



## Bhutan Electricity Authority



# **LICENCE CONDITIONS TO CONSTRUCT GENERATE, SUPPLY AND EXPORT ELECTRICAL ENERGY.**

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**LICENCE CONDITIONS TO CONSTRUCT, GENERATE,  
SUPPLY, IMPORT AND EXPORT ELECTRICAL  
ENERGY  
IN THE KINGDOM OF BHUTAN**

**GRANTED TO**

**DAGACHHU HYDRO POWER CORPORATION  
LIMITED**

PURSUANT TO THE  
ELECTRICITY ACT OF BHUTAN, 2001

Under the authority granted to it by the Electricity Act of Bhutan, 2001, the Bhutan Electricity Authority hereby grants this Licence to **Dagachhu Hydro Power Corporation** Limited (hereinafter referred to as the Licensee) to carry out the activities of Construction, Generation, Supply and Export as defined in the Licence Conditions attached to this Licence.

This Licence shall be subject to the Electricity Act of Bhutan, 2001, regulations and directives made by the Bhutan Electricity Authority from time to time and any other applicable laws of Bhutan. This Licence is also subject to the Licence Conditions included herein and attached to this Licence and made an integral part hereof. The Authority shall have the right to revoke the Licence without compensation to the Licensee for any breach of the Licence Conditions.

Granted on this 1<sup>st</sup> Day of November 2009 corresponding to the 14<sup>th</sup> Day of 9<sup>th</sup> Month of the Earth Female Ox Year.

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# 1 Definitions

The following words and phrases used in this Licence and Schedule attached hereto, when capitalized, shall have the meanings set forth below:

“Act” means the Electricity Act of Bhutan, 2001;

“Associated Business” means any business or company which directly or indirectly, in whole or in part, is owned by the Licensee, including any subsidiaries or joint ventures; owns the Licensee; or is owned by a company which owns or is owned by the Licensee;

“Authority” means the Bhutan Electricity Authority;

“Commercial Operation Date” means the initial date of commercial operation of the Dagachhu Hydropower Plant which is the mean date of acceptance tests of all individual generating units having been successfully conducted by the Dagachhu Hydro Power Corporation Limited;

“Cross Subsidy” means the transfer of assets, either in cash or kind, or allocation of costs within the accounts of the Licensee or among Associated Businesses for the financial support of one activity or business or customer group at the expense of another;

“Environmental Clearance” means a permit awarded by the National Environment Commission in accordance with the Environmental Assessment Act, 2000;

“Export” means the export of electrical energy to another country;

“Force Majeure” means any event or circumstances or combination of events and circumstances that wholly or partly delays the construction works of the Licensee, which includes the followings:

- a) Strike, lockout, war, invasion, armed conflict, blockade, revolution, riot, insurrection or civil commotion, terrorism, sabotage, fire, explosion or criminal damage;
- (b) Lightning, cyclone, typhoon, flood, famine, hurricane, droughts, earthquake, landslide, epidemic or similar cataclysmic event and such other extreme weather or environmental situations;
- (c) Change of applicable laws, enactments, rules, applicable orders or regulations including under the Electricity Act of Bhutan, 2001.

“Generation Facilities” means the equipment and installations used to generate electrical energy, including any associated civil, electrical and hydro-mechanical works;

“Grid Code” means the Bhutan Electricity Authority – Grid Code Regulation, 2008;

“Import” means the import of electrical energy from another country;

“kV” means kilo-volt;

“Licence” means a licence issued pursuant to Part 3 of the Act;

“Licence Condition” means any provision contained in this Licence or any amendment thereto;

“Licensed Activities” means those activities as defined in Section 3.1 of the Licence Conditions;

“Licensee” means any person issued with a Licence pursuant to Part 3 of the Act and “the Licensee” here refers to Dagachhu Hydro Power Corporation Limited;

“MW” means mega-watt;

“Performance Agreement” means an agreement between the Licensee and the Authority which establishes incentives and penalties related to the measurable performance by the Licensee of specific actions which are designed to improve the efficiency and effectiveness of the Licensed Activities;

“Royal Government” means the Royal Government of Bhutan;

“System Operator” means the person designated by the Authority in this role, whose function is defined under Section 39 of the Act;

“Transmission System” means the electric lines, transformer substations, and other facilities operating at a voltage of 66 kV and above.



