SECTION A. General description of project activity

A.1 Title of the project activity:

Dagachhu Hydropower Project, Bhutan
Version 9.2
Dated 26/08/2013

Revision history of the PDD

Version number	Date of revision made	Remark
7.3	22/02/2010	Final PDD for CDM registration
9.1	12/03/2013	Changed PDD for EB approval (Increase of installed capacity, annual generation and investment costs/schedule)
9.2	26/08/2013	Revised the PLF value from 52% to 46.66%

A.2. Description of the project activity:

The Dagachhu Hydropower Project is a run-of-river hydropower project with an installed capacity of 126 MW (2 units of 63 MW each) with approximate annual energy production of 515 GWh. The overall purpose of the project is the generation of electricity based on renewable energy sources. The electricity will be delivered to the regional grid consisting of Bhutan and the Eastern region of India. The projected income from the sale of CERs will contribute not only to the socio-economic situation of the region but also to sustainable development in Bhutan. Furthermore, the hydro power generated will increase the share of renewable energy in the regional grid.

For Bhutan, the project will add great benefit to the national economy and environmental sustainability through the production and sale of hydropower. Thus, the sale of CERs will contribute to the financial sustainability of Bhutan while reducing CO_2 emissions in the regional grid consisting of the Eastern Indian grid and Bhutan. Furthermore, implementation of this project in Bhutan is carried out within an overall CDM capacity building project, thereby providing the project developer (Dagachhu Hydro Power Corporation Limited – hereafter referred as DHPC) with necessary skills and know-how to utilize its CDM potential for further projects.

At the regional level, the local population currently has limited access to public services, telephone services, roads, water supply and electricity. This project also foresees the construction of a transmission line with a length of 19.5 km as well as new access roads and the upgrading of existing roads. Consequently, a significant improvement of the infrastructure in the region is expected. An improvement in tourism is also anticipated due to these measures. In general, the project will provide significant local social benefits due to additional employment and business opportunities, better road access and electrification of the area.

All of the households in the vicinity of the project area will receive electricity which will drastically improve living conditions. Currently, 91 percent of households use kerosene for lighting and 98 percent use firewood for cooking. According to a study conducted by the FAO Project BHU/99/005 National Strategy for Stoves and Other Alternative Energies, May 2001, the per capita consumption of firewood by

people living between the altitudes ranging from 1200 – 2800m is 3.4kg/head/day. Using this consumption figure, the 4,446 people living within project influence area, which are currently deprived of electricity, roughly consume 15,000 kg of firewood per day. The project will replace firewood consumption and save cutting down of 15 tons of trees per day contributing to the overall environmental sustainability of Bhutan.

The project will also improve sanitary conditions of households through the income generated from the sale of farm products thus improving living conditions. Currently, 99 percent of the households use pit toilets or open defecation which results in a chain of negative effects.

For India, the project will contribute significantly to the achievement of the national sustainability goals:

- Socio-Economic well being: The project will supply power to Eastern Indian grid which will contribute in reducing chronic deficit.
- Environmental well being: The project activity will displace the power which would otherwise be generated from fossil fuel such as coal, diesel, gas etc.

A.3. Project participants:

Name of Party involved	Private and/or public entity (ies) project participants	Kindly indicate if the Party involved wishes to be considered as project participant (Yes/No)
Bhutan (host)	Dagachhu Hydro Power Corporation Limited[1]	Yes
India (host)	Tata Power Trading Company Ltd.	No

In its 28th meeting in December 2006, the CDM Executive Board clarified that the word "regional", in the context of "regional electricity system" used in ACM0002, can also be interpreted as extending across several countries. The EB Board further clarified that trans-national electricity systems are eligible under ACM0002 and the DNAs of countries in these regions, across which the electric system spans, shall be considered as host Parties.

In 2006, an agreement was signed between the Royal Government of Bhutan and the Government of India concerning cooperation in the field of hydroelectric power. The two countries shall cooperate in the development of renewable energy and both countries shall support each other to develop projects under the Clean Development Mechanism of the Kyoto Protocol, using a common carbon emission baseline, and any other international mechanisms that may come into force to encourage renewable energy. This agreement therefore provides the basis to support each other in developing CDM projects.

A.4. Technical description of the project activity:

A.4.1. Location of the project activity:

[1] For the implementation and operation of HPP Dagachhu, the Dagachhu Hydro Power Corporation Limited (DHPC) was founded. The CDM Secretariat was informed accordingly about this change of project participant by sending an updated MoC form.