RESPONSE TO THE REVIEW REQUEST

Bureau Veritas Certification (formerly BVQI) had performed the validation of the CDM Project 1422- "Heilongjiang Daqing Ruihao Wind Farm Project". Subsequently, there were three requests for review.

Our responses to the review requests raised are given below:

Issue 1 for request for review
The DOE is requested to clarify how it has validated the input values to the investment analysis as per VVM, para. 111 including, the item 'material', 'other cost' and the annual increase of 'maintenance cost' while all other input values are fixed for the investment analysis.
BVC has verified that the investment analysis and found that the input values including the item "material", "other cost", and "maintenance cost" used to calculate the annual O&M cost are all taken from the Supplementary FSR which was carried out by an authorized third party viz. *Heilongjiang Electric Power Design& Research Institute* granted as a top class design institute in the power industry by the government of the host country. By checking the supplementary FSR, BVC confirms that the supplementary FSR refer to: -Codes on Compiling Feasibility Study Report of Wind Farms[1]; -Preparation Rules and Calculation Standard for Budgetary Estimation of Wind Power Projects Feasibility Study Report issued by NDRC[2]; -Economic Evaluation Method and Parameters for Project Construction (version 3). Therefore, BVC confirms that the input values from the Supplementary FSR were valid and applicable at the time of the investment decision. According to the relevant evidence provided, BVC has confirmed that: the PP's final decision to proceed with the investment in the Project has been made based on the FSR finalized in Aug. 2006. Later, after noticing the un-achievable estimated tariff in FSR, and based on the internal assessment on the FSR, PP decided to invest the project soon on 08/12/2006 with CDM consideration. The period of time between the finalization of the FSR and the investment decision is quite short that BVC can confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed, which is in line with the VVM, para. 111 (a). BVC has compared the key input values for the financial analysis in the PDD and supplementary FSR, and confirmed that the investment analysis is in accordance with VVM, Para. 111 (b), i.e. all the input values used to calculate the annual O&M cost including the item "material", "other cost", and "maintenance cost" etc. are taken from the Supplementary FSR. According to the Codes on *Compiling Feasibility Study Report of Wind Farms*, the 'other fee', 'materials fee' and "maintenance cost" are the components of the O & M costs. Based on Economic Evaluation Method and Parameters for Project Construction (version 3), an increase of maintenance cost could be applied over the operation period.

1 http://www.cbmei.cn/Article/ShowArticle.asp?ArticleID=1621
2 http://www.windpower.org.cn/news/links/js_2005_0508.htm

A letter of the presentation about the “other fee”, “materials fee” and “maintenance cost” from the *Heilongjiang Electric Power Design& Research Institute* declares that “other fee”, “materials fee” and “maintenance cost” were estimated based on consideration of actual situation of nearby operated wind farms and the characteristics of the Project specific situation, and the values of “materials fee”, ”other fee” are 5RMB/kW and 25RMB/kW, respectively.

-The ‘other fee’ of the Project includes the business travel, office expenses, training fees, daily transport costs and union fees.

-During the operation period, the maintenance cost, including the repair cost and replacement of parts, will be increased due to the equipment will be aging as the time goes by.

The suitability of value on “other fee”, “materials fee” and “maintenance cost” used in the FSR has been evaluated by experts and approved by Heilongjiang Development and Reform Committee.

Furthermore, BVC has checked the registered CDM wind power projects in Heilongjiang Province and listed as follows:

Table 1 Material Fee, Other Fee and Maintenance fee used in registered CDM wind power projects in Heilongjiang Province

