

Date: 26 December 2007

To

CDM Executive Board  
Climate Change Secretariat (UNFCCC)  
Sustainable Development Mechanisms (SDM)  
Registration & Issuance team  
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Sub: Request for review for: "155 MW Gas based combined cycle power project at Hazira" (1300)  
Identification of a contact person

Dear Sir / Madam,

We thank the CDM Executive Board and the Secretariat for giving us the opportunity to clarify about the issues raised in the request for review regarding the said project. Our response to the clarifications sought by CDM executive board is furnished below:

**Request #1: Further information is required to justify the essential distinctions between the project activity and the current common practice based on the sub-step 4b of the additionality tool.**

**Project Participant Response to Request #1:**

Under the Sub-step 4b of the "Tool for the demonstration and assessment of additionality" (Version 03) the project proponent is required to discuss any similar options that are occurring. We have provided below the common practice test for the Project Activity incorporating further information as requested.

We first analyze "Other Activities (implemented or underway) similar to Project Activity" as required under Sub-Step 4 (a) of the Additionality Tool, on the following parameters:

- **Region and broad technology:** The Indian power system is divided into five independent regional grids, namely Northern, Eastern, Western, Southern, and North-Eastern (Source: Page 2, CEA User Guide, [http://cea.nic.in/planning/c%20and%20e/user\\_guide\\_ver2.pdf](http://cea.nic.in/planning/c%20and%20e/user_guide_ver2.pdf)). As the Project Activity is located in the Western Grid, we would consider Other Activities that are in the Western Grid. Further, as the Project Activity employs combined cycle gas turbine (CCGT) technology, we have considered Other Activities as CCGTs operating or under implementation during the year 2004 (the Starting Date of Project Activity, 20 May 2004, as provided in the PDD) in Western Grid.

Out of 80 power plants in the Western Grid in 2004 – 05, there were 14 power plants implemented in the Western Grid using CCGT technology (source: CEA Database

[http://cea.nic.in/planning/c%20and%20e/Database\\_publishing\\_ver2.zip](http://cea.nic.in/planning/c%20and%20e/Database_publishing_ver2.zip)) and one plant under implementation using CCGT technology (source: CEA Project Monitoring Reports for Gujarat, Maharashtra, Madhya Pradesh, Chattisgarh and NTPC downloaded on 11 May 2004; Enclosed as Annexure 1A to 1E; the one plant using CCGT is in Annexure 1C, Serial No 2). These plants are listed in Table 1 below.

During 2004 – 05, the operating gas based units generated 25,526.35 GWh compared to the total generation of 184,084.41 GWh in Western Grid (Source: table 3.4 of CEA General Review 2006; [http://cea.nic.in/power\\_sec\\_reports/general\\_review/0405/index.pdf](http://cea.nic.in/power_sec_reports/general_review/0405/index.pdf), also provided in Annexure 2 below). This implies a penetration of 14%, i.e., a significant majority of the electricity generation (86%) has been from non-CCGT plants. This includes electricity generation from a major share of conventional pulverized fuel fired coal based and lignite based power plants (141,964 GWh or 77% of the Western Grid generation).

