**Training-Workshop on CDM Post-registration Changes (PRCs)
and Programme of Activities (PoAs)
12-14 February 2014 - Pretoria, South Africa**

PRC Case Study 2- Temporary deviation from the registered monitoring plan and/or monitoring methodology

Guidance to carry out the case study

- Read the relevant information on the project activity and the reference regulatory documents provided for the case study.
- After reading the documents, discuss the questions asked within your group and then try to answer them individually.
- A plenary discussion will follow where selected members of your group can present your results.
- The facilitators will comment on your results and compare them with the ones suggested by the UNFCCC secretariat.

Case Study 2a

• Brief description of the project

The project activity is a CDM hydropower project registered on 30 January 2012. The electricity generated by the project is supplied to Qinglong 110kV substation, from which is dispatched to Xintang substation and then to the grid.

As described in the registered monitoring plan, the net electricity delivered to the grid is measured by the main meter M1 at Qinglong substation (as shown in fig. 1), while meter M2 at the project site is used for cross-checking. Meter M1 is a bidirectional meter with accuracy of 0.2S, and meter M2 is a bidirectional meter with accuracy 0.5Ss.

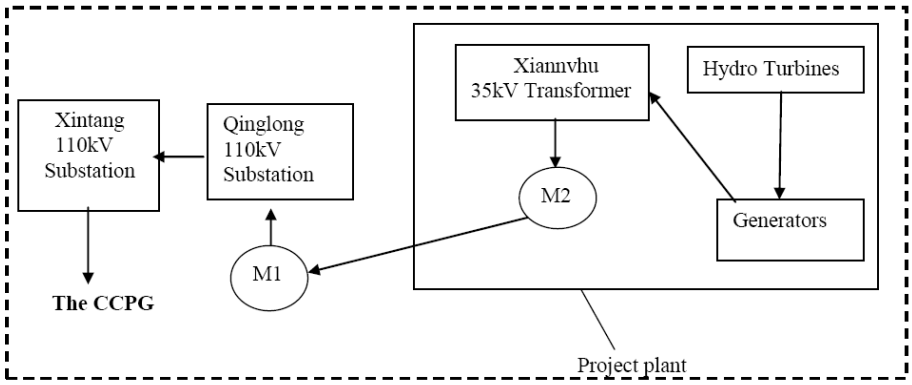

Fig1. The Situation in the Registered PDD

The post registration change (deviation from the monitoring plan)

After one year from the registration, the Project Participant (PP) initiated the first verification round and started drafting the monitoring report covering the one year monitoring period 30/01/2012 – 31/01/2013.

The PP reported that during the period 30/01/2012 - 31/12/2012, the meter M1 at the Qinglong substation, which is not in PP control, was not put into operation by the grid company (as shown in fig. 2), and that meter M3 at Xingtang substation, which is 10 km further away from Qinglong sub-station from the project plant, was used instead to measure the net electricity supplied to the grid.

Meters M2 and M3 are bi-directional meters and have accuracy class of 0.5S and 0.2S respectively.

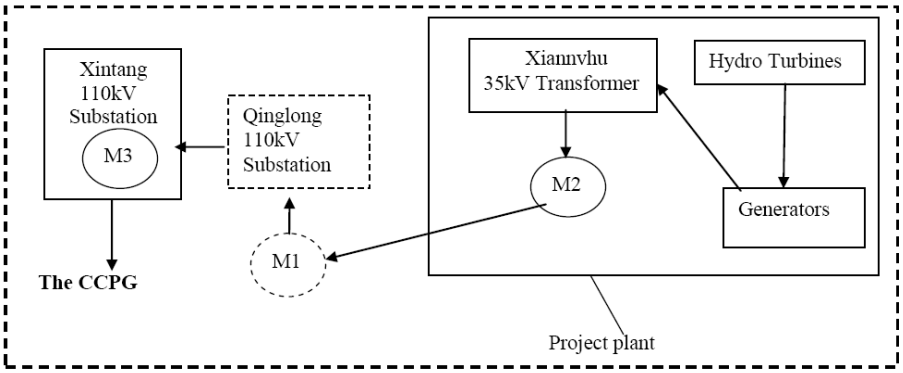

Fig2. The situation in the first Monitoring Period

The PP also confirmed that meter M1 at Qinglong substation was installed and put into operation on 01/01/2013.

- ## Reference regulatory documents

1. *CDM Validation and Verification Standard (VVS) / paragraph 247-256*
2. *CDM Project Standard (PS) / paragraph 203; 205; 206-208, Appendix I*
3. *CDM Project Cycle Procedure (PCP) / paragraph 128 (a); 130 (a, b); 131-136; 137-148, 150-152*
4. *Methodology AMS-I.D ver. 13, para 13*

- ## Questions:

1. Has the PP described the nature, extent, and duration of the non-confirming monitoring and the proposed alternative monitoring of the project activity? (PS para. 212)

2. Has the PP applied conservative assumptions or discount factors to the calculations to the extent required to ensure that GHG emission reductions will not be over-estimated as a result of the deviation? (PS para. 214)?
3. Is the post registration change (temporary deviation) of a nature that does not require prior approval by the Board, i.e. falling under Appendix 1 of the PS?

