30th October 2008

To
The Chairman
UNFCCC CDM Executive Board

Sub: **Response to request for review for the project "Wind power project by HZL in Gujarat."**

Dear Sir/Madam

Bureau Veritas Certification has performed a validation of the "Wind power project by HZL in Gujarat." project of M/s. Hindustan Zinc Limited (hereafter called "project activity") located in Gujarat, India. The request for registration was made in 28th May 2008 and was under review from 21/08/2008 to 1710/2008. Subsequently, there have been 3 (three) requests for review, which were received on 17/10/2008. Since all the requests are identical, we are providing common responses to the issues that have been raised.

We thank the CDM executive board and the secretariat for giving us the opportunity to clarify about our considerations in validating the said project.

The project participant and our responses are explained below along with the relevant Annexures as evidences.

Query No. 1

As the use of the 14% return on equity based on the GERC tariff order is no longer acceptable as per guidance issued at EB 40, paragraph 40, the DOE is requested to further justify the benchmark in line with the cost of capital (deposit rate plus suitable risk premium).

Response by project participant to Query No. 1

In accordance with the guidance provided by EB, we have assessed the benchmark applicable for the project in line with the cost of capital approach following the guidance of the toll for demonstration and assessment of additionality version 4 as follows:

Benchmark 1

The benchmark has been determined in accordance with para 6(a) sub step 2b of the Additionality tool i.e. *Government bond rates increased by a suitable risk premium to reflect private investment and / or project type*.

The required rate of return on equity for the project has been calculated using the Capital Asset Pricing Model (CAPM). As per CAPM, the required return on equity investment is the return of a risk-free security plus beta times the difference between the market return and the risk-free return. The Government Securities have been taken to represent the risk free return. Stock index has been used to represent the market return.

While considering a new project, CAPM can provide the required rate of return that the project needs to yield, taking into account the volatility (risk) of the stock relative to the market (Beta). This required return on equity represents the cost of equity benchmark for the project.

The formula of CAPM is as follows:

$Ri = Rf + \beta (Rm-Rf)$ where:

Ri = Rate of return on equity;

Rf = Risk-free rate of return;

β = Beta or systematic risk for this type of equity investment coefficient reflecting the volatility (risk) of the stock relative to the market,;

Rm = Expected market returns

Rm – Rf = Market risk premium;

Risk free rate:

The start date of the proposed project activity is 15th January 2007. At the time of start of the project the data available for the average Government bond rate was that of the year 2005-06, which was 7.34% (source: Reserve Bank of India, web-link: http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/80303.pdf).

The β in the CAPM equation helps to account for the systematic risk by quantifying the sensitivity of the stocks of the companies representing a particular project type/sector with the market returns. Thus, it incorporates the risk of a specific sector in the calculation of the

cost of equity. The Beta value taken for this analysis is based on the beta values of the listed private companies engaged in similar business as the project activity (i.e. the power sector) at the start of the project activity estimated by regressing weekly returns on stock against local index, using 10 years of data if available otherwise the data since incorporation of the company has been used. The beta values have been taken from Bloomberg[1].

Company Name	**Beta**
Tata Power	0.885
Reliance Infra	0.867
Jaiprakash Hydro	1.009
BF Utilities	1.326
Average Beta	**1.02**

The guidance on investment analysis requires the use of benchmark which represents standard market returns. These returns are assumed to reflect the risk free rate of return plus a market premium. The capital asset pricing model requires the adjustment of the market premium with the factor 'beta' which represents the volatility of a stock relative to a well diversified market portfolio.

Wind power is the not core business of HZL and hence the beta factor of HZL cannot be used for the calculation of the risk premium. Also, in order to understand the standard market returns, it is essential to consider a wider range of companies. Hence an attempt to study the beta values of private sector companies with relatively significant investment in wind power was made. BF Utilities was the only one company identified with mainstream wind power business, listed on the Indian bourses and actively traded with a historic beta value of 1.326 since the incorporation of the company in August 2001. Hence, the portfolio of the companies considered for the study was widened to include the companies with significant investment in the power sector including in renewable and non renewable energy.

Conventional (Thermal and Large Hydro) power projects are a more attractive investment option as compared to non conventional (renewable energy power projects) projects, primarily because of the lower risks that such project activities face as compared to renewable energy projects and in particular wind power projects. Conventional power plants supply firm power, operate on higher Plant Load Factor (PLF) and are not subject to the vagaries of nature as wind power plants. Wind power projects on the other hand operate at much lower PLF (22-28%) and have much higher capital costs. Thus, from the perspective of a private investor, investments in thermal power plants are a safer option. A study of the baseline scenario, indicating that over 55% of the power generation in the country is from thermal sources[2], also reinforces the fact that generation from thermal sources provides a more attractive and assured source of return as compared to investments in renewable energy sources like wind power.