No	Project	Material fee (RMB/kW)	Other Fee (RMB/kW)	Maintenance fee	Average Maintenance fee
1	Yichun Daqingshan Wind Power Project (Ref. No. 829)	0	104.77	0.4% in the second and third year, 1.4% in the forth year, and then increase by 8% each year	6.91%
2	Heilongjiang Huafu Muling Wind Farm (Ref. No. 906)	Not available	Not available	Not available	Not available
3	Yichun Shimaodingzi Wind Power Project (Ref. No. 969)	5	50	1.5% in the first year, and then increase by 8% each year	7.675%
4	Yichun Erduoyan Wind Power Project (Ref. No. 1147)	5	50	1.5% in the first year, and then increase by 8% each year	7.675%
5	Wuerguli 30 MW Wind Power Project (Ref. No. 1209)	0	0	0.57% (Year 1), 1.08% (Year 2-4), 1.25% (Year 5-9), 2.00% (Year 10-14), 2.57 (Year 15-20)	1.774%
6	Heilongjiang Yilan Maanshan Wind Power Project (Ref. No. 2035)	0	80	1.6% in the first ten years, and 2.4% in the last ten years	2%
7	Guohua Qiqihaer Fuyu 1 st Stage	Not available	Not available	Not available	Not available

	Wind Farm Project (Ref. No. 1310)				
8	Heilongjiang Huanan Hengdaishan East Wind Power Project (Ref. No. 2056)	15	60	1.5% in the first year, and then increase by 5% each year.	1.57%
9	Heilongjiang Huanan Hengdaishan West Wind Power Project (Ref. No. 2200)	10	50	1.5% in the first year, and then increase by 5% each year.	1.57%
10	Heilongjiang Dajiazishan 49.5MW Wind Power Project (Ref. No. 2032)	10	30	1.5% in whole period	1.5%
11	Heilongjiang Beiantun 49.5MW Wind Power Project (Ref. No. 2049)	10	30	1.5% in whole period	1.5%
12	Heilongjiang Shiwenzi Wind Farm Project (Ref. No. 1816)	0	0	0.57% (Year 1), 1.08% (Year 2-4), 1.25% (Year 5-9), 2.00% (Year 10-14), 2.57 (Year 15-20)	1.774%
	Average	**5.5**	**45.477**		**3.57%**
	The Project	5	25	0.57% (Year 2-3), 1.08 (Year 4-6),1.25 (Year 7-11),2.00 (Year 12-16), 2.57 (Year 17-21)	1.61%

From above table, we can find that the material fee, other fee and maintenance fee used by the Project are all less than the average one of registered CDM wind power projects located in Heilong Province. And most of the wind power projects have adopted increase maintenance fee, which indicates that adopted increase maintenance fee is common practice in Heilongjiang Province.

Furthermore, even if using the lowest value for material fee, other fee and fixed maintenance fee listed in above table, i.e. zero for material fee and other fee, 1.5% for maintenance fee during the whole period, the IRR of the Project is 7.21%, still less than the benchmark.

Therefore, BVC can confirm that the input values to the investment analysis, including the material fee, other fee and maintenance cost with annual increase rate is appropriate and in accordance with the requirement of VVV Para. 111(c).

Issue 2 for request for review

The DOE is requested to further explain how it has validated the application of a 0.4882 factor for energy production in the year 2 of the investment analysis as appropriate.

Bureau Veritas Certification's response:

BVC has verified that the investment analysis and found that the treatment of a 0.4882 factor for energy production in the year 2 of the investment analysis is taken from the supplementary FSR conducted by a qualified third party, *Heilongjiang Electric Power Design& Research Institute*.

As indicated in the validation report submitted for request for registration: in the approved FSR, 33 domestic wind turbines with unit capacity of 1,500kW was supposed to be employed by the Project, however, as the wind turbine supply constraint, there is not enough wind turbine with unit capacity of 1,500kW available, PP finally purchased wind turbines from three manufacturers as an alternative, i.e.

- 10 units with installed unit capacity of 1000kW of DW1.0/56 from Wuhan Guoce,
- 10 units with installed unit capacity of 1500 kW of HFD1500(77) from Hadian, and
- 16 units with installed unit capacity of 1500 kW of HV-1500 from Shenyang Gongda.

The actual total installed capacity is therefore changes from 49.5MW to 49MW, and a supplementary FSR was carried out by the same design institute (Heilongjiang Electric Power Design& Research Institute) to reflect the actual situation of the Project.

As per Guidance on the Assessment of Investment Analysis (version 2), Para. 3, "a minimum period of 10 years and a maximum of 20 years will be appropriate." Therefore, the assessment period of 20years for the Project was chosen appropriate.