Case Study 2b

• Brief description of the project

The project installs a LFG collection, flaring and utilization system in ACME landfill, Rio de Janeiro, Brazil. The LFG will be used to generate electricity (10 MW) and any excess will be flared. The electricity generated (estimated 80,000 MWh/year) is supplied to the national grid.

The project installed the LFG extraction system, three (3) blowers and three (3) flaring units in February 2009. In March 2010 the project installed the 10MW generator and connected to the grid in August 2010. However, due to delay of the PPA negotiation, until May 2012, the project did not supply any electricity to grid; it only imported electricity for the landfill operation and flared the captured LFG.

As per registered monitoring plan, the electricity consumed by the project (ECPJ,EG,y) is monitored by an electricity meter installed at the project site.

The project was registered on 13/11/2010.

The post registration change (deviation from the monitoring plan)

The PP intends to request a first CER issuance for the monitoring period 13/11/2010 – 30/09/2011. However, during this period they were not able monitor the electricity consumption as per registered PDD, since the meter measuring electricity import from the grid was installed only in May 2012, after execution of the PPA with the grid authority.

No monitored data related to project GHG emission from electricity consumption are available for the whole monitoring period.

The total electricity consumption capacity of the LFG plant is 0.065MW. Electricity consumption bills are available from the grid.

The PP decides to treat the temporary deviation from the monitoring plan in line with paragraph 3 of Appendix 1 to the Project Standard, and to request the approval of the temporary deviation within the request for issuance.

• Reference regulatory documents

1. *CDM Validation and Verification Standard (VVS) / paragraph 247-256*
2. *CDM Project Standard (PS) / paragraph 203; 205; 206-208, Appendix I*

3. *CDM Project Cycle Procedure (PCP) / paragraph 128 (a); 130 (a, b); 131-136; 137-148, 150-152*
4. *Tool to calculate baseline, project and/or leakage emissions from electricity consumption version 1, page 3 and 11*

- **Questions:**

1. Is the PP right in deciding that the post registration change (temporary deviation) does not require prior approval by the Board, i.e. falling under Appendix 1 of the PS? (Appendix 1, PS 5.0)
2. How shall the PP estimate the project emission from electricity consumption? (Para 3, Appendix 1, PS 5.0). Discuss the equation to use.
3. What documents/evidence shall be provided to the verifying DOE to support the PP estimation/calculation of the project emission from electricity consumption?

Case Study 2c

- **Brief description of the project**

The project activity involves the implementation of an Animal Waste Management System in several swine farms in Paraguay for methane recovery and utilisation. The project installs at each swine farm a new covered anaerobic reactor to recover biogas from animal waste for electricity production in a 500kW gas engine and flaring.

As described in the registered PDD, the "amount of methane recovered and used as fuel or combusted shall be monitored, using flow meter and analyzing the methane content of the combusted gases either online, or with samples at least quarterly, and more frequently if the results show significant deviations from previous values", in line with the applied methodology AMS-III.D (v. 09).

The post registration change (deviation from the monitoring plan)

The PP intends to request a first CER issuance for the monitoring period 01/09/2008 – 31/08/2010. During the whole monitoring period only two measurements of methane content were carried out, on 28/11/2008 and 25/05/2009, which is not in line with the requirement of the monitoring plan and the applied methodology, i.e. quarterly analysis.

Since the PP were temporarily unable to monitor the CH4 content in line the methodology requirement, they decided to apply a conservative value for the whole monitoring period.

The PP proposes to apply for the whole monitoring period the default methane content value of 60% stipulated in version 16 of AMS-III.D: "The fraction of methane in the biogas should be measured with a continuous analyser or, with periodical measurements at a 90/10 confidence/precision level or, alternatively a default value of 60% methane content can be used".

As determined by the PP, using the 60% default value would not result in an over-estimation of the project emission reductions as the lowest methane content value measured during the monitoring period was 75.12%.

The PP resumed quarterly monitoring of CH4 content from 06/2009 onwards.

• Reference regulatory documents

1. *CDM Validation and Verification Standard (VVS) / paragraph 247-256*
2. *CDM Project Standard (PS) / paragraph 203; 205; 206-208, Appendix I*
3. *CDM Project Cycle Procedure (PCP) / paragraph 128 (a); 130 (a, b); 131-136; 137-148, 150-152*
4. *Methodology AMS-III.D ver.16, para 26*

• Questions:

1. Is the post registration change (temporary deviation) of a nature that does not require prior approval by the Board, i.e. falling under Appendix 1 of the PS?
2. Has the PP applied conservative assumptions or discount factors to the calculations to the extent required to ensure that GHG emission reductions will not be over-estimated as a result of the deviation? (PS para. 214)?
3. Is the argumentation used by the PP in support of the chosen default value strong enough? What documents/evidence shall be provided to the verifying DOE to support the PP estimation?