RESPONSE TO THE REVIEW REQUEST

Bureau Veritas Certification (formerly BVQI) had performed the validation of the CDM Project 2730- "Shandong Laizhou Phase II Wind Power Project ". Subsequently, there were two requests for review raised by EB on 02/11/2009. We would like to provide our further clarifications and answers, as required.

Our responses to the review requests raised are given below:

Issue 1 for request for review

The DOE should explain how it has validated the investment analysis as appropriate, in line with the VVM paragraph 111(c) and 112(a) & (c), in particular: (i) the plant load factor of 22%, which is substantially lower than those of other projects in the region; (ii) why the 'maintenance cost' doubles from the fifth years onwards; and (iii) how the residual value is calculated.

Bureau Veritas Certification's response:

Following the requirement of VVM paragraph 111(c) and 112 (a) & (c), BVC has verified that the investment analysis and found that the input values including the items "plant load factor", "maintenance cost" and "residual value" used to conduct the investment analysis are all taken from the FSR which was carried out by *Hebei Electric Power Design &Research Institute*, a third independent party with Class A certification in Engineering Design and Class A certification for Engineering Consultancy. The suitability of value on "plant load factor", "maintenance cost" and "residual value" used in the FSR has been evaluated by experts and approved by Shandong Provincial Development and Reform Committee.

By checking the FSR, BVC confirms that the FSR refers 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) /3/;

-Electric Power Engineering Budget Estimation Quota [2002] /4/.

Therefore, BVC confirms that the input values from the FSR were valid and applicable at the time of the investment decision.

1.Plant Load Factor (PLF)

By checking the FSR, it was found that the proposed project is a wind power project with a total installed capacity of 49.5MW, the annual electricity delivered to the grid is 94,450MWh thus the annual utilization hours are 1,908hours with the plant load factor (PLF) of 22%. The annual operation hours in FSR was estimated in accordance with "Wind Resources Measurement Method of Wind Farms" (GB/T 18709-2002) /5/ and "Wind Resources Evaluation Method of Wind farms" (GB/T 18710-2002) /6/, based on the average historical wind data of wind resources in the latest 30 years obtained at Laizhou Weather Station and anemometer tower, then the calculation was carried out by using professional WASP software, thus, this value can be considered as appropriate. Since the FSR was carried out by an authorized third party and approved by Shandong Provincial Development and Reform Committee on 17/01/2008. Therefore, BVC was able to confirm that the PLF of 22% was determined by a qualified third party contract with the project owner, and is the same

one provided in the FSR to the government while applying the project activity for implementation approval, thus comply with the Guidelines for the Reporting and Validation of Plant Load Factors (version 1) (EB48, Annex 11).

2.Maintenance costs

Based on Economic Evaluation Method and Parameters for Project Construction (version 3) /3/, an increase of maintenance cost could be applied over the operation period.

According to a detailed "Statement of maintenance cost& residual value" /7/ issued by Hebei Electric Power Design & Research Institute, the designer of FSR, the maintenance cost were estimated based on consideration of actual situation of nearby operated wind farms and the characteristics of the Project specific situation. For the proposed project, the first three operation years considered the warranty period for main equipments, which means that the repair costs for the wind turbines will be borne by the wind turbine manufacturer, and other part of maintenance costs will be undertaken by project owner. Therefore, the maintenance cost of wind turbines was assumed as 1% for the first three years, and 2% for the left operation period.

BVC confirms that 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 and the maintenance cost employed in the FSR is appropriate.

3.Residual value

According to the "Statement of maintenance cost& residual value" /7/ issued by Hebei Electric Power Design & Research Institute, the residual value of fixed assets value was estimated referring to related regulation and common practice for design party, the residual value rate would be within the range of 0%~5% of fixed asset investment. And the residual value was estimated based on consideration of actual situation of nearby operated wind farms and the characteristics of the Project specific situation.

The residual value is 2.06% of fixed asset investment, within the range of 0%~5%, thus BVC confirms the residual value estimated in FSR is appropriate.

