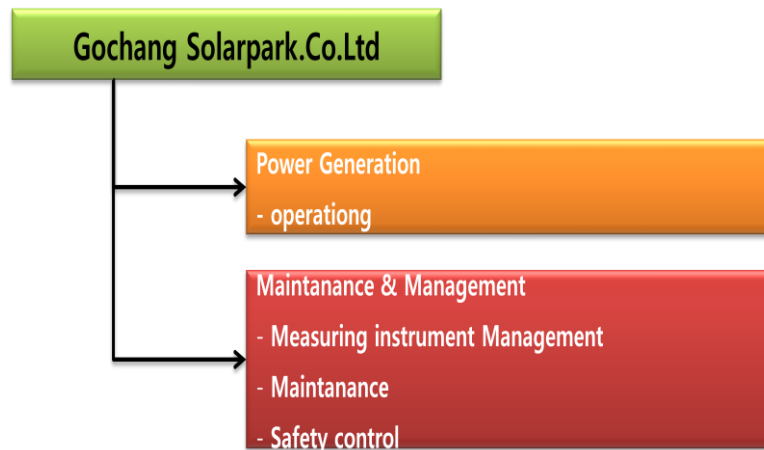
**2. The amount of electricity monitoring**

- 2-1. Gochang solarpark's watt-hour meters continuously monitor electricity power production, record the amount every five minutes, and the data collected by watt-hour meter is transferred to KPX at 24:00 in order that KPX publishes the data to have been transferred on their homepage every day.
- 2-2. Meanwhile, The person in charge of monitoring shall download recorded data from watt-hour meters on-site every day, and make comparison with data to have been published on homepage of KPX.

2.3. If the data are not identical, the problem shall be solved by immediate action of contacting KPX for seeking causes. If the data are not identical after the confirmation, a conservative value will be utilized to calculate reduction amount.

### 3. Manager of monitoring and electricity safety

Gochang Solarpark Co.,Ltd has two teams related to the project activity. One is an operating team, the other is a maintenance & management team, shown as following diagram.



3-1. The person in charge of monitoring shall attend the following courses once in three years. In case of replacement of a person in charge, related education shall be done in order not to cause problems on data collecting and QA/QC.

- Course on Electricity safety.

3-2. The person in charge of monitoring is regularly educated once a year with company's internal contents below:

- Course on 'Measures Act'
- Course on 'Act on operation of electricity market'

3-3. In the event that the responsible person is absent, a second responsible person shall be selected.

3-4. If the responsibility for monitoring and electricity safety is transferred to another person, it must first be approved by the final decision-maker.

3-5. Data will be kept for two years after the last issuance of CERs for this project activity.

Applied monitoring methodology for the project is AMS I.D. (version 13), and electricity produced will be monitored.

In addition, related facilities including watt-hour meter will be managed properly.

#### **B.7.2 Description of the monitoring plan:**

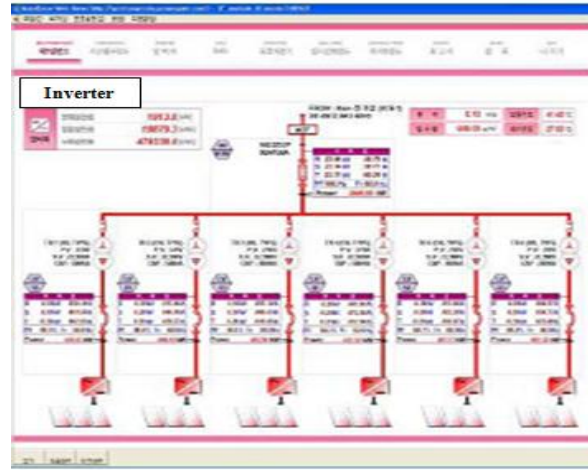
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As per the applied approved monitoring methodology AMS-I.D (version 13), electricity generation will be monitored by installing watt-hour meters. Because the project site is divided into five photovoltaic power plant areas, project implementer will install a watt-hour meter for each area to measure electricity supplied to the grid. Total electricity supplied to the grid can be calculated by sum of all measured data. Following figure shows sample view of computer system that will be operated only to observe present situation of electricity generation

## Observation system



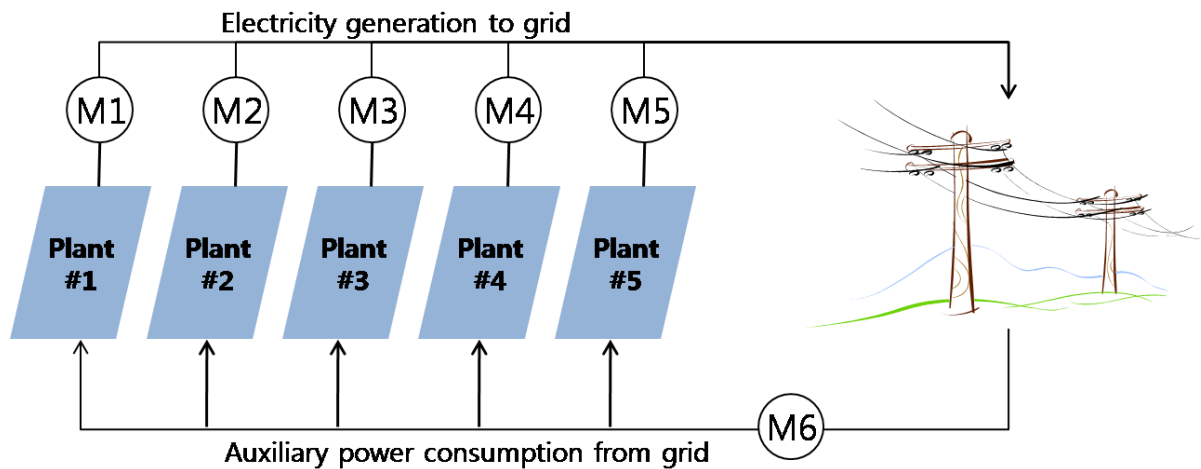
\* VCBs(Vacuum Circuit Breakers) for each plants are existing and an extra VCB is existing for a case of malfunction.



\* It represents six inverters for each section.

$$\begin{aligned}
 14.98\text{MW} &\div 15\text{MW} = 15,000\text{kW} \\
 &= 2,500\text{kW} \times 6 \text{ pieces} \\
 &= 500\text{kW} \times 5 \text{ plants} \times 6 \text{ pieces}
 \end{aligned}$$

Auxiliary power consumption supplied from the grid will be monitored by single watt-hour meter. Following electricity diagram shows overall monitoring points of the project activity:



Refer to the diagram above, net electricity generation (EGy) can be calculated by following equation:

$$EGy = (M1 + M2 + M3 + M4 + M5) - M6$$