## **2 General Conditions**

- 2.1 This Licence is governed by the Act and other applicable Laws of Bhutan.
- 2.2 The Licensee shall pay regulatory and other fees on a regular and continuous basis during the term of the Licence as determined by the Authority.
- 2.3 The Licensee is obliged to obtain Environmental Clearances as may be required according to the Environmental Assessment Act 2000.
- 2.4 The Licensee shall enter into one or more Performance Agreements, as and when required by the Authority.
- 2.5 The Authority may modify the terms and conditions of the Licence in accordance with Section 29 of the Act.
- 2.6 The Licensee may on its own initiative apply to the Authority in writing requesting that the Licence be modified in accordance with Section 30 of the Act.
- 2.7 This Licence shall not be transferred without the written consent of the Authority and payment of applicable fees. The Licensee may apply to the Authority for the transfer of this Licence pursuant to Subsection 32.2 of the Act.
- 2.8 The Licensee shall not assign, transfer, sublet or otherwise dispose of its rights, duties, liabilities, obligations and privileges under this Licence to any person or persons except with the written consent of the Authority.

- 2.9 The Licensee shall plan, construct and maintain Dagachhu Hydropower Plant and its auxiliary installations in a manner that impacts minimally on the ecology and the landscape.
- 2.10 The Licensee shall permit to use its area, including the Dagachhu Hydropower Plant and associated structures and installations, for the purpose of national security as mandated by the Government, when required, in whatever manner deemed necessary, to facilitate the necessary measures. However, the Licensee may claim the compensation for any damages caused.
- 2.11 The Licensee shall bear the cost for implementing the appropriate measures to mitigate the impacts of licensed activities.
- 2.12 The Licensee shall bear expenses related to the maintenance of public roads and bridges as directed by the relevant authority, when such expense increases due to the licensed activities.
- 2.13 The power plant and all other associated installations shall be operational and well maintained for the whole licence period.
- 2.14 Any expenses incurred by the Licensee as a result of the instruction of the Authority shall be covered by Licensee.
- 2.15 The Authority may direct the Licensee to carry out assessments of the impact of construction and operation of the power plant and to implement appropriate corrective measures, where necessary, at the Licensee's expense. The assessment reports with the appurtenant material shall be made available to the public.
- 2.16 The Licensee shall clear up the construction areas in proper manner within two (2) years after the commissioning of the plant, unless otherwise required by other relevant Acts.

- 2.17 Unless otherwise decided by the relevant authorities, the general public shall be permitted to use roads and bridges constructed by the Licensee, after the completion of the construction works.
- 2.18 Where the licensed activities involve substantial change in the water level and inflow in the river systems, the Authority shall direct the Licensee to implement appropriate measures to reduce harmful effects.
- 2.19 Unless otherwise directed, the Licensee shall keep the reservoir and intake regulation zone free of trees and bushes higher than 0.5 metres. Where the vegetation above the flooded areas is damaged as a consequence of the water regulation, the Licensee shall clear the area or take appropriate measures as directed by the concerned authorities.
- 2.20 Where the discharge of water pursuant to the approved scheme considerably affects the public interests, the Authority shall direct the Licensee to, modify as deemed necessary at the Licensee's expense, and pay compensation to third parties for the damages.
- 2.21 The Authority may direct the Licensee to carry out the hydrological observations necessary to safeguard public interest and make the resulting material available to the public authorities.
- 2.22 The approved dam water regulation limits shall be indicated by permanent and clear water level markings.
- 2.23 On the expiry of the licence for Dagachhu Hydropower Plant, the ownership of the plant including all existing installations, property and rights needed for power generation shall be transferred to the Royal Government without any compensation to the Licensee

- 2.24 The power plant and installations transferred under the subsection 2.26 shall be operational and well maintained at the time of transfer.
- 2.25 After the transfer of ownership under subsection 2.26, the power plant, including all installations, property and rights required for power generation shall be dealt with by the Royal Government in any manner it deems appropriate.
- 2.26 The copies of necessary drawings and other relevant information prepared by the Licensee in connection with the construction of the hydropower plant shall be made available to the relevant authorities upon request.
- 2.27 To the extent possible, the Licensee shall ensure that the appropriate measures are taken to enable the natural reproduction of fish and movement of migratory fish.
- 2.28 Unless otherwise stated, the Licensee shall also be required to obtain a business licence from relevant authority.

