**CDM: Proposed new methodology expert form (version 04)**

***(To be used by methodology experts providing desk review for a proposed new methodology)***

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| *Name of expert responsible for completing and submitting this form* | Ingo Puhl |
| *Related F-CDM-NM document ID number* | NM 0089 |

*Note to those completing this form, as applicable: Please provide recommendations on the proposed new baseline and monitoring methodologies based on an assessment of CDM-NMB and CDM-NMM and of their application in sections A to E of the draft CDM-PDD, desk reviews and public input. Please ensure that the form is entirely filled and that arguments and expert judgements are substantiated.*

## A. Evaluation of the proposed new methodologies by desk reviewers:

### I. Evaluation of the proposed new baseline methodology:

Title of new baseline methodology:>> CECL´s Natural Gas based Engine Fired Captive Power Plant in Tamilnadu, India

i. Conditions under which this methodology is applicable to other potential projects (e.g. project type, region, data availability):

>>power generation using non-renewable energy carriers replacing grid power, all regions, sufficient data to use accepted consolidated method ACM0002. The fact that the power is used for captive power purposes is irrelevant.

ii. Strengths and weaknesses of the methodology:

>>clear and transparent method. To further streamline, it should be added to the scope of ACM0002. However, a minor change should be added (see below)

iii. Any changes needed to improve the methodology:

a. Minor changes:>>a) method should address the possibility that CDM project provides power to other users in the grid.

b. Major changes:>>none

### II. Evaluation of the proposed new monitoring methodology:

Title of new monitoring methodology: >> **CECL methodology for power generation for captive use, which is grid connected, using non-renewable and less GHG intensive fuels**

i. Conditions under which this methodology is applicable to other potential projects (e.g. project type, region, data availability):

>> applicable to ACM0002 scope. Would require additions to ACM0002 that define how to monitor emissions from a non-renewable fuel for power generation.

ii. Strengths and weaknesses of the methodology:

>> The monitoring method is straight forward. To further streamline method, it should be added to the scope of ACM0002. However, a minor change should be added (see below)

iii. Any changes needed to improve the methodology:

a. Minor changes:>>a) accounting for power demand from other users (i.e. by differentiating between NETPOWER supplied to the captive industrial user and other users) and emissions in the baseline from other users should be added., b) method should be checked for consistency with ACM0002 requirements re the use of ex-post vs. ex-ante data for the calculation of baseline emissions for operating and built

margin.

b. Major changes:>>none

## B. Details of the evaluation of the proposed new methodology by the desk reviewer:

### I. Proposed new baseline methodology *(specify title here):* >>

**(1) Short description of the methodology, including an assessment of which approach from paragraph 48 of the CDM modalities and procedures was used:**

*a) Describe the methodology:*

>>Method follows the approach of the ACM0002 whereby the generation of power from the project replaces the operation of existing or planned facilities in the grid that would have otherwise delivered power to a large power user.

*b) State the approach selected:*

>> Method is according to "current or existing emissions" which is based on the performance of power plants operating in the applicable power grid plus plants considered in the built margin". The method should therefore be consolidated into ACM0002.

*c) Indicate (in summary form) why the approach selected is the most appropriate. Please provide your expert judgement on the appropriateness of the selected approach to the project category:*

>>Selected approach is appropriate and corresponds to ACM0002.

**(2) Basis for determining the baseline scenario:**

*a) State whether the documentation explains how the baseline scenario is to be chosen and identified:*

>>Yes, it follows the procedures that are described sufficiently in ACM0002. Through an expansion of the scope of ACM0002, this method can be consolidated.

*b) State the basic underlying rationale for algorithms/formulae used (e.g. marginal vs. average basis) (see also section 4 below):*

>>The rationale follows the rationale of ACM0002 in terms of the use of operationg and built margins taking into account local circumstances.

*c) State whether the documentation explains how, through the use of the methodology, it can be demonstrated that a project activity is additional and therefore not the baseline scenario. If so, what are the tools provided by the project participants?*

>>The project participants uses the tools and arguments provided by the CDM EB "Tools for the demonstration and assessment of additionality" document.

*d) State whether the basis for determining the baseline scenario and for assessing additionality is appropriate and adequate:*

>>yes. Procedure defined in "Tools for the demonstration and assessment of additionality" are applied correctly. Assumptions and conclusions, esp. related to comparison of IRR between project and baseline needs to be verified by DOE.

**(3) Assessment of the description of the proposed methodology and its applicability**

*a) State whether the methodology has been described in an adequate manner:*

>>yes. Method is very similar to ACM0002 and can be consolidated into ACM0002.

