

## Monitoring Report Sheet (Input Sheet) [For Verification]

Table 1: Parameters monitored *ex post*

| (a)<br>Monitoring period | (b)<br>Monitoring point No. | (c)<br>Parameters    | (d)<br>Description of data  | (e)<br>Monitored Values | (f)<br>Units | (g)<br>Monitoring option | (h)<br>Source of data  | (i)<br>Measurement methods and procedures   | (j)<br>Monitoring frequency | (k)<br>Other comments   |
|--------------------------|-----------------------------|----------------------|---|-------------------------|--------------|--------------------------|--|---|-----------------------------|---|
| 2015/1/1-2015/12/31      | (1)                         | EC <sub>PJ,i,p</sub> | Power consumption of project chiller <i>i</i> during the period <i>p</i>          | 1,673.745               | MWh/p        | Option C                 | Monitored data   | <p>Data is measured by measuring equipments in the factory.</p> <p>- Specification of measuring equipments:</p> <p>1) Electrical power meter is applied for measurement of electrical power consumption of project chiller.</p> <p>2) Meter is certified in compliance with national/international standards on electrical power meter.</p> <p>- Measuring and recording:</p> <p>1) Measured data is automatically sent to a server where data is recorded and stored. Measured data is manually recorded by responsible staff for calculation of emission reduction.</p> <p>2) Recorded data is checked its integrity once a month by responsible staff.</p> <p>The accuracy level of electric meter is <math>\pm 0.5\%</math>.</p> <p>The data monitored and required for verification and issuance will be kept and archived electronically for two years after the final issuance of credits.</p> <p>- Calibration:</p> <p>Calibration was conducted by the Manufacturer at the time of Manufacturer's inspection. Next calibration is required after 10 years.</p> | Continuously                | The data of energy consumption of the project chiller to calculate the emission reduction amount applies the manual recorded data of meter. |
| 2015/1/1-2015/12/31      | (2)                         | El <sub>grid,p</sub> | Electricity imported from the grid to the project site during the period <i>p</i> | 71,804                  | MWh/p        | Option B or Option C     | Invoice from the power company for Option B or monitored data for Option C | <p>[for Option B]</p> <p>Data is collected and recorded from invoices from the power company.</p>   | Every month                 |   |
| 2015/1/1-2015/12/31      | (3)                         | h <sub>gen,p</sub>   | Operating time of captive electricity generator during the period <i>p</i>        | 0                       | hours/p      | Option C                 | Monitored data   | Data is measured by meter equipped to a generator.  | Continuously                |   |

**Table 2: Project-specific parameters fixed *ex ante***

| (a)                 | (b)  | (c)              | (d)                   | (e)   | (f)  |
|---------------------|--|------------------|-----------------------|---|--|
| Parameters          | Description of data  | Estimated Values | Units                 | Source of data  | Other comments   |
| $EF_{elec}$         | [For grid electricity]<br>CO <sub>2</sub> emission factor for consumed electricity             | 0.840            | tCO <sub>2</sub> /MWh | The most recent value available at the time of validation is applied and fixed for the monitoring period thereafter. The data is sourced from "Emission Factors of Electricity Interconnection Systems", National Committee on Clean Development Mechanism Indo |  |
| $EF_{elec}$         | [For captive electricity]<br>CO <sub>2</sub> emission factor for consumed electricity          | 0.8              | tCO <sub>2</sub> /MWh | CDM approved small scale methodology: AMS-I.A   | In the project, there is no generator for captive electricity. |
| $T_{cooling-out,i}$ | Output cooling water temperature of project chiller i set under the project specific condition | 36.9             | degree Celsius        | Specifications of project chiller i prepared for the quotation or factory acceptance test data by manufacturer  |  |
| $T_{chilled-out,i}$ | Output chilled water temperature of project chiller i set under the project specific condition | 11               | degree Celsius        | Specifications of project chiller i prepared for the quotation or factory acceptance test data by manufacturer  |  |
| $COP_{RE,i}$        | COP of reference chiller i under the standardizing temperature conditions                      | 5.59             | -                     | Selected from the default values set in the methodology   |  |
| $COP_{PJ,i}$        | COP of project chiller i under the project specific conditions                                 | 7.14             | -                     | Specifications of project chiller i prepared for the quotation or factory acceptance test data by manufacturer  |  |
| $COP_{PJ,tc,i}$     | COP of project chiller i calculated under the standardizing temperature conditions             | 6.25             | -                     | Calculated with the following equation;<br>$COP_{PJ,tc,i} = COP_{PJ,i} \times [(T_{cooling-out,i} - T_{chilled-out,i} + TD_{chilled} + TD_{cooling}) \div (37 - 7 + TD_{chilled} + TD_{cooling})]$  |  |
| $RC_{gen}$          | Rated capacity of generator  | 0.0              | kW                    | Specification of generator for captive electricity  |  |

**Table3: *Ex-post* estimation of CO<sub>2</sub> emission reductions**

| Monitoring Period   | CO <sub>2</sub> emission reductions | Units               |
|---------------------|-------------------------------------|---------------------|
| 2015/1/1-2015/12/31 | 165                                 | tCO <sub>2</sub> /p |

**[Monitoring option]**

|          |   |
|----------|---|
| Option A | Based on public data which is measured by entities other than the project participants (Data used: publicly |
| Option B | Based on the amount of transaction which is measured directly using measuring equipments (Data used:        |
| Option C | Based on the actual measurement using measuring equipments (Data used: measured values)                     |