CDM: FORM FOR SUBMISSION OF A "LETTER TO THE BOARD" (Version 01.2)

This form should be used only by project participants and other stakeholders for submitting a "Letter to the Board" in accordance with the latest version of the *Modalities and procedures for direct communication with stakeholders*

Name of the stakeholder[1] submitting this form (individual/organization):	Standard Bank Plc
Address and contact details of the individual submitting this form:	Address: 20 Gresham St, London EC2V 7JE, UK Telephone number: +442031456893 E-mail address: geoff.sinclair@standardbank.com
Title/Subject (give a short title or specify the subject of your submission)	Statistical sampling for POAs
Please mention whether the submitter of the form is:	☒ Project participant ☐ Other stakeholder, please specify
Specify whether you want the letter to be treated as confidential[2]:	☐ To be treated as confidential ☒ To be publicly available (UNFCCC CDM web site)

Please choose any of the type(s) below[3] to describe the purpose of this submission.

☒ **Type I:**

☐ **Request for clarification** ☒ **Revision of existing rules**

☒ Standards. Please specify reference Standard for sampling and surveys for CDM project activities and programme of activities

☐ Procedures. Please specify reference

☐ Guidance. Please specify reference

☐ Forms. Please specify reference

☐ Others. Please specify reference

☐ **Type II: Request for Introduction of new rules**

☒ **Type III: Provision of information and suggestions on policy issues**

Please describe in detail the issue on which you request a response from the Board, including the exact reference source and version (if applicable).

[1] DNAs and DOEs shall use the respective DNA/DOE forms for communication with the Board.
[2] As per the applicable modalities and procedures, the Board may make its response publicly available.
[3] Latest CDM regulatory documents and information are available at: http://cdm.unfccc.int/Reference/index.html .

Through our activity in POAs we have noticed some issues relating to statistical sampling. The "Standard for sampling and surveys for CDM project activities and programme of activities" version 02.0 specifies the reliability requirements in a sampling plan. These general requirements are applicable to both small scale and large scale CDM project activities as well as POAs.

This Standard requires CDM project participants, CMEs of POAs as well as DOEs to apply a specific confidence/precision level as follows:

"*Where there is no specific guidance in the applicable methodology, project proponents shall use 90/10 confidence/precision as the criteria for reliability of sampling efforts for small-scale project activities and 95/10 for large scale project activities. This reliability specification shall be applied to determine the sampling requirements for each individual parameter value determined through a sampling effort."*

Furthermore it states the following: *"This reliability specification shall be applied to determine the sampling requirements for each individual parameter value determined through a sampling effort."... "when a single sampling plan covering a group of CPAs [sampling] is undertaken applying 95/10 confidence/precision for the sample size calculation."*

Based on this, if one intends to use a sampling approach (as opposed to direct measurement of all installations), a 90.10 or 95.10 level of confidence should apply. This approach is, however, problematic in some cases.

The 90/10 confidence/precision (or in cases of sampling procedures that are overarching for the POA – i.e. not specific for one CPA – 95/10 confidence/precision) is the criteria for reliability of sampling efforts. This reliability specification shall be applied to determine the sampling requirements for each individual parameter value determined through a sampling effort.

In the case of sampling operationality, where the answer is either "yes" or "no" (two possible results) the sample size can be determined up front based on a normal/Gaussian distribution by selecting a sample size with (for example) 95% probability of falling in the range of +/- 10% of the true population value as follows:

$$1.96\frac{\sigma}{\sqrt{n}} \leq 0.1$$

And the sample size n is:

$$n \geq \frac{(1.96)^2}{(0.1)^2}\sigma^2 \approx 384.16$$

The value 1.96 denotes the abscissa of the normal curve that cuts off an area of 0.1 at the tails to give the desired confidence level of 0.95 and can be obtained from normal distribution tables.

Since the maximum value of σ^2 is ¼, the sample size n=96.04 should suffice, and hence the sample size can be determined to be 97 for operationality checks.

However, the problem with the 90/10 or 95/10 confidence/precision comes when sampling variable parameters, for example water flow/usage in households, inlet and outlet termeratures of water into and out of a solar water heater (SWH). This approach is problematic as the number of measurement points (i.e. sample size) can be fixed only after analysing the first measurement results. This leads to a situation where:

1. Monitoring cost cannot be determined up-front, which is very problematic for project developers; and
2. If 90/10 or 95/10 confidence/precision level has not been reached the results are not reliable enough based on the current guideline, and this potentially results in the rejection of an issuance (as was the case with the first issuance of CUIDEMOS Mexico (Campana de Uso Intelegente de Energia Mexico – Smart Use of Energy Mexico PoA).

Please provide any specific suggestions or further information which would address the issue raised in the previous section, including the exact reference source and version (if applicable).

We would therefore suggest to the CDM Executive Board and the relevant Working Groups that the "*Standard for sampling and surveys for CDM project activities and programme of activities*" be revised so as to provide for an instance where a lower confidence level does not result in rejection of issuance, but rather to a reduction of emission reductions (ERs) received.

A reduction of emission reductions can, under statistical methodologies, effectively increase the confidence level for that (reduced) volume, thereby still having the effect of compliance with the 90/10 or 95/10 requirement.

For example, if sampling of water usage results in a 20% margin of error at a confidence level of 80% and the resulting received water usage is 54,000 litres per year, then a lower ER value could be applied to reach a 90.10 confidence level. In this case the revised value would be 43,200 litres per year.

If necessary, list attached files containing relevant information (if any)	None

Section below to be filled in by UNFCCC secretariat	
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History of document

Version	Date	Nature of revision
01.2	08 February 2012	Editorial revision.
01.1	09 August 2011	Editorial revision.
01	04 August 2011	Initial publication date.
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