Hence it is assumed that such private companies with significant investments in non renewable energy projects face lower risk as compared to the wind power project and hence the value of beta for such companies should also be lower. Thus, as the use of the beta value for companies with significant investment in non renewable power projects is representative of the returns generated in the baseline scenario and is also conservative,

[1] Screenshots from Bloomberg terminal are being submitted as Annexure 1a, 1b, 1c and 1d.
[2] http://cea.nic.in/power_sec_reports/Executive_Summary/2008_07/27-33.pdf

the same has been considered appropriate for the analysis. The average beta has been estimated as **1.02** and the same has been chosen for further analysis.

Rm – Rf (Market Risk Premium): The market risk premium is the return that an investor expects over and above the risk free return available in the market. The market risk premium has been estimated using historical approach. This can be defined as the historical differential return of the market and the risk-free rate. The most common method of calculating this is the difference between historical return of the stock market index and the historical return of the risk free rate. The differential can be calculated as arithmetic or geometric average. The geometric average[3] usually is a more accurate representation of the risk premium, accordingly we have calculated market risk premium as the historical geometric mean return on the stocks (using the BSE Sensex[4] Index since it start in 1979) minus the historical geometric mean return on government securities. This would give the incremental returns over and above the risk free rate.

Market Rate of Return (Rm) = [{(BSE index at the time of start of project (December2006)) / (BSE index at its start in 1979)} ^ (1/no. of years from 1979 till start of project)]-1

= [(13,786.91/100) ^ (1/27.75)]-1

= 19.43%

[Source for BSE Sensex Data: http://www.bseindia.com/histdata/hindices.asp]

Average risk free rate (Rf) = The average risk free rate represents the historical risk free rate and is calculated as the geometric mean of the compounded annual return.

Geometric mean of compounded return for the year 2005-06 = [{(Compounded return for year 2005-06)/ Return for the year 1980-81)} ^ (1/number of years from 1980-81 to 2005-06[5])]-1

= [(1281[6]/100) ^ (1/26)]-1
= 10.31%

Please refer to the excel sheet of calculations for further details.
[Source for risk free rate is Reserve Bank of India:
http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/80303.pdf]

Market Risk Premium = 19.43% - 10.31% = 9.12%

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[3] The compounded return is computed by taking the value of the investment at the start of the period ($Value_0$) and the value at the end ($Value_N$), and then computing the following:

$$\text{Geometric Average} = \left(\frac{\text{Value}_N}{\text{Value}_0}\right)^{1/N} - 1$$

[4] http://www.bseindia.com/histdata/hindices.asp

[5] The data for the interest rate on the central government securities is only available on a yearly basis from 1980-1981 till 2005-06. Further the data available for calculation of market return is available on a monthly basis from 1979-December 2006. Thus the number of years for calculation of market return and the average risk premium are different. However the implication on the final outcome of this difference is negligible.

[6] Please refer Annexure -2, Risk Free Rate worksheet for the basis of the value (represents compounded return as on 2005-06 of the government securities)

Rate of return on equity or cost of equity benchmark is Ri= Rf + β (Rm-Rf)
= 7.34% + 1.02 x 9.12%
= 16.66%

Hence the benchmark for equity IRR of the project is the Cost of equity of companies engaged in similar business as that of the project which is calculated as **16.66%.**

The excel sheet for calculations of the above is attached as Annexure 2.

Benchmark 2

Deposit Rates increased by Market Risk Premium
In accordance with the guidance provided by EB to the request for review of Project activity, Benchmark has also been estimated using the Government **Deposit Rates** applicable at the time of start of the project activity. The average RBI deposit rate[7] applicable in the year 2005-06 was **6.625%.**
(Source: - http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/87456.pdf)

Market returns and beta are the same as estimated in Benchmark 1.

Average risk free deposit rate (Rf) = The average risk free rate is calculated as the geometric mean of the compounded annual return.