A letter of the presentation about the 0.4882 factor for energy production in the year 2 of investment analysis from the *Heilongjiang Electric Power Design& Research Institute* declares that: According to the Economic Evaluation Method and Parameters for Project Construction (version 3) page 84, "the evaluation period comprises construction period and operation period, and the operation period is divided into commissioning period and full capacity operation period". During the period of compiling supplementary FSR, with communication with the PP, the FSR conductor recognized that the installation period of the Project would be longer than other wind power projects due to the changing type of wind turbines, comprehensive consideration the time of delivery, local climate, installation of wind turbines and the commissioning of wind turbines. Therefore, 0.4882 was chosen for the year 2 of investment analysis.

Even if using the 1 as the factor for energy production in the year 2 of investment analysis, the IRR of the Project is 7.61%, still less than the benchmark.

Therefore, BVC can confirm that 0.4882 factor for energy production in the year 2 of the investment analysis from the supplementary FSR is appropriate.

Issue 3 for request for review

The DOE is requested to further explain how the proposed tariff has been determined for the project activity and provide an assessment as to whether the net return to the investor has been reduced as a result of any reduction in tariffs over recent years, or whether the net return has been unaffected as a result of other changes such as investment costs.

Bureau Veritas Certification's response:

BVC has checked the information on wind power projects exporting electricity to Heilongjiang Provincial Grid and the tariff documents for wind power projects issued by China's

government, the tariff for wind power projects exporting electricity to Heilongjiang Provincial Grid are summarized in the following table 2:

Table 2 Tariff for wind power projects in Heilongjiang Province

No	Project	Tariff (RMB/kWh,Incl. VAT)	Document No.	Tariff determined time	Commissioning date	CDM project or Not?
1	Heilongjiang Mulan Wind Power Project	0.78	Hei Jia Ge Zi [2004]233	2004	Dec. 2003	No
2	Heilongjiang Fujin Wind Power Project	0.79	Hei Jia Ge Zi [2004]226	2004	Sep. 2004	No
3	Yichun Daqingshan Wind Power Project (UNFCCC Ref. No. 0829)	0.72	Hei Jia Ge Zi [2005]270	2005	Dec. 2005	Yes
4	Heilongjiang Huafu Muling Wind Farm (UNFCCC Ref. No. 0906)	0.72	Hei Jia Ge Zi [2005]267	2005	Dec. 2005	Yes
5	Yichun Shimaodingzi Wind Power Project (UNFCCC Ref. No. 1147)	0.72	Hei Jia Ge Zi [2005]270	2005	Nov. 2006	Yes
6	Yichun Erduoyan Wind Power Project (UNFCCC Ref. No. 0969)	0.72	Hei Jia Ge Zi [2005]270	2005	May 2007	Yes
7	Heilongjiang Muling Daimagou Wind farm Project (under validation)	0.61	Hei Jia Ge Zi [2007]194	Sep. 2007	Dec. 2006	Yes
8	Heilongjiang Muling Ganmianshi Wind farm Project (under validation)	0.61	Hei Jia Ge Zi [2007]194	Sep. 2007	Dec. 2006	Yes
9	Wuerguli 30 MW Wind Power Project (UNFCCC Ref. No. 1209, the Project)	0.61	Fa Gai Jia ge [2007]3303	Dec. 2007	Nov. 2007	Yes
10	Yichun Xiaochengshan Wind Power Project (UNFCCC Ref. No. 2312)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
11	Heilongjiang Yilan Maanshan Wind Power	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes

	Project (UNFCCC Ref. No. 2035)					
12	Heilongjiang Fujin Phase II 18MW Wind Power Project (UNFCCC Ref. No. 1866)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
13	Heilongjiang Yilan Hezuolinchang Wind Power Project (UNFCCC Ref. No. 2062)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
14	Guohua Qiqihaer Fuyu 1st Stage Wind Farm Project (UNFCCC Ref. No. 1310)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
15	Heilongjiang Huanan Hengdaishan East Wind Power Project (UNFCCC Ref. No. 2056)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Mar. 2008	Yes
16	Heilongjiang Huanan Hengdaishan West Wind Power Project (UNFCCC Ref. No. 2200)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Jul. 2008	Yes
17	Heilongjiang Yilan Hezuolinchang Phase II Wind Power Project (UNFCCC Ref. No. 2117)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Oct. 2008	Yes
18	Heilongjiang Dajiazishan 49.5MW Wind Power Project (UNFCCC Ref. No. 2032)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008	Yes
19	Heilongjiang Beiantun 49.5MW Wind Power Project (UNFCCC Ref. No. 2049)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008 /19/	Yes
20	Heilongjiang Fujin 48MW Wind Power Project (UNFCCC Ref. No. 2573)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008	Yes
21	**Heilongjiang Daqing Ruihao Wind Farm Project (UNFCCC Ref. No. 1422, the Project)**	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008	Yes