*b) State whether the proposed methodology is appropriate for the referred proposed project activity and the referred project context (described in Sections A - E of the draft CDM-PDD and submitted along with CDM-NMB):*

>>yes.

*c) State whether the application of the methodology could result in a baseline scenario that*

*reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity.*
>>yes.

*Please explain:*

>> conservative assumptions were made and procedures are followed that mirror ACM0002 which is an established reasonable calculation.

**(4) Assessment of algorithms/formulae and type of data needed:**

*a) State whether the description of the methodology includes algorithms and generic formulae that can be applied to other potential project activities (if not, the proposed new methodology will be considered as a project-specific methodology):*

>>yes

*b) Explain the spatial scope of data used to determine the baseline and whether the scope is appropriate:*

>>the spatial scope surrounds the facility that has a demand for power and the facility that generates the power that are interconnected via a grid. In this context, the focus on the power demanding facility is relevant as it defines the activity as well as dispatching of the power generator.

The spatial scope leaves unaccounted for certain quantities of power that might have been generated by the CDM project. The quantification of baseline emissions defines the activity level on the basis of NETPOWER as: "power received by the user industry from CDM project, as certified by local transmission utility". This allows, in theory additional power quantities produced by the CDM project, creating additional emissions (that are likely to replace production from other facilities or cover brown-outs). While this issue is addressed in the schematics in section B.4, additional language should be introduced describing this eventuality and suggested procedure.

The suggested procedure could lead to potentially large under-estimation of emission reductions as potential supply of power to other consumers are not included in the baseline.

*c) Explain the vintage of data used (in relation to the duration of the project crediting period) and whether the vintage of data is appropriate, indicating the period covered by the data:*

>>data refers to historic data from existing and power generating facilities within the grid as well as projected data over the planning horizon. Ex-post adjustment of emissions intensity is currently not being planned. Costs are quoted as reason for not doing so.

**(5) Definition of the project boundary related to the baseline methodology:**

*a) State how the project boundary is defined in terms of:*

*i) Gases and sources*

>>CO2 emissions of existing and planned power generation facilities.

*ii) Physical delineation*

>>baseline surrounds all facilities that are located within the interconnected power grid. On the activity (power demand) side, system boundary is limited to one captive industrial user.

*b) Indicate whether this project boundary is appropriate:*

>>system boundary on the activity side should include/discuss the possibility of other power users that receive power from the CDM project.

**(6) Key assumptions/parameters (including emission factors and activity levels) and data sources:**

*a) List the implicit and explicit key assumptions. Identify those, if any, which are problematic and explain:*

>>1) mission and load factors based on historic and projected operating and build margin, 2) projected

activity level of industrial user, 3) CDM plant heat rate and load factor, 4) missing are assumptions about additional power users, considering the demand for power in the region.

*b) State whether the key assumptions are arrived at in a transparent manner:*

>>yes, transparent and well documented.

*c) Give your expert judgement on whether the assumptions/parameters are adequate:*

>>yes with the exception of the omitted discussion of additional activity due to additional power users.

*d) Indicate which data sources are used and how the data are obtained (e.g. official statistics, expert judgement):*

>>historic performance data is obtained from official sources. Discussion of potential demand from other users is omitted. I.e. reference to existing practice could be made (India has a large capacity of captive power; it is unclear what the legal framework and pricing for feeding this power into the grid is).

*e) Give your expert judgement on whether the data used are adequate, consistent, accurate and reliable:*

>>yes, on all counts, except the omission related to additional users.

*f) State possible data gaps:*

>>Data related to the supply of power to alternative users.

**(7) Assessment of uncertainties:**

*a) State whether the methodology includes an assessment of uncertainties regarding:*

*i) The basis for determining the baseline scenario:*

>>a qualitative statement re: data uncertainty is made.

*ii) Algorithms/formulae:*

>>standard formulae are used.

*iii) Key assumptions:*

>>assumptions are conservative and likely to lead to an underestimation of emission reductions due to the design of the system boundaries.

*iv) Data:*

>>calculation of emission reductions is to be based on ex-post data.

*b) State whether the uncertainties presented are reasonable:*

>>yes

**(8) Leakage:**

*a) State how the baseline methodology addresses any potential leakage due to the project activity:*

>>leakage in relation to transmission and distribution losses is identified.

*b) Indicate whether the treatment for leakage is appropriate and adequate:*

>>yes

**(9) Transparency and "conservativeness":**

*a) Indicate whether the baseline methodology was developed in a transparent way:*

>>yes, very systematic and transparent to follow.

*b) State whether the baseline methodology is conservative:*

>>yes. It takes proper account of uncertainties.