### **3 Licensed Activities**

- 3.1 The Licensee is hereby authorised to:
- i) Construct the Dagachhu Hydropower Plant and its associated structures and installations at the site as approved by the Authority;
  - ii) Operate its Generation Facilities to generate electrical energy and provide ancillary services;
  - iii) Supply electrical energy to other Licensees in Bhutan;

- iv) Export electrical energy to India; and
  - v) Distribute and supply electrical energy to consumers located within the premises of the Licensee, subject to the approval of the Authority.
- 3.2 The Licensed Activities shall be implemented through the installations operated by the Licensee as identified in Schedule I, which shall be updated annually based on a submission by the Licensee to the Authority.
- 3.3 Any construction of additional facilities, or changes of existing facilities that may impact the cost of supply and environment, is subject to a prior approval, or award of an additional Licence, by the Authority.
- 3.4 The Authority may introduce limitations on the extent of Licensed Activities that may be undertaken by the Licensee.
- 3.5 The Licensee shall take all prudent, necessary measures to increase the operational and economic efficiency of the Licensed Activities in order to assure the quality and reliability of services for the benefit of consumers.
- 3.6 The Licensee shall not engage in other activities that impede or may impede the proper performance of its Licensed Activities. The Licensee shall seek approval from the Authority before undertaking any activity other than the Licensed Activities. The Authority may prohibit or otherwise restrict the Licensee from engaging in any other activity, other than the Licensed Activities, or impose conditions on the performance of such other activity, as necessary to protect the interests of consumers.

- 3.7 Unless otherwise approved by the Authority, the Licensee shall perform its Licensed Activities in a manner that avoids the creation of any direct or indirect Cross Subsidy between its Licensed Activities and Associated Business activities.

#### **4 Licence Term for Construction**

- 4.1 The Construction Licence shall be valid for a duration of four (4) consecutive years from the date of issuance of this Licence or the Commercial Operation Date, whichever is earlier. The Licensee shall complete the construction work within the specified period, unless the Authority extends the construction period in case of an adverse geological and hydrological conditions that have not been anticipated at the time of granting the licence or in case of a Force Majeure event.

#### **5 Construction Conditions**

- 5.1 The construction area shall not include the protected historic monuments, other structure having historical, archaeological or scientific significance, or other special natural characteristics. All fossils, coins, articles of value or antiquity and structures and other remains or things of geological, paleontological, mineralogical or archaeological interest discovered on the construction site shall be deemed to be absolute property of the Royal Government. The Licensee shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such articles or thing. In the event of such discovery, the construction works shall be stopped immediately and the concerned authorities notified for further directives.

- 5.2 The Licensee shall not make any changes to the approved plans, which has impact on the cost of supply or environment, without the prior approval of the Authority.
- 5.3 In line with the relevant laws prevailing in the country, the Licensee shall immediately compensate the workers or employees or their surviving relatives when an accident at the construction site leads to the injury or death of workers or employees.
- 5.4 The Licensee shall ensure to the possible extent in maintaining the natural environment around the construction area.
- 5.5 To the extent necessary, the Licensee shall divert and maintain footpaths and footbridges during the construction period.
- 5.6 The Licensee shall satisfactorily remove trees, bushes, buildings, other installations, and the fallen waste from the areas to be flooded.
- 5.7 The Licensee shall comply with all conditions as specified in their environmental clearances and any other relevant regulations.

## **6 Licence Term for Operation**

- 6.1 Upon completion of the project construction, the Licensee shall obtain the necessary clearances from the Authority for commencing its operation.
- 6.2 The Operation Licence shall be valid for duration of thirty (30) consecutive years from the Commercial Operation Date of the Dagachhu Hydropower Plant for carrying out the licensed activities as outlined in the Section 3.1 (ii) to 3.1 (v), unless revoked earlier.
- 6.3 The Licensee may in accordance with Section 31 of the Act within three years before the expiry of the Licence, apply for a renewal

of the Licence. The Licence may be renewed on such terms and conditions as determined by the Authority.

- 6.4 The Licensee shall, on the expiry or revocation of the Licence, remove on the expense of Licensee, and to the satisfaction of the Authority all installations considered by the Authority as inappropriate for further operation based on the objectives of the Authority.

## **7 Operation Conditions**

- 7.1 During the normal operation of the power plant, the water level at the intake should be maintained at the constant level, although it may be regulated when necessary between the designed minimum level and maximum level. The power plant shall be operated according to the runoff of the river schemes methods and extreme ON and OFF operation shall be avoided.
- 7.2 The Licensee shall maintain a minimum flow in the downstream of the intake as approved by the concerned authorities.
- 7.3 The floodgates and spillways shall be well maintained.
- 7.4 All required information on the generation, water distribution, precipitation, and temperatures shall be observed and recorded and shall be sent to the Authority upon request.

