

14 December, 2010

Re: Request for review of the request for issuance for the CDM project activity 'N₂O decomposition project of PetroChina Company Limited Liaoyang Petrochemical Company' (Ref. No. 1238)

Dear CDM Executive Board Members,

As Project Participant (PP) of the CDM project activity "N₂O decomposition project of PetroChina Company Limited Liaoyang Petrochemical Company" (UNFCCC Ref. No. 1238), we have been informed of the request for review on the request for issuance for the project's tenth Monitoring Report covering the period of 01 Dec 09 to 13 Mar 10.

We would also like to respond to the request for review and provide further explanation and information, as follows.

Reason for the request for review:

The calculation of Q_N₂O_by-pass, the N₂O emissions due to the by-pass of the decomposition facility, was based on the N₂O emissions calculated from the 0.27 tonne N₂O per tonne of adipic acid produced specified by the IPCC Good Practice Guidance, whereas the actual emission rate of the facility during this monitoring period is around 0.30 tonne N₂O per tonne of adipic acid produced. The DOE is requested to clarify how it verified the calculation of the project emissions and emission reductions.

PP response:

Pursuant to *Modalities and Procedures for a Clean Development Mechanism*, "A monitoring plan for a proposed project activity shall be based on a previously approved monitoring methodology", and "Project participants shall implement the monitoring plan contained in the registered project design document"¹.

Pursuant to Section VI of *Clean Development Mechanism Validation and Verification Manual*, during the verification, DOE shall "Ensure that actual monitoring systems and procedures comply with the monitoring systems and procedures described in the monitoring plan and the approved methodology" and "confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan in the PDD". Any revisions to existing Methodologies "shall not affect existing registered project activities during their crediting periods"².

Therefore, the implementation and monitoring, including the data process, of a project activity must follow the

¹ CONFERENCE OF THE PARTIES SERVING AS THE MEETING OF THE PARTIES TO THE KYOTO PROTOCOL, FCCC/KP/CMP/2005/8/Add.1, 30 March 2006, Decision 3/CMP.1, *Modalities and Procedures for a Clean Development Mechanism*, p. 17, paragraph 54 and p. 18, paragraph 56, <http://cdm.unfccc.int/Reference/COPMOP/08a01.pdf#page=31>.

² CONFERENCE OF THE PARTIES SERVING AS THE MEETING OF THE PARTIES TO THE KYOTO PROTOCOL, FCCC/KP/CMP/2005/8/Add.1, 30 March 2006, Decision 3/CMP.1, *Modalities and Procedures for a Clean Development Mechanism*, p. 15, paragraph 39, <http://cdm.unfccc.int/Reference/COPMOP/08a01.pdf#page=31>, and FCCC/KP/CMP/2008/11/Add.1, 19 March 2009, Decision 2/CMP.4, Further guidance relating to the clean development mechanism, p. 6, paragraph 14, <http://unfccc.int/resource/docs/2008/cmp4/eng/11a01.pdf#page=4>.

applied version of the appropriate methodology and the registered PDD. This project applies the approved methodology AM0021 version 1³, and was registered on 30 November, 2007.

On page 11 of the methodology AM0021 version 1, ID number 2a.8. $Q_{N_2O_by-pass}$, is defined as being “calculated from Q_{N_2O} and %_on-line”, and Q_{N_2O} is further defined in the comment column as “used to monitor the baseline of anthropogenic emissions”, which is “calculated by multiplying P_{AdOH} by $N_2O_{/AdOH}$ ”, while “ $N_2O_{/AdOH}$ (measured in t N_2O /t adipic acid) is the actual emissions rate capped by the lowest emission factor of 0.27 t N_2O per tonne of adipic acid produced specified by the IPCC Good Practice Guidance”.

In the registered PDD of this project, “ $Q_{N_2O_by-pass_y} = (Q_{N_2O} \times (1 - \%_{on-line}))$ ”, “ $Q_{N_2O_by-pass_y} = (P_{AdOH} \times N_2O_{/AdOH} \times (1 - \%_{on-line}))$ ”, “ $Q_{N_2O_y} = (P_{AdOH} \times N_2O_{/AdOH})_y$ ”, and, “ $N_2O_{/AdOH}$ (measured in t N_2O /t AdOH) is the actual emissions rate capped by the lowest emission factor KE_{N_2O} of 0.27 t N_2O per ton of adipic acid produced specified by the IPCC Good Practice Guidance.”