Geometric mean of compounded return for the year 2005-06 = [{(Compounded return for year 2005-06)/ Return for the year 1978-79)} ^ (1/number of years from 1978-79 to 2005-06)]-1

= [(1324.6/100) ^ (1/27[8])]-1
=10.04%

Refer the excel sheet of calculations for further details.
[Source for risk free rate is Reserve Bank of India: http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/87456.pdf]

Market Risk Premium = 19.43% - 10.04% = 9.38%

The benchmark i.e. deposit rate increased by Market Risk Premium is:
Ri= Rf + β (Rm-Rf)

= (6.625+9.38*1.02) %
= 16.21 %

[7] Refers to the deposit rates of 5 major public sector banks as at end-March
[8] The data on a monthly basis is available for the calculation of market returns from the start of Sensex in 1979 till December 2006, hence the market returns have been calculated till December 2006. However the risk free rate of return is calculated based on the volume weighted annual average rate of return made available by the RBI. Since this data is not available on a monthly basis, the average risk free rate of return has been calculated till the year 2005-06 and hence there is a difference of 0.75 year in the two values. However the implication of this difference is negligible.

Hence the benchmark for equity IRR of the project is the Deposit Rates increased by Market Risk Premium adjusted to incorporate risk of companies engaged in similar business as that of the project which is calculated as **16.21%.**

The excel sheet for calculations of the above is attached as Annexure 2.

Benchmark 3
According to the tool for demonstration and assessment of additionality, the benchmark can also be derived from *estimates of the cost of financing and required return on capital for the country and type of project activity concerned), based on bankers views on comparable projects.*

One of India's largest private banking institution ICICI Bank Limited which has been financing private sector wind energy projects (**type of project activity concerned**) over the past few years has stated that, an Internal Rate of Return of over 16% for the capital employed in their view is desirable to ensure economic viability and adequate cash flows of a high risk wind power project. This return was also applicable during the start date of the project activity as clarified by the bank in a subsequent letter. According to the financial institution, this desired IRR is also expected to ensure adequate coverage to service debt. The letters from ICICI Bank are attached as Annexure 3a and 3b.

Hence in accordance with the additionality tool, this Bankers view is a suitable benchmark for comparison against the Project IRR.

Thus we have evaluated the project against the above benchmarks. However in accordance with the guidance provided by EB during the request for review, the deposit rates plus market risk premium is chosen as the most suitable benchmark for comparison with the equity IRR of the project activity. The results of the sensitivity analysis demonstrate that the returns from the project are below the benchmark even after significant variations in the critical parameters. Hence, the project proponent would not have gone ahead with the project activity without CDM benefits under any circumstances.

Response by Bureau Veritas Certification to Query No. 1

According to decision from EB-40, benchmark of 14% as per GERC order is now not considered as benchmark for investment in the project activity. Project participant, has now considered three other benchmarks for investment analysis. In the response from project participant, elaborate explanation on each of these is provided. Validation comments for all these benchmarks are as follows:

Benchmark 1: Government bond rates increased by a suitable risk premium to reflect private investment and / or project type.

The required rate of return on equity for the project has been calculated using the Capital Asset Pricing Model (CAPM). As per CAPM, the required return on equity investment is the return of a risk-free security plus beta times the difference between the market return and the risk-free return. The Government Securities have been taken to represent the risk free return. Stock index has been used to represent the market return. Power Industry specific beta value is applied to represent the market returns relevant to the risk of the project activity sector.

Average government bond rate has been considered to be 7.34% as prevailing in year 2005-06. This has been taken from Reserve Bank of India. Reserve Bank of India is the central controlling bank and its database is an official source of information in India. Validatin team therefore accepts this risk free rate as reasonable.

Beta value in the calculation represents systematic risk by quantifying the sensitivity of the stocks of the companies representing a particular project type/sector with the market returns. The Project Participant in this case has considered private power sector companies in India that have either partial or complete investment in renewable power sector. The beta value thus arrived at relates to the type of the project activity. The beta values have been taken from Bloomberg. Project participant has provided screenshots from Bloomberg terminal. These screen shots for all the investors in the list has been provided. This list is considered complete since validation team agrees that these are the only companies in India that have full or significant but partial exposure to renewable power sector. The Beta value taken for this analysis is based on the beta values of the listed private companies engaged in similar business as the project activity (i.e. the power sector) at the start of the project activity estimated by regressing weekly returns on stock against local index, using 10 years of data if available. Otherwise the data available since the listing of the company on the stock exchange has been used. Based on this information, average beta value is 1.02. validation team accepts this value as reasonable since it is taken over a reasonably long duration for companies relevant to the type of the project.

Market risk premium has been calculated as the historical geometric mean return on the stocks (using the BSE Sensex Index with 1979 as the base year) minus the historical geometric mean return on government securities. This would give the incremental returns over and above the risk free rate. This figure is arrived to be 19.43%. The validation team accepts this value as reasonable since it is calculated in a conservative manner [geometric mean rather than simple interest type calculation] and over a long term duration.