## **8 Tariffs and Metering**

### **8.1 Tariffs**

- 8.1.1 The Licensee shall not charge customers and other Licensees any tariffs or charges other than those approved by the Authority, and determined in accordance with the Bhutan Electricity Authority-Tariff Determination Regulation, 2006.



8.1.2 Prices for export of electricity shall not be subject to the approval of the Authority so long as the tariffs are not subsidized. However, all copies of the power purchase agreements shall need to be filed with the Authority.

## **8.2 Metering**

8.2.1 The Licensee shall provide metering equipment and keep records of all energy flows at all connection points with the Transmission System on an hourly basis or more frequently as may be provided in the Grid Code Regulation 2008.

8.2.2 The Licensee shall provide to the System Operator timely access to metered data and estimates of energy flows, collected or developed in accordance with Section 8.2.1.

## **9 Relationship with other Licensees**

9.1 The Licensee shall enter into an agreement with the appropriate Transmission Licensee dealing with the connection of its facilities to the Transmission System.

9.2 The Licensee shall not collude in any way with other Licensees.

9.3 In the event of a dispute between Licensees under the Act, the parties to the dispute shall follow the procedures as set out in the Bhutan Electricity Authority - Dispute Resolution Procedure, 2009.

## **10 Conduct of the Licensee**

### **10.1 Co-operation with other authorities**

10.1.1 The Licensee shall co-operate with appropriate local and national authorities to assure the necessary coordination with other infrastructure development, construction and planning activities. The Licensee shall present all relevant plans for new installations to the authorities responsible for planning and construction as well as affected private landowners.

### **10.2 Business conduct of the Licensee**

10.2.1 The Licensee shall not impede, prevent or attempt to prevent other Licensees or potential competitors from engaging in, or entering into the electricity supply industry in Bhutan.

10.2.2 The Licensee shall conduct its Licensed Activities and execute its Licensed Activities on a non-discriminatory basis.

10.2.3 The Licensee shall not engage in any form of monopoly abuse.

### **10.3 Use of information**

10.3.1 The Licensee shall ensure that any confidential or privileged information obtained as a result of its activities shall not be revealed to anyone, except to persons who are authorised to receive such information. The Licensee shall also ensure that such confidential or privileged information is not used for conducting any other activities, other than the Licensed Activities.

- 10.3.2 The Licensee shall ensure that no person, including any Associated Business, uses any information in the Licensee's possession to gain an unjustified competitive advantage.
- 10.3.3 The Authority may require the Licensee to develop and submit procedures for ensuring compliance with the conditions set out in Subsections 10.3.1 and 10.3.2 above.

## **11 Compliance with Act and Regulations**

- 11.1 The Licensee shall comply with the Act, and all regulations, codes, standards, licence conditions and directives issued thereof by the Authority.
- 11.2 The Authority may initiate an investigation of the Licensee's compliance with any Licence Condition, including examination of the Licensee's business practices with respect to these conditions.
- 11.3 Authorised representatives of the Authority shall be given access to inspect the Licensee's premises, its equipment and documents for the purpose of investigating the Licensee's compliance with the Licence Conditions. The Licensee shall provide any required assistance necessary for the Authority to conduct its work efficiently. Except in cases of emergencies, reasonable notice shall be given by the Authority to the Licensee for such inspections.
- 11.4 If the Licensee is found to breach any of the Licence Conditions, the Authority may take any of the following actions:
  - i) Order compliance in accordance with Section 28 of the Act;

- ii) Modify the Licence in accordance with Section 29 of the Act;
  - iii) Revoke the Licence in accordance with Section 34 of the Act;
  - iv) Impose fines, sanctions and penalties in accordance with subsection 11.1 (vi) and Part 9, Offences, of the Act.
- 11.5 The Licensee shall inform the Authority of any violation of the Licence Conditions within one week from such violation becoming known to the Licensee.
- 11.6 Where the Authority determines that the Licensee has breached or is likely to breach a Licence Condition or the provisions of applicable Laws and, where the Authority is confident that immediate action is necessary, it may direct the Licensee to take immediate action to discontinue or refrain from that practice to:
- i) protect public health, safety and the environment; or
  - ii) prevent the destruction of public property.
- 11.7 Where the Licensee does not take action according to Section 11.6, the Authority may take action on behalf of the Licensee at the cost of the Licensee.