22	Heilongjiang Fuyuan Wind Power Project (UNFCCC Ref. No. 2775)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Mar. 2009	Yes
23	Heilongjiang Huanan Hengdaishan East (II) Wind Power Project (UNFCCC Ref. No. 2124)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	May 2009	Yes
24	Heilongjiang Mudanjiang Xiaoguokui Wind Power Project (UNFCCC Ref. No. 2774)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	May 2009	Yes
25	Heilongjiang Shaobaishan Wind Power Project (UNFCCC Ref. No. 2777)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Under construction	Yes
26	Heilongjiang Dabaishan Wind Power Project(UNFCCC Ref. No. 2776)	0.61	Fa Gai Jia ge [2008] 1876	Jul. 2008	Under construction	Yes
27	Heilongjiang Wuerguli Wind Power Project (UNFCCC Ref. No. 2152)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Oct. 2008	Yes
28	Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
29	Heilongjiang Shiwenzi Wind Farm Project (UNFCCC Ref. No. 1816)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
30	Heilongjiang Yilan Jiguanlazishan Wind Farm Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
31	Heilongjiang Yilan Fuqiang Wind Power Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
32	Heilongjiang Yilan Chenguang Wind Power Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
33	Heilongjiang Hailin Weihushan Wind Power Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes

34	Heilongjiang Hailin Weihushan Phase II Wind Power Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
35	Heilongjiang Huachuan Sujiadian Wind Power Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
36	Heilongjiang Huanan Yimashan Wind Power Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
37	Heilongjiang Yilan Maoyangou Changjiangtun Wind Power Project (under validation)	0.61	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes

With the available data source, the validation team can find there are total 37 wind power projects exporting electricity to Heilongjiang Provincial Grid since 2002. Almost all of the projects are CDM projects except for Project No. 1 and No. 2 listed in above table. However, there are significant distinctions among these two projects and the proposed project activity as analyzed in the common practice of the PDD, i.e. both projects are demonstration projects, benefited from more favorable financial policy, which were funded by national soft loan and international low interest loan respectively, while the proposed project activity does not enjoy these favorable policies. Thus these two projects are not comparable to the proposed project.

The determination of tariffs in China is a result of sovereign government decision-making. The project participants cannot impact Chinese government policy regarding tariffs and they can only make decision on whether to invest on the Project or not based on the tariff guided by government.

To make the explanation on tariff more clearly, the validation team study on the information on wind power project and here illustrates the wind power development process as follows:

- During 2002, a reform for electric power system in China, *Electric Power System Reform* was issued by China State Council dated 10/02/2002, which breaks the state-monopoly of the electric supply system, separates electric power generation and electric grid operation into sectors..

- China's government issued the *Renewable Energy Law* and *Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy* (Document No. Fa Gai Jia Ge [2006]7) in 2006, so that increase the domestic rate of wind power equipment, reduce wind power generation cost and stimulate the investment incentives. From then on, the tariff of most wind power projects began to be approved by national government and the wind power projects increased rapidly in China.

To the extent that a reduction in tariffs has occurred for government approved, the origin of such a reduction lies in a number of factors, in particular with encouraging policy for wind power development, the maturing of the technology globally and increasing domestically manufactured technology penetration.

✌ *Law of the People's Republic of China on Renewable Energies* in 2006,

a) Item 14, it is regulated that the grid company shall sign Power Purchase Agreement with the project owner of renewable power project, to take over all electricity generated by renewable power project and provide grid connected service for renewable energy

project.

b) Item 24 and 25, the government should set up special capital for renewable energy to support the development of renewable energy project including stimulation on the domestic production of renewable utilization equipment.