**(10) Potential strengths and weaknesses of the proposed baseline methodology** *(please explain)***:**

>>from the reviewers perspective the method can be consolidated into AMC0002 as there is no principal

difference. The notion that the method relates to a captive plant does not create a principal difference as the relevant data to observe emission reductions is still related to the activity level of the CDM project (as result of a captive demand and wheeling arrangement) on the one side and the carbon intensity of the local grid on the other.

**(11) Other considerations, such as a description of how national and/or sectoral policies and circumstances have been taken into account** *(please explain)***:**

>>these issues have been addressed in barrier analysis, where it is adequate.

**(12) Applicability of the proposed methodology across project types and regions** *(please indicate)***:**

>>Method should be consolidated into ACM0002. It applies to the project type grid connected power generation using non-renewable and less GHG intensive fuel with no regional limitation. The fact that the project is related to "captive" use does not create any additional special consideration. Relevant is still the activity level of the project and the method by which the GHG intensity of the grid is determined.

**(13) Any other comments:**

*a) State whether any other source of information (i.e. other than documentation on this proposed methodology available on the UNFCCC CDM web site) has been used by you in evaluating this methodology. If so, please provide specific references:*

>>ACM0002

*b) Indicate any further comments:*

>>none

**II. Proposed new monitoring methodology** ***(specify title here):*** **>>**CECL methodology for power generation for captive use, which is grid connected, using non-renewable and less GHG intensive fuels

*In respect of the proposed new monitoring methodology, evaluate each section of CDM-NMM to the draft CDM-PDD. Please provide your comments section by section:*

**(1) Brief description of new methodology:**

*Describe new methodology:*

>>Method describes process for the calculation of baseline emissions using operating and built margin data within a defined spatial boundary as well as process for the calculation of project emissions from a power generating facility using a non-renewable fuel.

**(2) Key assumptions/parameters:**

*a) List the implicit and explicit key assumptions. Identify those, if any, which are problematic and explain:*

>>Calculation of operating margin data is based on historic data and built margin on projected data. Determination of project emissions are based on observed data. Key assumptions are sound. To facilitate consolidation with ACM0002, method should be checked with the requirement for ex-post adjustment of baseline emissions data as stipulated in ACM0002.

*b) State whether the key assumptions are arrived at in a transparent manner:*

>>yes

*c) Give your expert judgement on whether the assumptions/parameters are adequate:*

>>assumptions are adequate

**(3) Data sources and data quality:**

*a) Indicate which data sources are used and how the data are obtained (e.g. official statistics, expert judgement):*

>>key data is from official statistics and IPCC emission factors.

*b) Give your expert judgement on whether the data used are adequate, consistent, accurate and*

*reliable:*

>>yes, on all counts.

c) S*tate possible data gaps:*

>> Calculation of emission reductions neglects the possibility of additional users that create additional activity at the CDM project, thus reducing the quantity of possible emission reductions.

**(4) Assessment of the description of the proposed methodology and its applicability:**

*a) State whether the proposed methodology has been described in an adequate manner:*

>>yes

*b) State whether the proposed methodology is appropriate for the referred proposed project activity and the referred project context (described in Sections A - E of the draft CDM-PDD and submitted along with CDM-NMM):*

>>yes, with the exception of addressing implications of additional users that receive power from the project which is likely to increase emissions within the CDM project boundary without allowing the determination of emissions that are replaced in the baseline.

*c) State whether this proposed monitoring methodology is compatible with the proposed baseline methodology described in CDM-NMB of the draft CDM-PDD:*

>>yes

**(5) Leakage** *(please elaborate, if appropriate)***:**

>>is addressed and not elaborated further, which is adequate as the potential impact is small. It appears unlikely that transmission losses are significantly different from wheeling compared to other usages of the grid.

**(6) Quality assurance and control procedures** *(please explain)***:**

>>is addressed to verify actual data re to the performance properties of the CDM project.

**(7) Potential strengths and weaknesses of the proposed monitoring methodology** *(please explain)***:**

>>The monitoring method is straight forward. To facilitate consolidation with ACM0002 need for the inclusion of ex-post data should be included.

**(8) Applicability of the proposed methodology across project types and regions** *(please indicate)***:**

>>applicable to ACM0002 scope. Would require additions to ACM0002 that define how to monitor emissions from a non-renewable fuel for power generation.

**(9) Any other comments:**

*a) State whether any other source of information (i.e. other than documentation on this proposed methodology available on the UNFCCC CDM web site) has been used by you in evaluating this methodology. If so, please provide specific references:*

>>ACM0002

*b) Indicate any further comments:*

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Signature of desk reviewer ……..

Date: March/21st/05

| **Information to be completed by the secretariat** | |
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| F-CDM-NMex doc id number | |

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| Date when the form was received at UNFCCC secretariat | |
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