



## **BHUTAN ELECTRICITY AUTHORITY**

**Licence No: BEA/LICENCE/008**

**LICENCE TO CONSTRUCT 720 MW MANGDECHHU  
HYDROELECTRIC PLANT  
IN THE KINGDOM OF BHUTAN**

**GRANTED TO  
MANGDECHHU HYDROELECTRIC PROJECT AUTHORITY**

**PURSUANT TO THE  
ELECTRICITY ACT OF BHUTAN, 2001**

In exercise of the power conferred by the Electricity Act of Bhutan, 2001, the **Bhutan Electricity Authority** hereby issues this Licence (hereinafter referred to as the “Licence”) to **Mangdechhu Hydroelectric Project Authority** (hereinafter referred to as the “Licensee”) to construct 720 MW Mangdechhu Hydropower Plant on this 24<sup>th</sup> April 2012 on the terms and conditions prescribed as hereunder:

(Kinga Tshering)

(Karma Tshering)

(Dasho Sonam Tshering)

### **Scope of the Licence**

1. The Licence is issued to the Licensee to construct the 720 MW Mangdechhu Hydropower Plant, its associated structures and installations at the site as approved by the Authority.

### **Duration of License**

2. The Licence shall be valid for a duration of seven (7) consecutive years from the date of issuance or till the Commercial Operation Date, whichever occurs earlier.

### **Licensed activities**

3. The Licensee shall construct 720 MW Mangdechhu Hydropower Plant, its associated structures and installations at the approved site.
4. Construction of any additional facility or any change to the approved plans that may materially impact the cost of supply and environment shall require prior approval of the Authority or issuance of an additional Licence by the Authority.
5. The Authority may impose limitations on the extent of Licensed Activities that may be undertaken by the Licensee.
6. The Licensee shall take all prudent, necessary measures to increase the operational and economic efficiency of the Licensed Activities.
7. The Licensee shall not engage in any activity that impedes or may impede the proper performance of the Licensed Activities. The Licensee shall seek approval from the Authority before undertaking any activity other than the Licensed Activities. The Authority may prohibit the Licensee from engaging in any other activity, other than the Licensed Activities or impose such conditions on the performance of other activity as deem appropriate especially to protect the interests of consumers.
8. Unless otherwise approved by the Authority, the Licensee shall not perform Licensed Activities in a manner that creates any direct or indirect Cross Subsidy between its Licensed Activities and Associated Business activities.
9. The Licensee shall complete the construction work within the specified period.
10. If the Licensee is not able to complete the construction within the specified period due to the reasons of an adverse geological and hydrological conditions or a force majeure event not been anticipated at the time of issuance of the Licence, the Authority may grant extension of duration of construction in the form of renewal of Licence upon application for such renewal made by the Licensee in accordance with section 31 of the Act.
11. The Licensee shall apply for a separate generation, operation and maintenance Licence at least two years prior to scheduled Commercial Operation Date or completion of the construction of the plant.

### **Construction conditions**

12. 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 the property of the Government. The Licensee shall take reasonable precautions to prevent 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 Licensee shall notify the concerned authority for further directive.

13. The Licensee shall ensure safety of workers and employees as per prevailing laws and standards.
14. If an accident occurs at the construction site, leading to injury or death of a worker or employees, the Licensee shall immediately compensate the worker, employee or relatives of the worker and employee in accordance with the prevailing laws of the Kingdom of Bhutan.
15. The Licensee shall ensure to maintain the natural environment around the construction area.
16. The Licensee shall ensure to divert the affected footpaths and footbridges and maintain them during the construction period.
17. The Licensee shall satisfactorily remove trees, bushes, buildings, other installations, and the fallen waste from the areas to be flooded.
18. The Licensee shall comply with all terms and conditions as specified in the environmental clearances and all other clearances issued by the relevant authorities.
19. The Licensee shall construct the power plant and its associated structures in a safe manner.