The average risk free rate is calculated as the geometric mean of the compounded annual return & this is 10.31%, which is also sourced from Reserve Bank of India and considering a historical risk free rate is deemed to be a conservative approach.

Considering these both viz. market rate of return and Average risk free rate, Market Risk Premium comes to 9.12 %. With government bond rate of 7.34%, Rate of return on equity or cost of equity benchmark comes to 16.66% based on beta value of 1.02.

The validation team hereby confirms that it has assessed the information provided. The validation team notes that the above approach is in line with the requirement of clause 6(a) of the 'Tool for demonstration and assessment of additionality, Version 04'. The validation team therefore accepts the above method of calculation of benchmark.

Benchmark 2: Deposit Rates increased by Market Risk Premium.

Benchmark has also been estimated using the Government Deposit Rates applicable at the time of start of the project activity. The average deposit rate as published by Reserve Bank of India and applicable in the year 2005-06 was 6.625%.

The average risk free rate is calculated as the geometric mean of the compounded annual return. Geometric mean of compounded return for the year 2005-06, comes out to be 10.04%.

This data is available at Reserve Bank of India's web-link. Accordingly the market risk premium arrives at 9.38 % and subsequently the benchmark i.e. deposit rate increased by

Market Risk Premium comes to 16.21% using the beta value of 1.02 as calculated for Benchmark 1.

The validation team hereby confirms that it has assessed the information provided. The validation team notes that the above approach is in line with the requirement of clause 6(a) of the 'Tool for demonstration and assessment of additionality, Version 04'. The validation team therefore accepts the above method of calculation of benchmark for the reasons stated in assessment of Benchmark 1.

Benchmark 3: Estimates of the cost of financing and required return on capital for the country and type of project activity concerned), based on bankers views on comparable projects.

ICICI Bank Limited, which is one of the biggest private sector banks in India and has been financing private sector wind energy projects (type of project activity concerned) over the past few years, in its letter dated 17/10/2008 addressed to M/s. Hindustan Zinc Limited has confirmed that an Internal Rate of Return of over 16% for the capital employed is desirable to ensure economic viability and adequate cash flows of a high risk wind power project. Subsequently the bank vide letter dated 23/10/2008 has also clarified that this rate of return as 16% has been the same for last three years. Hence DOE is of the opinion that the same rate of return is applicable as benchmark to proposed project activity, which was conceptualized in December 2006 and is therefore in conformity with the banker's expectations. [Within 3 years of these letters by ICICI bank].

The above stated IRR is inclusive of cost of financing and the required rate of return as expressed by an expert. It therefore is in line with clause 6(b) of the tool for demonstration and assessment of additionality, version 04. The validation team therefore accepts this as an alternative benchmark.

As directed by EB, project participant has finally considered the benchmark arrived by adding deposit rate and suitable risk premium. The benchmark applicable for the project activity is 16.21%.

Validation team observes that the equity IRR of the project after sensitivity analysis and without consideration of CDM benefits is 13.87%. This is lower than the above benchmark. The project activity is therefore considered additional.

Query No. 2
Further clarification is required on how the DOE has validated the common practice analysis, in particular, similar projects should be described and the essential distinction between them and the project activity should be clearly indicated.

Response by project participant to Query no. 2

According to the additionality tool ***Sub-step 4a requires to analyze other activities similar to the proposed project activity:***
Wind potential and installations in India

The all India generating capacity (including the captive connected to grid) as on March 2007 is 146965.21MW[9], whereas the installed capacity of wind till that time is only 7114.6 MW[10]. Thus just 4.8% of the total generating capacity in India is through wind generation sources. Given that the gross potential for wind power in India is 45195 MW[11], installed capacity of wind in India is only about 15% of its potential. Hence it can be seen that both as a proportion of total installed capacity of the country and as a percentage of the potential of wind power, wind energy penetration in the country is very low.

Wind potential and installations in Gujarat

Specifically analyzing the situation in the state of Gujarat, it is seen that against an assessed wind potential of 9675 MW, the state has installed wind capacity of 401.4 MW as of 31st December 2006 (Source: MNES data given below in the table). This shows that until 1st January 2007, the installed capacity of wind energy in Gujarat was only about 4.15 % of its potential.

