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Response to Request for Review

Dear Sirs,

Please find below the response to the review formulated for the CDM project with the title "*Longzhou 1st Hydro Power Project*" with the registration number 1858. In case you have any further inquiries please let us know as we kindly assist you.

Yours sincerely,

Javier Castro
Carbon Management Service

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Response to the CDM Executive Board

Issue 1

The DOE shall clarify how it has validated that the input values used in the investment analysis are appropriate in the economic context of the underlying project activity, including the use of fixed input values in the IRR calculation, following the guidance provided in EB 38 paragraph 54. In doing so, the DOE may use actual contracts, invoices and payments made already to cross check the estimated input values.

Response by TÜV SÜD

TÜV SÜD is strongly convinced that applying fixed input values (tariffs and O&M costs) in the IRR calculation is appropriate in the context of the project activity. There are a number of reasons which lead to this conclusion, demonstrated here for case 1858.

The main reason is:

- The project **applies the benchmark SL-16-95, Economic Evaluation Code for Small Hydropower Projects, P.R.China Industry Standard, standard no. SL16-1995**, as attached to the request for review response as enclosure 2. According to this document, it can be clearly seen that the parameters used in the calculation should be constant throughout the assessment period. In order to comply with the benchmark criteria ""*In the financial evaluation, when calculating input and output, the current price shall be used".*
  In CDM assessment, TÜV SÜD has reviewed dozens of Feasibility reports of renewable energy projects in China. It can be confirmed that the **above guideline is consistently applied as common practice in China;** all feasibility studies make use of fixed input parameters for O&M and tariff.

  In addition, actual contracts, invoices and payments which were quoted by PP are validated by DOE.

Further reasons are:

- The Chinese electricity market was liberated in 2002. Since then, the electricity tariff is still regulated by the national authorities. The on-grid tariff of the proposed project is supposed to be 0.16 RMB/kWh in the rainy season and 0.25 RMB/kWh in the dry season, but the final price is regulated by the Price Bureau. In 2005, Chongzuo Price Bureau published the adjusted scheme of on-grid tariff for small scale hydropower plants in Longzhou County, in which it was clearly mentioned that the tariff would be 0.15 RMB/kWh. Thus TÜV SÜD assessment team is quite confident the input value of electricity tariff applied in the IRR calculation is more conservative. The value is reasonable to be taken as estimation.

- On the other hand, there are a number of indicators suggesting that O&M costs are rising as time goes by. Considering those rising O&M costs appears to be not relevant in CDM context, as it can be considered a conservative approach to apply a constant

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O&M cost. Referring the wage index of Guangxi province, the *China Statics Year Books 2003-2007* reveal an average increase of in salaries of 10.64%. All other assumptions made to calculate the O&M costs, are consistently applying the guidance of the benchmark document. In certain aspects, the project uses conservative approaches. The Purchase contract of materials and the sample wage record were verified by the assessment team. The actual expenses for both are higher than the value estimated in PDR.

- Furthermore, the actual investment was also higher than the value in PDR. Some main contracts and invoices were checked and verified by the assessment team.

To conclude, TÜV SÜD likes to stress that the input values applied in PDR are more conservative. Such kind of estimation deems to be reasonable. The applied benchmark assessing the projects financial viability clearly suggests applying fixed values for the calculation. Further, as current trends show, the revenues, depending on the tariff, are likely to stay constant, while at the same time the O&M costs are likely to increase significantly – a trend which leads to the conclusion that currently applied calculation methods applying fixed parameters can be considered a conservative approach in the CDM context.

Issue 2

The PP/DOE is requested to clarify how it has validated WTE_y to be maximum of WTE_{actual} and $WTE_{estimated}$ as required by paragraph 10 of AMS- I.D. (version 12).

Response by TÜV SÜD

For the ex-ante calculation of emissions reductions, the value used for WTE_y is taken as $WTE_{estimated}$, which is defined as the maximum annual electricity generation of the Yashuitan Hydroelectric Station collected in the most recent available 5 years (2002-2006) (see response to Issue 3 from the project participants). As WTE_{actual} is based on monitored data which does not exist prior to the commissioning of the project, WTE_{actual} ex-ante is the same as $WTE_{estimated}$. However, the actual electricity supplied to grid by the existing Yashuitan Hydroelectric Station in year y will be measured during the crediting period as parameter WTE_{actual}. For ex-post calculations, in accordance with AMS- I.D. (version 12), WTE_y will be the maximum of WTE_{actual} and $WTE_{estimated}$ as stated in Section B.6.3 of the PDD.

Issue 3

PP/ DOE are requested to clarify how the emission reductions can be calculated without monitoring $WTE_{estimated}$ and auxiliary consumption.

Response by TÜV SÜD

The net electricity generation will be calculated and monitored for the proposed project. This issue has been double checked by TÜV SÜD assessment team. Auxiliary consumption, if taking place, is already deducted from the record of bi-directional meter.

Since this is an expanded hydropower project, the Yashuitan Hydroelectric Station is still in operation and will continue to do so once the proposed project will start operating. The electrici-

ty generation by the existing hydropower station should be considered in the determination of the baseline emissions. $WTE_{estimated,y}$ is maximum value from the data collected in the most recent available 5 years as the real estimation based on measurement of the water flow is extremely difficult due to missing clear information of the flow and its impact on the electricity produced in the existing hydropower station. In conclusion, the maximum value is taken as the most conservative estimation without doubt.