

 CDM: Form for Submissions on Small Scale Methodologies and Procedures (version 03) <i>(To be used for presenting questions/proposals/amendments related to the simplified methodologies for small-scale CDM project activity categories)</i>	
Name:	Institution: <u>Johnson Controls (India) Private Limited</u>
Affiliation ¹ :	<input type="checkbox"/> DNA <input type="checkbox"/> DOE <input checked="" type="checkbox"/> PP <input type="checkbox"/> Stakeholder
Title/Subject (max. 200 characters):	Clarification on the calculation procedure for baseline emissions due to chillers under the methodology AMS II.C. (Version 13, EB 48)
Purpose of the submission:	<input checked="" type="checkbox"/> Query on an approved SSC methodology or small scale procedures ² (Fill in field 1. below) <input type="checkbox"/> Request for Revision of an approved SSC methodology (Fill in fields 2. and 3. below) <input type="checkbox"/> Proposal for a new SSC methodology (Fill in fields 4. and 5. below)
Approved SSC methodologies ² to which your submission relates to, if applicable.	AMS-II.C. (Version 13, EB 48)
Contact Information (e-mail addresses to which the answers are to be delivered and phone contacts for possible dialogue on the submission).	sudhi.sinha@jci.com
Information for completing the form Describe the questions related to the SSC Methodologies, Modalities and Procedures below. If the questions are related to a project under development or implementation, you may describe the context in which they arose.	
Query on an approved SSC methodology or SSC procedures	
1. If you have questions relating to the application of an approved small-scale methodology (AMS) please specify and provide reference to the exact technology/measure below. If you have questions related to procedures for SSC project activities please clarify below:	
>> The methodology applicable to the Programme of Activity (PoA) titled "Demand Side Management (DSM) for accelerating the diffusion of energy-efficient chiller technology" is AMS-II.C. (Version 13, EB 48). The program is restricted to promotion of water cooled chillers. The procedure adopted for emission reduction calculations is as follows:	
Baseline Emissions As per equation (1) given in the methodology AMS-II.C. (Version 13, EB 48), baseline emissions are computed as per the formula:	
$BE_y = E_{BL,y} * EF_{CO2,ELEC,y} + Q_{ref,BL} \times GWP_{ref,BL}$	
The approach requires the calculation of the parameter $EL_{BL,y}$ (Energy consumption in the baseline in year), which is	

¹ Designated National Authority (DNA); Designated Operational Entity (DOE); Project Participant (PP), and Stakeholder.

² The list of all approved small-scale methodologies (AMS) can be found at <http://cdm.unfccc.int> and go to CDM: small scale CDM methodologies.

calculated as per equation (2) provided in the methodology:

$$E_{BL,y} = \sum_i (n_i * \rho_i * o_i) / (1 - l_y)$$

The parameter power (p_i) for chillers is not a fixed parameter and depends on several factors related to the operating parameters including ambient temperature, quantity of cooling provided, inlet temperature of condensing water and outlet temperature of chilled water. However, the approved methodology does not provide details on the approach to be followed for calculation of p_i .

Hence, as an alternative, the project proponent seeks a clarification as to whether the formulae provided in the approved large scale methodology AM0060 (Version 1.1) (Power saving through replacement by energy efficient chillers) for calculation of the parameter p_i can be applied.

AM0060 (Version 1.1) has provided for procedures to determine electricity consumption of the existing chiller ($EC_{BL,y}$) taking into account the operating parameters of the cooling system to calculate the energy that would be consumed in the baseline scenario. The procedure requires the monitoring of the following three parameters:

- The inlet temperature of the chill water (T_0)
- The outlet temperature of the chill water (T_1) and
- The inlet temperature of the condensing water (V_0)
- Average rate of the chilled water

During the crediting period, the above-mentioned operating parameters are monitored. The electricity consumption of the existing chiller is estimated by applying the power output function to the monitored parameters as required in AM0060 (Version 1.1). As the operating parameters vary over time, this procedure is applied for every distinct time intervals t (1 hour). Annual baseline electricity consumption is then calculated as the summation over all time intervals t .

The baseline electricity consumption ($EC_{BL,y}$, kWh) is then calculated in accordance with equations (2), (3) and (4) provided in methodology AM0060 (Version 1.1). The parameter $EC_{BL,y}$ corresponds to the term ($p_i * o_i$) in the equation (2) given in the methodology AMS-II.C. (Version 13, EB 48). The product is then multiplied with n_i and the parameter $E_{BL,y}$ is then arrived at.

Though the procedure is not a part of the calculation procedure given in the methodology AMS-II.C (Version 13, EB 48), it takes into account the varying efficiency levels of a chiller as the operating parameters vary and leads to an accurate assessment of the energy consumption in the baseline chillers.

The project proponent would like to seek a clarification from the SSC-Working Group if the approach followed for estimating the baseline emissions as given above is applicable for the proposed chiller programme..

Request for revision of an approved SSC methodology

2. If you are proposing an amendment/revision to an approved small-scale methodology (AMS), please provide justifications below:

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Not Applicable

3. If you are proposing an amendment/revision to an approved small-scale methodology (AMS) please provide the draft methodology with changes highlighted.

<p>The following documents have been attached to this form:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Draft methodology with changes highlighted in Word and PDF formats <input type="checkbox"/> PDD in PDF format (optional) <input type="checkbox"/> Additional information (please specify if you are providing any information note, published paper or a report in support of the request for revision of the SSC methodology) <p>Not Applicable</p>	
Proposal for a new SSC methodology	
4. If you are proposing a new small scale methodology, please provide justifications below:	
>>	
Not Applicable	
5. For submitting a new small scale methodology a filled in form “CDM: form for proposed new small scale methodologies (F-CDM-SSC-NM)” is required.	
<p>The following documents have been attached to this form:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Completely filled in form “CDM: form for proposed new small scale methodologies (F-CDM-SSC-NM)” in Word and PDF formats³ <input type="checkbox"/> A draft PDD (with sections A to C completed): <ul style="list-style-type: none"> <input type="checkbox"/> Relevant annexes to the PDD are provided <input type="checkbox"/> Additional information (please specify if you are providing any information note, published paper or a report in support of the new SSC methodology) <p>Not Applicable</p>	
Date you are delivering the contribution:	13/05/2011
Information to be completed by the secretariat	
SSC-Submission number	

³ The current version of the form (F-CDM-SSC-NM) is available on the UNFCCC CDM website (<http://cdm.unfccc.int>).