

## **Clarifications for the request for revision of monitoring plan**

### **Jincheng Sihe Coal Mine CMM Generation Project (1896)**

#### **Section 1. Description of requested revision.**

The requested revision consists in changes in the Section B.7. of the registered PDD (Version 8.0, 20 April 2009) which are described below.

##### Changes in the Section B.7.1.:

1. The correction of the accuracy level of the methane concentration meters (used to monitor  $PC_{CH_4,y}$ ). Please find the rational of this correction in Section 2 of these clarifications below.
2. The revision regarding the monitoring parameters  $MM_{ELEC}$ ,  $MM_{total,y}$  and  $MM_{release,y}$  clarifying that the measurement of methane in mass units are using temperature transmitters, pressure transmitters and gas concentration meters in addition to the gas flow meters.
3. The correction in the description of the measurement methods and QA/QC procedures for  $PC_{NMHC,y}$  clarifying that the measurement of  $PC_{NMHC,y}$  is implemented by a qualified laboratory annually based on gas samples.
4. The revision of the QA/QC procedures for the parameters  $GEN_{1,y}$  and  $GEN_{2,y}$  clarifying the metering equipment and/or sources of data used for emission reductions calculation and for cross-checking purposes.

##### Changes in the Section B.7.2.:

5. The Table 1 “Monitoring meters and parameters” is added to provide a clear and complete list of the monitoring meters, corresponding parameters measured and installed location. The Table 1 separately indicates the monitoring meters providing data used for calculation of emission reductions and the monitoring meters providing data not used for calculation of emission reductions (e.g., used for cross-checking purposes).
6. The Figure 3 is completed by additional details regarding the location of installed meters.
7. The clarification on the consolidated monitoring for pre-mining CMM and post-mining CMM through the parameters  $MM_{ELEC}$ ,  $MM_{total,y}$  and  $MM_{release,y}$  given that a common extraction system is used in the underground mine.

## **Section 2. Clarification of the rational for the correction of the accuracy level of the methane concentration meters**

The monitoring plan of the approved methodology ACM0008 (Version 03) applied to the project does not contain any requirement in terms of the accuracy of the methane concentration meter.

At the stage of project design and PDD preparation, the project entity (JMC) assumed that concentration meters with the level of accuracy of  $\pm 1.5\%$  (1.5S) would be readily available on the market. Thus, the monitoring plan of the registered PDD states that concentration meters with an accuracy of  $\pm 1.5\%$  (1.5S) will be applied to measure the parameter  $PC_{CH_4,y}$ .

However, further market assessments at the stage of project implementation, indicated that the measurement with the accuracy level of  $\pm 1.5\%$  was not feasible in practice. Thus, in accordance with the requirements by the methodology and the VVM, the relevant national standards and regulation<sup>1</sup> are followed by the project entity in selecting, operating and maintaining the concentration meters. Currently, the highest accuracy of methane concentration meters installed and used for emission reduction calculation is of  $\pm 2.0\%$  of full scale (not including calibration accuracy)<sup>2</sup>.

The accuracy level of  $\pm 1.5\%$  is not feasible in practice for the following main reasons:

- There is no company or institute in China with technical capacity to inspect and/or calibrate concentration meters with an accuracy level of  $\pm 1.5\%$ . This is supported by several accredited independent organizations and institutions (the full statements as well as the English translation of the relevant section of the statements are provided in the Annex):
  - The Chongqing Branch of China Coal Research Institute (CBCCRI) indicated that according to the current national standard and regulation, the accuracy requirement for the thermal-conduction methane concentration meter is of  $\pm 10\%$  and for the infrared methane concentration meter is of  $\pm 7\%$ . Also, the highest accuracy level for inspection and calibration of the methane concentration meter is limited up to  $\pm 2\%$  -  $\pm 3\%$ . The CBCCRI is an independent accredited organization and the developer of the feasibility study report for the Jincheng Sihe CMM Utilization project (August 2004).<sup>3</sup>
  - The Jincheng Qiantai Safety Technology Company Ltd., an accredited company specialized in calibration and inspection services for metering equipment, including concentration meters, confirms that  $\pm 2\%$  -  $\pm 3\%$  is the highest accuracy level for calibration of concentration

---

<sup>1</sup> AQ 6204-2006 – China Industrial Standard of Production Safety for Thermal-Conduction Methane Concentration Meter (Methane Transducer) published by General Bureau of National Production Safety Supervision and Management (02/11/2006). AQ 6211-2008 China Industrial Standard of Production Safety for Coal Mine Non-dispersive Infrared Methane Concentration Meter (Methane Transducer) published by General Bureau of National Production Safety Supervision and Management (19/11/2008).

<sup>2</sup> Manufacturer's Operating Manual (Guardian Plus Infra-Red Gas Monitor Operating Manual, Issue: 1.4, Edinburgh Instruments Limited, UK).

<sup>3</sup> Statement of Chongqing Branch of China Coal Research Institute, dated 12/10/2009.

meters in China and the accuracy level of the domestically produced metering equipment ranges from  $\pm 7\%$  to  $\pm 10\%$ .<sup>4</sup>

- The concentration meters with accuracy level of  $\pm 1.5\%$  are not available in the Chinese market. This can be confirmed by the following:
  - As the result of the procurement process conducted by the Equipment Supply Station of JMC, no proposals matched the required accuracy of  $\pm 1.5\%$ .<sup>5</sup>
  - The Beijing Shidai Taoyuan Environment Technology Company Ltd. (BSTETC) states that the  $\pm 2\%$  is the highest accuracy level for concentration meters available in the Chinese market considering both domestic products and products imported from overseas. BSTETC is one of the largest five companies who conduct dealer business on environmental monitoring meters. The company is supplying the meters to JMC.<sup>6</sup>
  - The concentration meters that JMC has applied to the project (with accuracy level of  $\pm 2\%$  and which are used for ER calculations) had been used in several other registered CDM projects in China and proven to be stable and of good quality. The following registered CDM projects of similar type are successfully using this type of gas concentration meters:
    - Yangquan Coal Mine Methane (CMM) Utilization for Power Generation Project (0892);
    - Huaibei Haizi and Luling Coal Mine Methane Utilization Project (0770);
    - Shanxi Datuhe Coal Mine Methane Utilization Project (1801);
    - Shanxi Liulin Coal Mine Methane Utilization Project (1230).

---

<sup>4</sup> Statement of Jincheng Qiantai Safety Technology Company Ltd., dated 12/10/2009.

<sup>5</sup> Letter from JMC Equipment Supply Department, dated 30/11/2007.

<sup>6</sup> Statement of Beijing Shidai Taoyuan Environment Technology Company Ltd., dated 19/02/2010.