Wind capacity additions over the years and proportion of CDM projects in the capacity additions

The table below provides details of wind capacity additions in Gujarat since the promotional policy for wind was first introduced in 1994-95:

Year	Capacity Installed (MW)
Upto Mar 1992	14.515
1992 to 1993	1.63
1993 to 1994	10.625
1994 to 1995	37.745
1995 to 1996	51.158
1996 to 1997	31.137
1997 to 1998	20.1
1998 to 1999	0
1999 to 2000	0
2000 to 2001	0
2001 to 2002	0
2002 to 2003	6.2
2003 to 2004	28.90

[9] http://www.cea.nic.in/power_sec_reports/Executive_Summary/2007_03/6.pdf
[10] Source - Ministry of New and Renewable Energy of India http://www.windpowerindia.com/statstate.html
[11] Source – MNRE http://www.windpowerindia.com/statest.html

2004 to 2005	51.5
2005 to 2006	84.6
As On December 31st, 2007[12]	401.4

Source: http://www.windpowerindia.com/statyear.html

From the above table it is clear that after the year 1998, there was literally no investment by private entrepreneurs in Gujarat till the year 2002 due to unfavourable policy and huge losses faced by the erstwhile Gujarat state electricity board when all other states with wind power potential saw rise in the installed capacity e.g. Maharashtra, Tamil Nadu and Karnataka in the same period recorded a capacity addition of 372.34, 267.28 and 104.69 MW respectively.

Wind Electricity generation in Gujarat

Another relevant common practice test is the amount of wind power generation as compared to the overall electricity generation availability for Gujarat. In the year 2005-06, the total power generated from all sources of power generation in Gujarat was 45070.44 Million Units[13] whereas the power generated from wind power projects was only 1613.04 Million Units[14] constituting only 3.6 % of the total power generated showing that wind energy generation is insignificant as compared to other power generation sources in Gujarat. Please note that this wind generation is for all wind projects (including CDM projects). If one were to remove the CDM wind generation from the above data, the percentage would be still lower.

Further, most of the wind energy produced in Gujarat is utilized for captive consumption. For example, in 2004-05, out of the approximately 248 Million Units produced by wind farms in Gujarat, only 24 Million Units were purchased by GEB and its successor entities. The balance generation was for captive consumption[15]. Thus there is dominance of captive wind power generation.

Wind projects of similar scale

According to additionality tool version 04, similar project activities are those that rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing etc. The project activity under consideration is a large scale project activity with installed capacity 88.8 MW. Similar project activity has been defined as any large scale project activity with size above 15MW and set up by a single project proponent within a particular time frame in the state of Gujarat for the sale of power to the grid.

The projects excluded from the definition of a similar scale project and the justification for the exclusions is provided below:

1. Captive wind power projects - A captive wind project is different from the project selling its generated output in the following ways:
    a. A captive project is essentially implemented to meet the power requirements of an industry. Thus, there is a definite need for power which has to be secured from some sources. For meeting this requirement, the investor is likely to try and secure the cheapest and most attractive source of power. The

[12] http://mnes.nic.in/annualreport/2006_2007_English/HTML/ch3_pg2.htm
[13] www.indiastat.com
[14] Indian Wind Power Directory 2006
[15] GETCO Tariff Order dated 6th May 2006

investment will be justified only if the cost of generation through captive installation is lesser than the HT tariff offered by the grid to draw power. The baseline scenario will be different for such an investor and the risk undertaken by a captive investor will be different from an investor selling power to the grid.

2. Small scale wind power project activities bundled together from a large scale CDM project have not been considered for the analysis as the scale of these projects and the scale of investment is not comparable to the project activity under consideration.
3. CDM Project activities – Projects which are under the CDM pipeline have to be excluded as per the guidance provided by the tool for demonstration and assessment of additionality.
4. Project activities implemented post the start date of the project activity i.e. post 31st December 2006, since for common practice analysis as per the guidance, only those projects can be compared which are under operation prior to the start of the proposed project activity by HZL.

The wind projects of similar scale commissioned in state of Gujarat at the time of investment in the project activity i.e. as on 31st December 2006 (prior to the start date of HZL's wind project) were analysed from the list of projects commissioned and under operation in Gujarat available in the Indian wind Power Directory 2006 and compiled in the excel sheet Annexure - 4. This data was further confirmed by the data obtained from two largest WEG suppliers in India i.e. Suzlon Energy Limited and Enercon India Limited. Further the data on private wind farm owners in India with an aggregate capacity of 15 MW and above in India as on 31st March 2007[16] was also analysed for large scale private investment in Gujarat for comparison to HZL project activity. The list did not provide the States in which the projects have been implemented, thus publicly available sources have been provided in the excel sheet for the location of the specific project activities. The excel sheet of the analysis is attached as Annexure 4.