- The *Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy* was issued by China NDRC in Jan. 2006 aiming to stimulate the development of renewable power project including wind power project. It is stated that the tariff of wind power should be guided by government.
- In Nov. 2006, the *Notice for Stimulate Wind Power Development* was issued by NDRC, (Fa Gai Jia Ge [2006]2535), it is regulated to establish industrialization system for wind power project, to enhance the evaluation of wind source, and to construction grid for wind power project so that the wind power can be developed smoothly.
- In Jan. 2007, China issued *Temporary Measures of Income regulation of Renewable Energy Power*, to guarantee the tariff for renewable energy project can be implemented smoothly.

At the early stage of wind development, most of the wind turbines were imported and the technology in domestic was comparatively dropped behind, thus at that time the investment for wind equipment imported abroad was comparatively higher than that of the domestic-made; furthermore, the technology for operation and maintenance of wind turbines was not very advanced at that time thus the relevant cost was higher.

However, in recent years, with the development of wind power, the overseas manufacturer began to set up factory in China; furthermore encouraged by favorable policies, the Chinese domestic wind turbine manufacturers contributes their efforts in the technology developing, the wind power technology and equipment maintenance becomes more and more mature, and domestic wind turbines have been introduced more and more to some extent, e.g. the market share addition for domestic manufacturers from 2004 to 2007 was 25%, 29.4%, 41.3%, and 55.9% respectively; according to Mr. Luo Zhihong, from China Renewable Energy System Project (CRESP), the price of domestic wind turbine is 20% less than that of the imported wind turbine, the price of wind turbine manufactured in China for overseas manufacturer is 10% less than that of manufactured abroad. Besides, the after service of domestic service is more convenient than abroad manufacture.

In *Notification on Importing Tax Policy Adjustment for High-power Wind Power Unit and Its Key Accessories and Raw Materials* (Document Cai Guan Shui [2008]36), it is clearly stated that the imported tax for imported raw material or wind turbines will be paid back to PP which will reduce the investment cost of wind power projects.

Therefore, the validation team is of the opinion that the net return has not been materially affected due to other changes discussed above. On the contrary, the incentives on investment of wind power projects have been increased and there are a large quantity of wind power projects have gone ahead in the most recent years.

From 2006, with the favorable policy on wind power development, the wind power projects developed rapidly in China, evidence by the statistics by Mr. Shi Pengfei.