### **General conditions of the Licence**

20. The Authority may modify the terms and conditions of the Licence in accordance with section 29 of the Act.
21. The Licensee may apply to the Authority in writing for the modification of the Licence in accordance with section 30 of the Act.
22. 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 in accordance with sub-section 32.2 of the Act.
23. 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.
24. 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.
25. The Licensee shall obtain Environmental Clearances as may be required according to the Environmental Assessment Act.
26. The Licensee shall execute one or more Performance Agreements, as and when required by the Authority.
27. The Licensee shall plan, construct and maintain Mangdechhu Hydropower Plant and its auxiliary installations in a manner that impacts minimally on the ecology and the landscape.

28. The Licensee shall permit to use its area, including the Mangdechhu 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.
29. The Licensee shall implement appropriate measures to mitigate the impacts of Licensed Activities and bear such expense that may be incurred.
30. The Licensee shall bear expenses related to the maintenance of public roads and bridges which are affected by the Project as per specifications and approvals of the relevant authority.
31. The Licensee shall maintain and ensure that public infrastructure facilities are not disrupted at any point in time due to construction activities.
32. Any expenses incurred by the Licensee as a result of the instruction of the Authority shall be covered by the Licensee.
33. The Authority may direct the Licensee to carry out assessments of the impact of construction 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.
34. The Licensee shall clear the construction areas properly within two (2) years after the commissioning of the plant or in accordance with other relevant laws.
35. Unless otherwise decided by the relevant authorities, the general public shall be permitted to use roads and bridges constructed by the Licensee.
36. 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.
37. Unless otherwise directed, the Licensee shall keep the reservoir and intake area free of tree or bush which is higher than 0.5 metres. 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 the third parties for the damages.
38. 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.
39. The approved dam water regulation limits shall be indicated by permanent and clear water level markings that are accessible to the public.
40. 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.
41. The Licensee shall ensure that the appropriate measures are taken to enable the natural reproduction of fish and movement of migratory fish as required by concerned authorities.
42. The Licensee shall ensure that appropriate measures are taken to mitigate the impact on the habitats of rare and endangered species as required by concerned authorities.

43. The Licensee shall compensate the affected Government reserved forest land through reforestation activities as required by concerned authorities.
44. The Licensee shall carry out appropriate mitigating measures to minimize affects from quarrying, road constructions, tunnelling, and muck disposal activities as required by concerned authorities and to avoid inconvenience to the general public.
45. The Licensee shall also obtain other applicable clearances and permits from relevant authorities.
46. The Licensee shall ensure safety of the power plant and associated installations.
47. The Licensee shall prepare and submit to BEA and implement a comprehensive quality assurance plan during construction preferably through third party independent engineer and professionals.
48. The muck disposal shall be properly planned and implemented during the construction to avoid direct impact on the water quality and thereby the life of the mechanical equipment. The muck shall not be disposed on areas before intake weir which are to be later submerged.

### **Relationship with other Licensees**

49. The Licensee shall apply for a separate transmission construction licence in the event the Licensee intends to construct its own transmission system. Otherwise, the Licensee shall execute an agreement with the appropriate transmission licensee who deals with the connection of its facilities to the Transmission System to ensure timely evacuation of power.
50. The Licensee shall not collude in any way with other Licensees.
51. In the event of a dispute between Licensees under the Act, the parties to the dispute shall follow the Dispute resolution procedure issued by the Authority.

### **Conduct of the Licensee**

52. 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.
53. 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.
54. The Licensee shall execute its Licensed Activities on a non-discriminatory basis.
55. The Licensee shall not engage in any form of monopoly abuse.
56. 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.

57. 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.
58. The Authority may require the Licensee to develop and submit procedures for ensuring compliance with the conditions set out in paragraphs 56 and 57 of this Licence.