Following projects were excluded from the common practice analysis due to the reasons stated alongside:

Investor name	Size in Gujarat (MW)	Distinction/Reason for exclusion
Gujarat NRE Coke	1.25+ 26.25 = **27.5**	1. The project activity has also considered CDM and is currently in the CDM pipeline: ✓ Part of 22.3 MW Bundled grid connected Wind Power based electricity generation project in Gujarat http://cdm.unfccc.int/Projects/Validation/DB/OW17ZTWQUDGVXQGEO59WCBOC9C6LIR/view.html ✓ Part of 26.25 MW wind electricity generation project of Gujarat NRE Coke Limited at Jamnagar and Kachchh http://cdm.unfccc.int/Projects/Validation/DB/2WHFROEPK85ARNQ1TVKJV4WC8ATMAB/view.html Since the project activity is under CDM, it has been excluded from common practice analysis.
Gujarat	31.6	a. The Project activity is considering carbon finance and

[16] http://www.windpowerindia.com/statpriv.html

<table>
<tr><td>Guardian Ltd.</td><td></td><td>has already received carbon benefits through the Voluntary VER route:
http://www.carbonneutral.com/cnregistry/uploaded/Jamnagar%20Wind%20Power%20Projects%20PDDs.pdf
23.2 MW capacity is included under the webhosted VER PDD validated under the Voluntary Carbon standard. After deducting the project size of 23.2 MW from the total installed capacity of project proponent in Gujarat, only 8.4 MW capacity project is left which is less than 15 MW and hence cannot be compared to the HZL project.
b. Further, the project is different from the proposed wind power project by HZL since it is a captive installation utilizing the generated output from its project for self utilization at its industry premises which is evident from the VER PDD above and verified from the equipment supplier Enercon India Limited Anexure - 5.
c. Furthermore, the project activity has already applied for CDM benefits.
Due to above reasons, the project is different and it has been excluded from common practice analysis.</td></tr>
<tr><td>Patnaik Minerals Pvt. Ltd</td><td>30.2</td><td>The project is under CDM and part of Wind Power project by PMPL in Gujarat, District Jamnagar and Rajkot by M/s Patnaik Minerals Private Limited
http://cdm.unfccc.int/Projects/Validation/DB/GQ56N39MLSZ9QDRL6RUF5YJSFDPD1U/view.html
Since the project activity is under CDM, it has been excluded from common practice analysis.</td></tr>
<tr><td>Indian Petrochemicals Co. Ltd</td><td>15.315</td><td>The project was commissioned phase-wise and got completed in March 1997, the regulatory environment then prevailing and the policies pursued were different from those existing at the time of the start of proposed project activity by HZL.
<table>
<tr><th>Capacity (MW)</th><th>Date of Commissioning</th></tr>
<tr><td>2.25</td><td>Sep-96</td></tr>
<tr><td>5.625</td><td>Mar-96</td></tr>
<tr><td>2.7</td><td>Mar-97</td></tr>
<tr><td>2.8</td><td>Mar-96</td></tr>
<tr><td>0.54</td><td>Mar-96</td></tr>
<tr><td>1.4</td><td>Mar-97</td></tr>
</table>
The differences in regulatory environment are as below:
For IPCL Project –
The project was installed under the Incentive scheme for wind power generation 1993 which was applicable for the period from January 1993 – September 2001. The salient features of the scheme are:
✓ Purchase of electricity at INR 1.75 /kWh (US$ 0.039 /kWh) with wheeling charges of 2% of the energy generated by windmills and provision of banking for</td></tr>
</table>