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

Table 1 Plant Load Factor, Maintenance Cost and Residual Value used in registered CDM wind power projects in Shandong Province

No.	UNFCCC Ref.	Project Title	Plant Load Factor	Maintenance Cost Rate	Residual Value
1	1008	Rongcheng Dongchudao Wind Farm	21.7%	1.2%	0
2	1010	Laizhou Diaolongzui Wind Farm	22.6%	0.6% to 3.5%	4%
3	1019	Qixia Tangshanpeng Windfarm Project	19.2%	N/A	N/A
4	1090	Shandong Changdao 27.2 MW Wind Power Project	24.4%	N/A	0
5	1128	Shandong Weihai 69 MW Wind Power Project	23.2%	N/A	0
6	1755	Rongcheng Wind Power Project, 48.75MW	20.46%	N/A	N/A
7	1789	Shandong Tuoji Island	22.5%	N/A	0

		Windfarm Project			
8	2019	Shandong Luneng Dongying 48MW Wind Power Project	22.6%	1% for the first year and 2% for the following years	0
9	2021	Shandong Haiyang Qiuershan Wind power project	21.9%	1.3%	3%
10	2397	Shandong Penglai Pingdingshan Wind Farm Project	24.2%	Zero for the first two years, 1% for the third year, 2% increasing rate for the following years	5%
11	2436	Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1)	23.6%	1.5%for the first 2 years and 2% for the third year and 2% increasing rate for the following years	5%
12	2438	Guohua Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1)	22.9%	1.25%for the first year and 2.5% for the following years	3%
13	2442	Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1)	23.8%	1.5%for the first 2 years and 2%for the third year and 2% increasing rate for the following years	0
14	2530	Shandong Laizhou phase I Wind Power Project	22.2%	1%	2%
15	2584	Shandong Dongying 1st phase Wind Power Project	22.13%	0.459%~1.63%	5%
16	**The proposed project**	**Shandong Laizhou phase II Wind Power Project**	**22%**	**1% for the 2nd ~4th year; 2% for the following years**	**2%**

From above table, we can find that the plant load factor, maintenance cost and residual value used by the proposed project are within the range and comparative with the registered CDM wind power projects located in Shandong Province.

- The PLF of 22% is within the range of 19.2% to 24.4%;

-Most of the wind power projects have adopted increase maintenance fee, which indicates that adopted increase maintenance fee is common practice in Shandong Province.

- The residual value rate of 2.06% falls the range of 0 -5%, which is the range that employed by the registered CDM projects in Shandong Province, and same as the one in the “Statement of maintenance cost& residual value” provided by the FSR designer.

Therefore, BVC can confirm that the input values to the investment analysis, including the plant load factor, maintenance cost and residual value rate used for the proposed project are appropriate, which is in accordance with the requirement of VVV Para. 111(c) and 112 (c), i.e. the input values used in the FSR are valid and applicable at the time of investment decision, and, the underlying assumption for investment analysis are appropriate and financial calculations are correct.

Issue 2 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:

The Feasibility Study Report (FSR) of the proposed project was finalized in July 2007, at which time no specific tariff notification in Shandong province was publicly available, therefore, the designer of the proposed project, a qualified third party, was estimated an ideal tariff in FSR so that project IRR of the project activity can exceed the benchmark of 8%. However, considering there was no tariff notification for wind power projects in Shandong province, local DRC issued a guided tariff of 0.66RMB/kWh (incl. VAT) to the Shandong Laizhou Phase I Wind Power Project, which is developed by the same project owner. It is clearly stated that the tariff forecasted in this tariff letter is just an initial guided tariff, the actual tariff of the project activity will be determined by the formal approval letter issued by relevant government after the project activity putting into operation. Considering the project IRR of the project would be less than 8% with the initial guided tariff, and could be financially attractive with CDM revenue support, the project owner decided to develop the project into CDM on 20/08/2007. Therefore, BVC can confirm the guided tariff letter is the only available official information for the project owner, and the investment decision made by PP was based on the initial guided tariff by local DRC and CDM consideration, so the electricity tariff employed in the PDD for the proposed project is appropriate.