### **Compliance with the laws**

59. The Licensee shall comply with the Act and all regulations, codes, standards, licence conditions and directives issued thereof by the Authority.
60. 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.
61. An authorised representative 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.
62. If the Licensee breaches any of the Licence Conditions, the Authority may take any of the following actions:
  - a. Order compliance in accordance with section 28 of the Act;
  - b. Modify the Licence in accordance with section 29 of the Act;
  - c. Impose fines, sanctions and penalties in accordance with sub-section 11.1 (vi) of the Act; or
  - d. Revoke the Licence in accordance with section 34 of the Act.
63. The Licensee shall inform the Authority of any violation of the Licence Conditions within one week from such violation becoming known to the Licensee.
64. Where the Authority determines that the Licensee has breached or is likely to breach Licence Conditions or regulations, codes, standards or directives issued by the Authority 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:
  - a. Protect public health, safety and the environment; or
  - b. Prevent the destruction of public property.
65. Where the Licensee does not take action according to paragraph 64 of this Licence, the Authority may take action on behalf of the Licensee at the cost of the Licensee.

### **Accounting and Reporting**

66. 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.
67. 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 Government entities, that the Authority considers reasonably necessary to conduct its regulatory responsibilities.
68. The Licensee shall prepare and submit to the Authority, in the form prescribed by the Authority, a quarterly and an annual report on the operations of Licensed Activities, and the extent to which the Licence Conditions are being followed, in accordance with the accounting and reporting regulations issued by the Authority.
  69. Any 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.
  70. 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 safety regulation issued by the Authority.
  71. The Licensee shall inform the Authority and the System Operator regarding commissioning and interconnection of its power plant to grid reasonably before the scheduled Commercial Operation Date.

### **Miscellaneous Conditions**

72. A communication between the Licensee and the Authority pursuant to or in connection with the Licence shall be given in writing and executed by duly authorised officer of the Licensee and the Authority.
73. If any of the Licence Conditions becomes null and void or otherwise ceases to be effective, such condition shall be deemed to be severed and remaining Licence Conditions shall continue in force and effect for the term of the Licence.

### **Revocation of Licence**

74. The Authority may revoke the Licence without compensation to the Licensee for any breach of the Licence Conditions.

### **Definitions**

75. Unless the context otherwise requires, in this Licence:
  - a. "Act" means the Electricity Act of Bhutan, 2001;
  - b. "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;
  - c. "Authority" means the Bhutan Electricity Authority;
  - d. "Commercial Operation Date" means the initial date of commercial operation of the Mangdechhu Hydropower Plant which is the mean date of acceptance tests of all individual generating units having been successfully conducted by the Licensee;

- e. “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;
- f. “Environmental Clearance” means a permit awarded by the National Environment Commission in accordance with the Environmental Assessment Act;
- g. “Force Majeure” means any event or circumstances or combination of events and circumstances which is beyond the control of the Licensee that wholly or partly delays the construction works of the Licensee, which may include:
  - i. Strike, lockout, war, invasion, armed conflict, blockade, revolution, riot, insurrection or civil commotion, terrorism, sabotage, fire, explosion or damage arising out of any criminal act;
  - ii. Lightning, cyclone, typhoon, flood, famine, hurricane, droughts, earthquake, landslide, epidemic or similar cataclysmic event and such other extreme weather or environmental situations; and
  - iii. Change of applicable laws.
- h. “Generation Facilities” means the equipment and installations used to generate electrical energy, including any associated civil, electrical and hydro-mechanical works;
- i. “Government” means the Royal Government of Bhutan;
- j. “kV” shall refer to kilo-volt;
- k. “Licence Condition” means any provision contained in this Licence or any amendment thereto;
- l. “Licensed Activities” means those activities as defined in paragraph 3 of the Licence Conditions;
- m. “MW” shall refer to mega-watt;
- n. “Performance Agreement” means any agreement between the Licensee and the Authority that provides 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;
- o. “System Operator” means the person designated by the Authority in this role, whose function is defined under section 39 of the Act;
- p. “Transmission System” means the electric lines, transformer substations, and other facilities operating at a voltage of 66 kV and above.

Map layout of the Mangdechhu Hydropower Plant