## **12 Reliability and Quality of Supply**

- 12.1 The Licensee shall develop and promote procedures and programmes to achieve a high level of quality and reliability of services.
- 12.2 The Licensee shall promptly notify the Authority of any circumstances which may lead to changes in the capacity of its generation facilities that may significantly and adversely affect service to customers for a period exceeding thirty (30) days.

### **12.3 Reliability of supply**

- 12.3.1 The Licensee shall install, operate and maintain such apparatus or facilities as may be necessary to provide protection from faults or equipment failure. The apparatus and facilities shall also provide protection for other emergency situations or contingencies as may be reasonably foreseen.
- 12.3.2 The Licensee may suspend or interrupt the supply temporarily or partially in order to undertake necessary maintenance, repairs and extensions of his installations or equipment or to restore supply. Such interruptions shall be limited to the extent possible in terms of duration and frequency and scheduled to periods where they are likely to cause least possible inconvenience to consumers.
- 12.3.3 The Licensee shall be required to make reasonable provisions to meet emergencies resulting from a failure of supply.
- 12.3.4 The Licensee shall notify the System Operator of the dates, estimated time and duration of any planned interruptions at least two (2) weeks ahead of the interruption.
- 12.3.5 The Licensee shall notify the System Operator immediately if any sudden disruptions or emergencies occur in its generation facilities, or in facilities with which its system is interconnected. The System Operator shall be kept informed of system conditions during the duration of any such events.
- 12.3.6 The Licensee shall keep a complete record of all interruptions, both emergency and scheduled. These recordings shall include the cause of interruptions, date, time duration, location and quantity of supply lost. In cases of emergency interruptions, the reporting shall also include the remedy and steps taken to prevent recurrence.

## **12.4 Quality of Supply**

- 12.4.1 The Licensee shall comply with the quality of supply requirements and indicators as set out in the Bhutan Electricity Authority – Grid Code Regulation 2008.

## **13 Accounting and Reporting**

- 13.1 The Licensee shall keep accounting records and prepare financial statements separately for the Licensed Activities and any Associated Businesses, in accordance with any rules and regulations of the Authority.
- 13.2 The Licensee shall allocate common expenses between its Licensed Activities and any Associated Businesses on a reasonable basis in accordance with generally accepted accounting practices.
- 13.3 The Licensee shall submit to the Authority, upon its request in a prescribed form within the time set by the Authority, any information, including information provided to other Royal Government entities, that the Authority considers reasonably necessary to conduct its regulatory responsibilities.
- 13.4 The Licensee shall, at the end of each financial year, prepare and submit to the Authority, in the form prescribed by the Authority, an annual report on the operations and services of the Licensee, and the extent to which the Licence Conditions are being followed, in accordance with the Bhutan Electricity Authority - Accounting and Reporting Regulation.
- 13.5 Information provided to the Authority by the Licensee shall be considered public unless, upon specific request of the Licensee, the Authority ascertains that certain information is of a

proprietary nature and that the public interest served by disclosure would not justify or offset the potential commercial harm to the Licensee.

- 13.6 The Licensee shall notify the Authority annually of any accident that has occurred in any part of the Licensee's works or in connection with its Licensed Activities. Notice of all Serious Safety Incidents shall be reported to the Authority in accordance to the Bhutan Electricity Authority - Safety Regulation, 2008.
- 13.7 The Licensee shall inform the Authority and the System Operator of its intention to reduce partially or totally the capacity of its facilities at least twelve (12) months prior to execution of any such reduction. A detailed explanation of its proposed actions and the effect to other Licensees and consumers shall be included in this information.
- 13.8 Any loss of capacity due to events beyond the control of the Licensee shall be reported to the Authority immediately.

#### **14 Miscellaneous Conditions**

- 14.1 Communication between the Licensee and the Authority pursuant to, or in connection with the Licence shall be given in writing and executed by a duly authorised officer of the Licensee or the Authority, respectively.
- 14.2 If any of the Licence Conditions becomes null and void or otherwise ceases to be effective, that condition shall be deleted and remaining Licence Conditions shall continue in force and effect for the term of the Licence.

## Schedule I: Licensed Installations

<b>Site &amp; Location:</b>		<b>Installed Capacity:</b>
<i>Activity</i>	<i>Item</i>	<i>Description</i>
Generation	Dam complex:	
	Water conductor system:	
	Power house complex:	
Transmission	Transmission lines:	
	Sub-station:	
Other	XXX	

*Approved in the 18th Commission meeting held on October 20, 2009*