Furthermore, to analyze the historical trend on tariff for wind power projects in Shandong province, BVC summarized tariffs of wind power projects in Shandong Province based on publically available tariff notifications in following table:

Table 2 tariff for wind power projects in Shandong Province

No	Project Name	Tariff	Tariff approval Time	Tariff Documentation No.	Commissioning date	CDM or non CDM
1	Shandong Jimo Qingdao Huawei Wind Farm	0.76	2001	Lu Jia Ge Fa [2001]12 /8/	2003	Non CDM
2	Shandong Laizhou phase I Wind Power Project	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876 /9/	2008	CDM (UNFCCC Ref. No. 2530)
3	Shandong Tuoji Island Windfarm Project	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2006	CDM (UNFCCC Ref. No. 1789)
4	Shandong Haiyang Qiuershan Wind power project	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2008	CDM (UNFCCC Ref. No. 2021)
5	Shandong Weihai 69 MW	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2007	CDM (UNFCCC

	Wind Power Project					Ref. No. 1128)
6	Shandong Changdao 27.2 MW Wind Power Project	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2006	CDM (UNFCCC Ref. No. 1090)
7	Rongcheng Dongchudao Wind Farm	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2006	CDM (UNFCCC Ref. No. 1008)
8	Laizhou Diaolongzui Wind Farm	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2008	CDM (UNFCCC Ref. No. 1010)
9	Qixia Tangshanpeng Windfarm Project	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2006	CDM (UNFCCC Ref. No. 1079)
10	Huadian Laizhou Wind farm project	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2008	CDM (under validation)
11	Rongcheng Wind Power Project, 48.75MW	0.61	Jul. 2008	Fa Gai Jia Ge [2008]1876	2007	CDM (UNFCCC Ref. No. 1755)
12	Yantai Dongyuan Laizhou 48.5 MW Wind Farm Project Phase I	0.61	Mar. 2009	Lu Jia Ge Fa [2009]50[1] /10/	2009	CDM (under validation)
13	Shandong Huaneng Shouguang 49.5MW Wind Farm Project	0.61	Mar. 2009	Lu Jia Ge Fa [2009]50	2009	CDM (under validation)
14	Shandong Dongying 1st phase Wind Power Project	0.61	Mar. 2009	Lu Jia Ge Fa [2009]50	2009	CDM (UNFCCC No. 2584)
15	Shandong Penglai Pingdingshan Wind Farm Project	0.61	Mar. 2009	Lu Jia Ge Fa [2009]50	2008	CDM (UNFCCC Ref. No. 2397)
16	Shandong Luneng Dongying 48MW Wind Power Project	0.61	Jul. 2009	Fa Gai Jia Ge [2009]1906 /11/	Under construction	CDM (UNFCCC Ref. No. 2019)
17	Guohua	0.61	Jul. 2009	Fa Gai Jia Ge	2009	CDM

1 In Lu Jia Ge Fa [2009]50, it is clearly stated that the tariff of 0.61RMB/kWh was refer to Fa Gai Jia Ge [2008]1876

	Binzhou Zhanhua 49.5MW Wind Farm Project (Phase 1)			[2009]1906		(UNFCCC Ref. No. 2438)
18	Guohua Dongying Lijin 49.5 MW Wind Farm Project (Phase 1)	0.61	Jul. 2009	Fa Gai Jia Ge [2009]1906	2009	CDM (UNFCCC Ref. No. 2442)
19	Guohua Dongying Hekou 49.5 MW Wind Farm Project (Phase 1)	0.61	Jul. 2009	Fa Gai Jia Ge [2009]1906	2009	CDM (UNFCCC Ref. No. 2436)
20	**Shandong Laizhou phase II Wind Power Project (the proposed project)**	**0.61**	Jul. 2009	Fa Gai Jia Ge [2009]1906	2009	CDM (UNFCCC Ref. No. 2730)

From above table, we can find that, according to the publicly available tariff notifications, there is only one wind project (Shandong Jimo Qingdao Huawei wind farm) achieves higher tariff than the proposed project, and the tariff of Shandong Jimo Qingdao Huawei wind farm was approved before 2002. However, considering *Electric Power Industry Reform* published by the State Council in February 2002, reform in China's electric power industry has been making steady progress and it has brought some fundamental changes to the industry. Therefore, the tariff of 0.76RMB/kWh in 2001 is not comparable to the later tariff of 0.61RMB/kWh in 2008 and 2009, since there is significant policy environment and the No. 1 project is a demonstration project as analyzed in the common practice of the PDD, which is not suitable for most common practice. Therefore, it can be confirmed that such tariff notification before 2002 was available but not applicable in July 2007, when the FSR was prepared.