		a period of 6 months. Electricity duty and demand cut to the extent of 30% of installed capacity of wind farm has been exempted along with 50% sales tax incentives. Additionally the generator was exempted from the electricity duty over the generated electricity. [Source: (a) Para (v)-(ix), pp. 2-3, Incentive Scheme for Wind Power Generation 1993, Govt. Resolution No. EDA-1092- M (I)-8(1)-E, dated 27.1.1993. (b) Para 6, page 4, Sales-tax incentive scheme for Wind Power Generation, 1993, Govt. Resolution No. EDA-1092-M (I)-8(2)-E, dated 27.1.1993] For HZL Project – The project is in stalled under the Gujarat Electricity Regulatory Commission order dated 11th August 2006 - In the matter of Determination of price for procurement of power by the Distribution Licensees in Gujarat from Wind Energy Projects. The salient features of the order are: ✓ Purchase of electricity at INR 3.37/kWh (US $ 0.075 /kWh) fixed for entire project lifetime of 20 years. The wheeling charges are kept constant at 4% in accordance with the previous policy including the banking period of 6 months. A brief description of the different regulatory environment is also provided on the following web-link: http://www.geda.org.in/wind/wind_power.htm Additionally, the project is a captive project as identified from the following web-link: http://sebiedifar.nic.in/documents/IPCL/ar032002.pdf Page 21 of the document which clearly mentions that the electricity generated from the turbines is wheeled and utilized for internal consumption. Thus this project has been excluded from the common practice analysis.
Ratnamani Metals and tubes Limited	17.5	The project activity has been implemented in phases. The first phase of around 5 MW has been included under two bundled CDM project activities - 1. 22.3 MW Bundled grid connected Wind Power based electricity generation project in Gujarat and 2. 13.7 MW Bundled Grid-connected wind electricity generation in Jamnagar & Kachchh, Gujarat. 1.http://cdm.unfccc.int/UserManagement/FileStorage/X6RZB5RJQDTY6C6PF4A38DSNXH2FL4 2.http://cdm.unfccc.int/Projects/Validation/DB/HAZNBLU455HVNR7QGA4I3R7T5JWWLT/view.html

		Post these bundled projects the second phase consisting of 13.25 MW has been proposed as a separate CDM project activity implemented post January 2007 - 13.25 MW Wind Power Generation by RMTL, in Kutch, Gujarat. http://cdm.unfccc.int/Projects/Validation/DB/FQOM561A0WJL6VAG2NT568TNPCLZCG/view.html Thus, since the project activity is under CDM, it has been excluded from common practice analysis.
SREI Infrastructure	24.8	The project has been implemented in March 2007 and was not under operation at the start of the HZL project activity. Furthermore, the Annual Reports of the company for the year 2006-07 and 2007-08 specifically bear a mention of availing CDM benefits for its renewable energy projects. http://www.srei.com/srei_pdf/sreiannual/2006-07.pdf http://www.srei.com/srei_pdf/sreiannual/2007-08.pdf Thus since the project was not under operation at the time of start of the HZL project activity, it has been excluded from common practice analysis.
MSPL Ltd.	30	The Project is under CDM as part of the project activity - "30 MW wind power project at Surajbari, Gujarat in India" - http://cdm.unfccc.int/Projects/Validation/DB/L59OGCJY0XLZUC0W8MMB84A2T4NKNX/view.html Further, according to the PDD the purchase orders for the project were placed on 19th December 2006 and hence the project was not under operation at the start of the HZL project activity. Since the project activity is under CDM, it has been excluded from common practice analysis.

Thus, after exclusion of the above project activities, as stipulated by the guidance for conducting common practice analysis provided by the additionality tool, **it was found that there were no similar scale project activities under operation in the state of Gujarat at the time of start of the proposed project activity by HZL.**

From the above discussions the following can be concluded:

- ✓ Just **4.8%** of the total generating capacity in India is through wind.
- ✓ Installed capacity of wind in India is about **15%** of its potential.
- ✓ Until 31st December 2006, the installed capacity of wind energy in Gujarat was only about **4.15%** of its potential.
- ✓ Even after including CDM projects only **3.6%** of the total electricity generation in Gujarat is through wind energy sources.
- ✓ There **are no similar wind farm projects in Gujarat of 15 MW or more capacity** undertaken by public/private companies which can be comparable to the HZL project after exclusion of **CDM projects**.

The above analysis shows that:

- ✓ Wind power project development is insignificant when compared to the total installed generating capacity of the power sector as well as in terms of realisation of the total wind potential.
- ✓ Further it also shows that wind power project development is substantially dependent on CDM and non CDM wind energy generation is not widely observed and hence is not common practice.

The additionality tool states in Sub-step 4b that *"If similar activities are widely observed and commonly carried out, it calls into question the claim that the proposed project activity is financially unattractive (as contended in Step 2) or faces barriers (as contended in Step 3)."*

On the basis of the conclusions of the analysis in Sub-step 4a, it is seen that:

- ✓ Similar activities i.e. non CDM wind projects **are not widely observed**
- ✓ Further to this **non CDM wind farm projects of project size greater than 15 MW selling the generate output to state grid are not present** in the state of Gujarat.

Hence as per additionality version 4 tool further analysis of step 4 (b) is not required.

Further the additionality tool also states that "*If Sub-steps 4a and 4b are satisfied, i.e.*

i. Similar activities cannot be observed

OR

ii. Similar activities are observed, but essential distinctions between the project activity and similar activities can reasonably be explained, then the proposed project activity is additional".