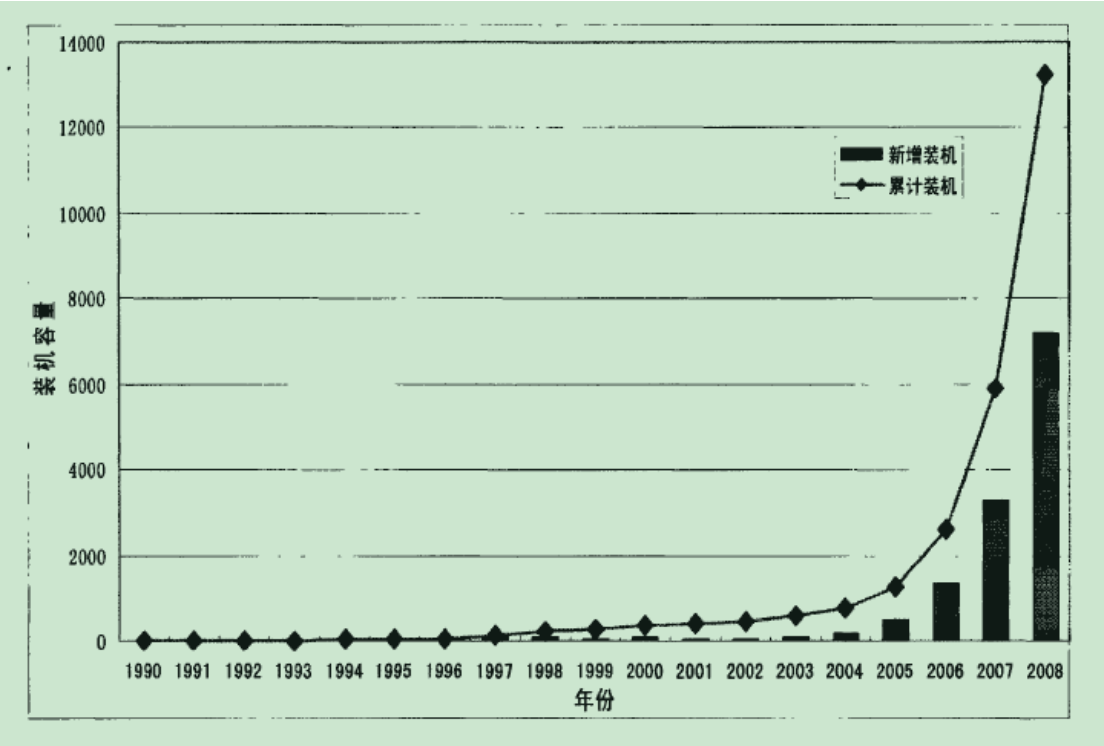

Figure 1 Installed capacity of wind power projects from 1990 to 2008

From the above figure, we can find that the wind power developed rapidly since 2006.

The Project IRR is determined by many factors, including total investment, annual operation and maintenance cost, annual supplied electricity and tariff. From the table 2 above, we can find that the tariff for wind power projects in Heilongjiang is to be unified after 2006, however, whether to invest on a wind power project or not is based on the investment analysis for the Project specifically. As discussed above, the net return to the investor has not been reduced as a result of the reduction in tariffs because of the law and policy support from the government, the more and more expanded wind power market scale, the decrease of investment cost and the more and more mature domestic wind power technology development, etc.

Therefore, BVC is of the opinion that the net return to the investors has not been materially affected due to other changes discussed above. On the contrary, the incentives on investment of wind power projects have been increased and there is a large quantity of wind power projects have gone ahead in the most recent years.

The tariff indicated in the FSR of the Project is an estimated one to make the project financial attractive. The PP kept focusing on the trend of the tariff of wind power projects during the decision making on implementing the Project, regarding there is no public tariff notifications was available after the implementation of *Law of the People's Republic of China on Renewable Energies* in 2006, the PP considered the *Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy* published in 2006, the tariff of renewable energy project would be 0.25RMB/kWh higher than the average tariff for thermal power projects. Therefore, the PP employed tariff of 0.61RMB/kWh (incl. VAT) to conduct the investment analysis of the Project. BVC has verified the *Notice on the Adjustment of Electricity Price of Northeast China Grid by NDRC* (Document No. Fa Gai Jia Ge [2006]1231) issued by NDRC in 2006 for the average tariff of thermal power projects (0.3567 RMB/kWh) and *Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy* (Document No.

Fa Gai Jia Ge [2006]7) and found that tariff of 0.61RMB/kWh (incl. VAT) for investment analysis of the Project used in the PDD is appropriate.

The tariff employed in the PDD had been crosschecked with the latest tariff notifications issued by national government in 2007[3] (Fa Gai Jia Ge [2007]3303) and 2008[4] (Fa Gai Jia Ge [2008]1876), the tariff for all wind farms located in Heilongjiang Province would be 0.61RMB/kWh (incl. VAT) for the first power generation of 30,000hours, after that, the tariff will be down to the average tariff that refers the tariff for dominant thermal power plants in Heilongjiang Province, viz. 0.3567RMB/kWh (incl. VAT) at the time of investment decision. In addition, the tariff of this specific project was approved by NDRC on 23/07/2008 (Document No. Fa Gai Jia Ge [2008]1876) after investment decision, which is also 0.61RMB/kWh (incl. VAT). Therefore, the validation team is of the opinion that the tariff of 0.61RMB/kWh (incl. VAT) applied in the investment analysis is credible.

Hope the above responses given clarify the queries raised. In case you have any further inquiries please let us know as we kindly assist you.

Yours faithfully,
For Bureau Veritas Certification Holding SAS

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3 http://www.hebwj.gov.cn/upfiles/xy_col32gjc___20070718164220007126.htm
4 http://www.sdpc.gov.cn/printpage.htm