- **Regulatory regime:** Government of India came out with a policy for private sector participation in generation of electricity in Oct 1991 (Source: Ministry of Power Annual Report 1991-92; Page 28; <http://powermin.nic.in/reports/pdf/ar91-92.pdf>) and <http://www.adbi.org/discussion-paper/2007/04/26/2236.policy.environment.power.sector/policy.developments.for.private.investmen.t.in.the.indian.power.sector>). Prior to that, only state and federal governments, the entities promoted by the state/federal governments and select private licensees (Tata Power, BSES, Ahmedabad Electric, etc.) which were not nationalized under the Indian Electricity Act 1910 were allowed to invest in power sector generation. 7 out of the 14 CCGT power plants mentioned above were implemented or under implementation when the new 1991 policy was announced. As these 7 projects enjoyed special status (for having exclusive right to invest in power generation projects) under the pre-1991 regulatory framework, these are excluded from being part of Other Activities. The remaining 7 power plants contributed to generation of 13,262 GWh in 2004 – 05 or a penetration of 7% (Source: CEA Database [http://cea.nic.in/planning/c%20and%20e/Database\\_publishing\\_ver2.zip](http://cea.nic.in/planning/c%20and%20e/Database_publishing_ver2.zip)).
- **Technology:** Out of the remaining 7 power plants mentioned above, three power plants (Essar GT 515 MW, Gujarat Paguthan 655 MW, Dabhol GT 2184 MW) have multi-fuel firing capabilities while one is designed to run on Naphtha (Reliance Energy 48 MW). Multi-fuel fired CCGTs are not only technologically different (burner design, storage tanks, pipelines, etc.) but also have greater flexibility to choose within a range of fuels, depending on economics and availability and are thus better able to diversify fuel risks and dispatch risks, as compared to single fuel (natural gas only) fired plants. Thus, these multi-fuel fired plants and naphtha fired plant are excluded from Other Activities. The remaining 3 Other Activities that are similar to the Project Activity generated 5,884 GWh or 3% of the total Western Grid generation (Source: CEA Database [http://cea.nic.in/planning/c%20and%20e/Database\\_publishing\\_ver2.zip](http://cea.nic.in/planning/c%20and%20e/Database_publishing_ver2.zip)).
- **Access to financing:** Kawas GT 644 MW (set up before 1991) and Gandhar GT 648 MW are set up by National Thermal Power Corporation ([www.ntpc.co.in](http://www.ntpc.co.in)), the largest generator in India and owned by Government of India. NTPC's financial strength and its access to financing is significantly better than other companies in India. For example for the Gandhar GT 648 MW power project, this was funded through Japanese Overseas Development Assistance ([http://www.jbic.go.jp/english/oec/post/2002/pdf/105\\_full.pdf](http://www.jbic.go.jp/english/oec/post/2002/pdf/105_full.pdf)) and Kawas GT 644 MW has international assistance from France and Belgium

([http://www.ntpc.co.in/powerplants/ntpc\\_pw\\_kawas.shtml](http://www.ntpc.co.in/powerplants/ntpc_pw_kawas.shtml)). The projects developed by NTPC therefore have been excluded from Other Activities. The remaining 2 Other Activities that are similar to the Project Activity generated 1,852 GWh or 1% of the total Western Grid generation.

- Changes in investment climate:** It is important to distinguish between the investment climate that prevailed notably prior to the Dabhol Power Project and after. In 1992, pursuant to the 1991 power policy, Maharashtra State Electricity Board (MSEB) (with counter guarantee from Government of India) entered in to an agreement with Enron to set up a 2184 MW Naphtha/LNG fired power project at Dabhol, Maharashtra. The project was set up in two phases (phase – I, 740 MW & phase – II, 1444 MW). The phase – I of the project took 9 years to complete and started generating in 1998. In 2001, it went into dispute with the offtaker and stopped generation. Due to this dispute, phase – II of the project never entered commercial operation even though almost the entire investment was made. Since then, there have been a number of legal and regulatory cases, arbitration, political interventions, etc. and the project is yet to re-start generation. The investment climate that prevailed after the announcement of the 1991 policy where everything was done to facilitate private sector investment and under which investments like Essar GT 515 MW, Paguthan 655 MW and Dabhol 2184 MW came up completely reversed post 2002 after Dabhol's failure. Many power projects were shelved in the aftermath of Dabhol, and a number of foreign investors pulled out notably Cogentrix (Mangalore power project), China Light and Power (Hirma Power Project), CMS Energy. Thus, the projects that began implementation prior to 2002 (and especially during the 1992 – 95 period) faced very different and favourable investment climate as compared to the projects that began implementation after 2002 (<http://timesofindia.indiatimes.com/articleshow/1602986123.cms>; Annexure 3). Except the Dhuvaran CCPP/CCPP Extn projects, all other projects began implementation prior to 2002. The Dhuvaran CCPP 106 MW and Dhuvaran CCPP Extn 112 MW projects have been proposed as CDM project activity (<http://cdm.unfccc.int/Projects/DB/BVQI1190262498.56/view>).