From 2002 to 2007, the tariff policy for wind projects in Shandong Province is not clear. until July, 2008, the first tariff notification issued in by NDRC for wind power projects exporting electricity to Shandong Provincial grid (Document No. Fa Gai Jia Ge [2008]1876). In this tariff notification, the tariff of wind power projects in Shandong province began to be unified at 0.61RMB/kWh and remains at the same level from 2009 onwards (evidenced by Fa Gai Jia Ge [2009] 1906), by doing so, the expectation of investment return could be more clearly than ever for wind farm developers.

The tariffs for those four projects (Project No. 16 to 19) employed in PDDs are taken from approved FSRs, and their actual tariffs for Project No. 16 to 19 listed above are taken from Fa Gai Jia Ge [2009]1906, dated on 24/07/2009.

In the Document Fa Gai Jia Ge [2009]1906, it is clearly informed that the tariff for wind power projects should be determined according to which resource region it located, and four wind resource regions were identified in China based on the analysis on the Wind Energy Resources and Standard for Engineering Construction. According to Fa Gai Jia Ge [2009]1906, Shandong Province is located in the IV wind resource region and all the wind power projects in Shandong Province should apply the unified tariff of 0.61RMB/kWh(incl. VAT).

Furthermore, 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 only can make whether investment or not on the Project based on the tariff guided by government.

To make the explanation on tariff more clearly, BVC 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. However, there were no commercial wind power projects at that time from 2002 to 2006.

- Since 2006, China's government issued the *Law of the People's Republic of China on Renewable Energies* and *Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy* (Document No. Fa Gai Jia Ge [2006]7) /12/, 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 before and after 2002 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 /13/,

  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. And should provide favorable loan for renewable energy project including wind power project.

- The *Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy* was issued by China NDRC in Jan. 2006 /14/ 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) /15/, 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 Additional Income regulation of Renewable Energy Power* /16/, 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.

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.