The registered PDD of the project complies with the applied methodology AM0021 version 1 in regards with the calculation of the N_2O emissions by-passing the decomposition facility ($Q_{N_2O_by-pass}$).

Therefore, the baseline N_2O emissions (Q_{N_2O}) must be used in its calculation of $Q_{N_2O_by-pass}$ as per the methodology AM0021 version 1 and the registered PDD of the project. It means that the N_2O emission factor ($N_2O_{/AdOH}$) used to calculate $Q_{N_2O_by-pass}$ must be the same $N_2O_{/AdOH}$ as used to calculate the baseline N_2O emissions. The $N_2O_{/AdOH}$ applicable to AM00021 version 1 is capped at 0.27 t N_2O /t AdOH, which is the most conservative estimation of the emission factor as it is the low end of the range (300 kg / t AdOH \pm 10%) specified by the IPCC Good Practice Guidance⁴.

In the monitoring report of this monitoring period (01/12/2009-13/03/2010), the baseline N_2O emissions were calculated as: $Q_{N_2O_y} = P_{AdOH} \times N_2O_{/AdOH}$, it is in accordance with the formula described in the registered PDD and AM0021 version 01.

The project N_2O emissions by-passing the decomposition facility were calculated as: $Q_{N_2O_by-pass_d} = (Q_{N_2O} \times (1 - \%_{on-line}))_d$, it is in accordance with the formula described in the registered PDD and AM0021 version 01.

As stated in the tenth monitoring report of this monitoring period (01/12/2009-13/03/2010), 0.27 kg N_2O /kg AdOH was applied as the value of $N_2O_{/AdOH}$ for this monitoring period due to the fact that the actual emission factor (around 0.30 kg N_2O / kg AdOH) in the monitoring period was higher than 0.27 kg N_2O /kg AdOH. The actual emission factors higher than 0.27 kg N_2O /kg AdOH was resulted in by the technical process of adipic acid production, it is consistent with the information specified by the IPCC Good Practice Guidance: emission factor varies within 300kg/t AdOH \pm 10% along with different feedstocks⁵. Therefore, pursuant to the methodology AM0021 version 1 and the registered PDD of the project, $Q_{N_2O_by-pass}$ should be calculated based on Q_{N_2O} , and Q_{N_2O} should be calculated from the cap emission factor of 0.27 kg N_2O /kg AdOH in this monitoring period.

Consequently, it is consistent with the applied methodology AM0021 version 1 and the registered PDD of the project to calculate the $Q_{N_2O_by-pass}$ using the emission factor of 0.27 kg N_2O /kg AdOH. The same

³ <http://cdm.unfccc.int/methodologies/DB/PC4EBQSJUB9IV2FS9TMQV8DFM3X6MZ>.

⁴IPCC Good Practice Guidance , Industrial Processes, p. 34, table 3.7,
http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml.

⁵IPCC Good Practice Guidance , Industrial Processes, p. 34, table 3.7,
http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml.

calculation approach of Q_{N_2O} -by-pass was applied in the other projects applying AM0021 version 1.

Calculating the project emissions, baseline emissions and emission reductions based on the above is in accordance with the applied methodology AM0021 version 1 and the registered PDD of the project. Because $N_2O/AdOH$ was capped by 0.27 kg N_2O / kg AdOH, while the actual emission rate of the facility during this monitoring period was around 0.30 kg N_2O / kg AdOH, the calculated emission reductions is conservative. The related data and information have been provided to DOE for verification.

Therefore, we consider the request for review does not lead to a revision to the monitoring report previously submitted for the request for issuance.

We hope that the above clarifications can address the concern of the Board Members and the request of CER issuance of this project can be approved. We will be also happy to provide further information if required by the Board.

Yours sincerely,

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