The above common practice analysis satisfies the sub steps 4a and 4b through point (i) that similar activities are not widely observed and hence wind electricity generation is not a common practice.

Response by Bureau Veritas Certification to Query No. 2

The validation team explains the assessment of the common practice according to the draft Validation and Verification Manual under consideration by EB. This is explained stepwise as follows:

(a) How the geographical scope of the common practice analysis has been validated
In India, the regulatory environment for the power sector in general and renewable energy in particular is governed by the policies, regulations and tariff orders implemented at the state level, albeit derived from those by the central government. The geographical scope of the common practice analysis therefore should be at the state level.
Project participant has conducted the common practice analysis at the Gujarat state level. The validation team therefore agrees with this geographical scope.

(b) How the DOE has undertaken an assessment of the existence of similar projects;
Under the common practice analysis, it is necessary to ensure that the identification of projects of similar nature is complete [at temporal level as well as at other levels] before different criteria are applied for eliminating these.

Project participant has obtained the basic information on similar scale projects from Wind Power Directory, 2006. In India, this information is considered to be the most updated and

exhaustive information on windmill installations across the country. The source of information therefore is acceptable to the validation team.
Project participant has considered however the directory for the year 2006. This version is not likely to list those projects, which are implemented between March 2006 till the date of decision of the project activity [December 2006]. In order to overcome this lack of information, project participant also made use of other publicly available sources stated in his response.
In order to verify this information for completeness, the validation team, separately verified the data in 2007 version of the Wind Power Directory. Accordingly, the validation team hereby confirms that the analysis presented by the project participant covers all the windmill projects in Gujarat that were implemented by March 2007 and were of similar scale [i.e. windmill capacity installed by single private sector investor in Gujarat is more than 15 MW].

(c) How the DOE has assessed the essential distinctions if similar projects are widely observed.

According to the information available in various sources listed in his response, project participant has identified 7 windmill projects which are likely to be similar to the project activity,

Validation team assessed the analysis by project participant as follows –

Sr. No.	Investor	Assessment by validation team
1	Gujarat NRE Coke	The links provided by project participant clearly demonstrate that the complete capacity is already seeking CDM status.
2	Gujarat Guardian Limited	Project participant has demonstrated through weblinks that the project is different from the project activity on following accounts – 1. This project is for meeting the captive demand whereas the project activity is for export to the grid only. 2. This project is also seeking carbon credits through VER route. [refer pages 51, 52, 53 & 54 of the PDD available at the link provided by the project participant] Validation team agrees that the risks involved in a captive power project are different from those for a project exporting power. The baseline for captive project could be a fossil fuel based power plant whereas for the project activity, it is the electricity displaced from the grid. Further, since the project activity has achieved carbon finance under VER route, it is clear that the project activity would not be implemented without such additional incentive. Project participant also states that the project activity is also seeking CDM status. However, this information is not publicly available and hence could not be verified. In overall assessment, the validation team confirms that the project participant has demonstrated that the project activity is different from this project.

3	Patnaik Minerals Pvt. Ltd	Project participant has demonstrated that the project is seeking CDM status.
4	Indian Petrochemicals Co. Ltd	The project was implemented before 2000 and therefore is not eligible under CDM. Project participant has demonstrated that the project is different from project activity since – 1. It is a captive power project. 2. The regulatory environment is different. E.g. the tariff, wheeling charges and incentives like electricity duty and demand cut, sales tax, etc. are different with respect to the project activity. Validation team therefore agrees that project participant has demonstrated that the project activity is different from this project.
5	Ratnamani Metals and tubes Limited	Project participant has demonstrated that the project activity is seeking CDM status.
6	SREI Infrastructure	This project is implemented in parallel to the project activity and hence need not be considered under common practice. Nevertheless, project participant has demonstrated that the management of this company already has plans to seek CDM status for its renewable energy activities.
7	MSPL Limited	Project participant has demonstrated that the project is already seeking CDM status.

Thus the validation team confirms that the project participant has demonstrated that similar projects in the same region are either implemented only with due consideration of CDM or the project activity has essential distinctions with respect to any similar projects that are evident.

Project participant has provided information on other issues regarding penetration of wind energy in the country and the region and the validation team concurs with the same. All data and information provided has been verified with publicly available data provided through the sources mentioned in the PP's reply.

Considering all the available information, DOE is of the opinion that installations of similar scale are not a common practice in the region and that that wind power project development is substantially dependent on CDM.

We hope that the clarification provided above are satisfactory and request the EB to register the project as CDM project activity.

Yours truly,

H.B.Muralidhar
Local Product Manager-CDM
Bureau Veritas Certification