**From the above study of various Other Activities, it is clear that there are no Other Activities that are similar to the Project Activity and hence the Sub-Step 4(b) is not applicable to the Project Activity. This thereby demonstrates that the project activity is not a common practice.**

**Table 1: Long list of Combined Cycle Gas Power Projects in Western Grid and special features**

Sl. No.	Power Plant Name	Capacity	Located in	Implementation Time	Private / Government	Implemented/under implementation in 1991-92	Implemented/began implementation prior to 2002	Multi-fuel or single fuel (natural gas)	Gross Generation 2004 – 05 (GWh)
<b>Activities Implemented</b>									
1	DHUVARAN	534 MW	GUJARAT	1964-71	Government	Yes	Yes	Multi-fuel (oil and gas)	2,114 (on LSHS)

**Replies to comments received under "Request for Review" on project 1300**  
**26 December 2007**

Sl. No.	Power Plant Name	Capacity	Located in	Implementation Time	Private / Government	Implemented/under implementation in 1991-92	Implemented/began implementation prior to 2002	Multi-fuel or single fuel (natural gas)	Gross Generation 2004 - 05 (GWh)
2	URAN GT	912 MW	MAHARASHTRA	1986-94	Government	Yes	Yes	Single fuel (natural gas)	4,113
3	VATWA TORR	100 MW	GUJARAT	1990-91	Private	Yes	Yes	Multi-fuel (gas and oil)	557
4	G.I.P.C.L. GT	305 MW	GUJARAT	1990-97	Government	Yes	Yes	Multi-fuel (gas and naphtha)	2,260
5	UTRAN GT	144 MW	GUJARAT	1992-93	Government	Yes	Yes	Single fuel (natural gas)	1,175
6	KAWAS GT	644 MW	GUJARAT (NTPC)	1992-93	Government	Yes	Yes	Multi-fuel (gas and naphtha)	2,824
7	TROMBAY GT	180 MW	MAHARASHTRA	1993-94	Private	Yes	Yes	Single fuel (natural gas)	1,335
8	GANDHAR GT	648 MW	GUJARAT (NTPC)	1994-95	Government	No	Yes	Single fuel (natural gas)	4,032
9	ESSAR GT IMP.	515 MW	GUJARAT	1995	Private	No	Yes	Multi-fuel (gas and naphtha)	3,387
10	DHABOL GT	2184 MW	MAHARASHTRA	1998	Private	No	Yes	Multi-fuel (naphtha and LNG)	0 (Stopped generation)
11	PAGUTHAN	655 MW	GUJARAT	1998	Private	No	Yes	Multi-fuel (gas and naphtha)	3,655
12	RELIANCE ENERGY	48 MW	GOA	1999	Private	No	Yes	Single-fuel (naphtha)	336
13	HAZIRA CCCP GSEG	156 MW	GUJARAT	2000	Government	No	Yes	Single-fuel (natural gas)	1,151
14	DHUVARAN CCCP	106 MW	GUJARAT	2003	Government	No	No	Single-fuel (natural gas)	701
<b>Activities under Implementation</b>									
1	DHUVARAN CCCP Extn	112 MW	GUJARAT	2006	Government	No	No	Single-fuel (natural gas)	

The contact details of the person for the review process, including for a conference call, in case the Executive Board wishes to address questions to him during the consideration of the review at its meeting is furnished below:

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Thanking You,

Yours truly,



V T Joshi

Vice President