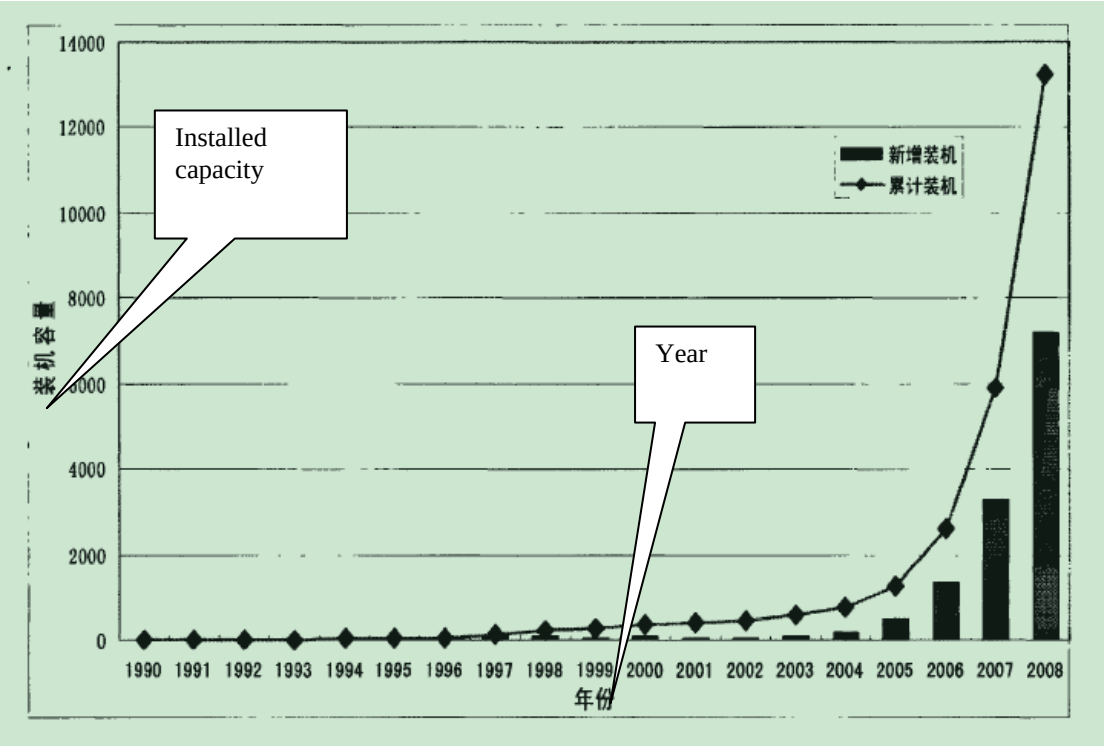

Figure 1 Installed capacity of wind power projects from 1990 to 2008

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 table 2 above, we can find that the tariff for wind power projects in Shandong Province is to be unified since 2008, whether to invest a wind power project or not is based on the investment analysis for the proposed project specifically.

Therefore, BVC is of the opinion that the net return has not been materially affected due to other changes discussed above such as 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. 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.

During 2002 to 2007, as there is no specific tariff notification for wind power projects in Shandong province published by government publicly available, the investor can only ask local government gave guidance on each project respectively, however, the actual tariff should be

determined by government through tariff approval. Therefore, the tariffs mentioned in the PDDs for already registered projects in Shandong province are just guided by local government case by case and different from the actual tariffs achieved for those projects, thus is not a public notification and not available for other projects including the proposed project. Therefore, the PP of the proposed project asked the local government to provide an initial guidance for its own projects, which is suitable for the proposed project.

Furthermore, from above table 1, BVC can find that the tariff of the proposed project had been approved by NDRC at 0.61RMB/kWh (incl. VAT) in the Document Fa Gai Jia Ge [2009]1906. BVC is therefore of the opinion that 0.66RMB/kWh (incl. VAT) employed in the PDD is appropriate and conservative.

/1/ Codes on Compiling Feasibility Study Report of Wind Farms,

http://www.cbmei.cn/Article/ShowArticle.asp?ArticleID=1621;

/2/ Preparation Rules and Calculation Standard for Budgetary Estimation of Wind Power Projects Feasibility Study Report issued by NDRC

http://www.windpower.org.cn/news/links/js_2005_0508.htm

/3/ Economic Evaluation Method and Parameters for Project Construction (version 3)

/4/ Electric Power Engineering Budget Estimation Quota [2002].

/5/ Wind Resources Measurement Method of Wind Farms" (GB/T 18709-2002);

http://www.cechina.cn/eletter/standard/wind/GBT18710-2002.pdf

/6/ "Wind Resources Evaluation Method of Wind farms" (GB/T 18710-2002)

http://www.windpower-china.cn/files/GBT%2018709-2002.pdf

/7/ Statement of maintenance cost& residual value" by Hebei Electric Power Design & Research Institute;

/8/Lu Jia Ge Fa [2001], http://www.34law.com/lawfg/law/1797/3388/law_252417438946.shtml

/9/Fa Gai Jia Ge [2008]1876, http://www.sdpc.gov.cn/jggl/zcfg/t20080813_230726.htm

/10/Lu Jia Ge Fa [2009]50,

http://www.sdwj.gov.cn/Newsdisplay.jsp?id=2114a563b4[134ff95]-8000

/11/ Fa Gai Jia Ge [2009]1906

http://www.gov.cn/gzdt/2009-07/24/content_1373827.htm

/12/ Law of the People's Republic of China on Renewable Energies and Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy (Document No. Fa Gai Jia Ge [2006]7),

/13/ Law of the People's Republic of China on Renewable Energies

/14/ Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy was issued by China NDRC

/15/ Notice for Stimulate Wind Power Development

/16/ Temporary Measures of Additional Income regulation of Renewable Energy Power

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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