



**CDM: Revision Form for Approved Methodologies  
(version 01)**  
*(To be used for responding to requests for revision on approved methodologies)*

<i>Date of Meth Panel meeting:</i>	26 - 30 March 2007
<i>Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):</i>	“Request for a revision of AM0026-rev02 to change the definition the marginal plants that are displaced at the top of grid system with zero-emissions electricity generation from renewable sources as in Chile” /  AM_REV_0035
<i>Indicative methodology to which your submission relates</i>	AM0026-rev02: “Methodology for zero-emissions grid connected electricity generation from renewable sources in Chile or in countries with merit order based dispatch grid version 2.”
<i>Name of the authors of the query:</i>	Det Norske Veritas Certification Ltd

**Summary of the query:**

Please use the space below to summarize the request for revision on the related approved methodologies.

The author of the request proposes to amend AM0026 version 2 in relation with the definition of the marginal plants that are displaced at the top of a grid system with zero-emissions electricity generation from renewable sources as in Chile or in countries with merit order based dispatch grid.

In AM0026 version 2, they are defined as:

“The marginal plant(s) are those power plants listed in the top of the grid system dispatch order during hour ‘h’ needed to meet the electricity demand at that hour h without the generation of CDM project(s). If no thermal power plants are needed to meet the demand without CDM project(s), then the marginal plant(s) is (are) hydro.”

It is requested to change this part of AM0026 version 2 into:

“The marginal plants are those power plants listed at the top of the grid system dispatch order during hour “h” needed to meet the electricity demand at the hour “h” without the generation of CDM project(s). Hydro resources should be excluded from the definition of marginal plants if thermal power units are dispatched below those hydro resources on economic merit. If no thermal power plant are needed to meet the demand without the CDM projects, such as during periods of spillages of hydro reservoirs, then hydro resources are at the margin and therefore emission factor is zero”.

The project participant in this topic has requested a clarification on 17 January 17 2006. The Methodology Panel maintained the original approved text.

**Recommendation by the Meth Panel:**

Please use the space below to provide amendments /changes (in your expert view, if necessary).

**We recommend not revising the methodology.**

In the case where energy that would have been produced by identified reservoir hydropower plants is stored due to the operation of a given CDM project activity, this can be considered as if a corresponding amount of energy from the CDM project activity is stored in the hydropower plants reservoir.

The OM emission factor during hour h,  $EF_{h,j}$ , can be calculated as in the proposed revision, excluding the reservoir hydropower plants in the margin. However, the amount of energy delivered by the CDM project activity to the grid is to be calculated as:

(The energy produced by the CDM project activity during hour h) minus (the energy stored by the reservoir hydro-power plants due to the operation of the CDM projects activity during hour h) plus (the energy previously stored by the reservoir hydro-power plants and used to generate electricity during the hour h).

For a CDM project activity j:

$$BE_{y,j} = EF_{y,j} * Generation_{y,j}$$

$$Generation_{y,j} = \sum_h GEN_{j,h}$$

$$EF_{y,j} = w_{BM} * EF_{BM,y,j} + w_{OM} * EF_{OM,y,j}$$

$$EF_{OM,y,j} = (\sum_h EF_{j,h} * GEN_{j,h}) / (\sum_h GEN_{j,h})$$

$$EF_{h,j} = (\sum_i D(i,j) * d_i) / (\sum_i D(i,j))$$

$D(i,j)$  = Electricity that would have been supplied by the marginal power plant i in the absence of the CDM project j excluding the hydropower plants reservoir

$d_i$  = emission factor of the marginal power plant i

$GEN_{j,h}$  is the generation of the proposed CDM proposed project activity calculated as:

$GEN_{j,h} = \{EG_h(\text{CDM power plant j during hour h}) - \text{Energy stored by the reservoir hydropower plants due to the operation of the CDM power plant j during hour h} + \text{Energy previously stored at the hydropower plants reservoir and delivered during hour h}\}.$

**The Issues**

- 1) The proposed revision of the methodology cannot ensure through proper monitoring that the stored energy will be anyway used to generate electricity.
- 2) The moment at which the stored energy related to the operation of a given CDM project will be used to generate electricity for the grid shall be determined. It is needed in order to identify the power plants displaced due to the project activity at that hour, to determine whether they are fossil fuel based and to calculate the associated emission factor. The proposed revision of the methodology as it is does not address these issues.
- 3) The energy related to spillage of water should be deduced from the stored energy. The methodology does not include a mean to properly determine the amount of energy lost due to spillage and how to attribute it to different CDM projects.

**The only official dispatch data will not be able to address the issues raised above. Simulation of the model without the operation of the CDM project will be needed. This will lead to an approach completely different to those of AM0026 that is only based on official dispatch data. If the project proponents intend to use simulation for determining the baseline scenario, they have to submit a new methodology.**

**Answer to authors of the request for revision by the Meth Panel:**

Please use the space below to provide an answer to the authors of the above query

**We recommend not revising the methodology.**

**The Issues**

- 1) The proposed revision of the methodology cannot ensure through proper monitoring that the stored energy will be anyway used to generate electricity.
- 2) The moment at which the stored energy related to the operation of a given CDM project will be used to generate electricity for the grid shall be determined. It is needed in order to identify the power plants displaced due to the project activity at that hour, to determine whether they are fossil fuel based and to calculate the associated emission factor. The proposed revision of the methodology as it is does not address these issues.
- 3) The energy related to spillage of water should be deduced from the stored energy. The methodology does not include a mean to properly determine the amount of energy lost due to spillage and how to attribute it to different CDM projects.

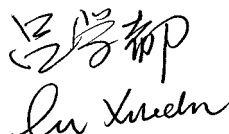
**The only official dispatch data will not be able to address the issues raised above. Simulation of the model without the operation of the CDM project will be needed. This will lead to an approach completely different to those of AM0026 that is only based on official dispatch data. If the project proponents intend to use simulation for determining the baseline scenario, they have to submit a new methodology.**



Signature of the Meth Panel Chair

Date: 30/03/2007

(Akihiro Kuroki)



Signature of the Meth Panel Vice-Chair

Date: 30/03/2007

(Xuedu Lu)

**Information to be completed by the secretariat**

F-CDM-AM	AM-CLA-0035
Name of the authors of the query:	Det Norske Veritas Certification Ltd. AS
Date when the form was received at UNFCCC secretariat	30 March 2007
Date of transmission to the EB	30 March 2007
Date of posting in the UNFCCC CDM web site	30 March 2007