



## **Bhutan Electricity Authority**



## ***Safety Regulation 2008***

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## **1 Purpose**

- 1.1 This Regulation shall be cited as Bhutan Electricity Authority – Safety Regulation, 2008.
- 1.2 This Regulation makes provisions for the design, construction, operation and maintenance of electric power plant and equipment in a manner that is Electrically Safe.
- 1.3 This Regulation shall extend to the whole of the Kingdom of Bhutan.
- 1.4 All holders of a Generation Licence, Transmission Licence, Distribution Licence or System Operation Licence shall comply with the provisions set forth in this Regulation.

## **2 Commencement**

- 2.1 This Regulation shall come into force from 1<sup>st</sup> July, 2008.

## **3 Dispensation**

- 3.1 The Authority may, in particular cases, give dispensation, either in part or in full, from this Regulation and from Licence Conditions issued by the Authority under the Electricity Act of Bhutan, 2001.
- 3.2 For the avoidance of doubt, this Regulation shall not apply to the construction of civil works for power generation plants prior to the commencement of plant commissioning activities or to the installation and maintenance of electrical equipment on consumers' premises.

## **4 Interpretation**

- 4.1 For the purpose of this Regulation, any word or expression used to which a meaning has been assigned in the Electricity Act of Bhutan, 2001, shall have that meaning, unless explicitly indicated in the Regulation. Further reference is made to the definitions in Section 5 of this Regulation.

## **5 Definitions**

“**Authority**” means the Bhutan Electricity Authority;

“**Business day**” means a day, other than a Saturday or Sunday, or a public holiday;

“**Electrically Safe**” means no significant risk of injury or death to any person, or of damage to any property, as a result of the use of electric power and electrical equipment;

“**Licence**” means a Generation Licence, Transmission Licence, Distribution Licence or System Operation Licence issued by the Authority under the Electricity Act of Bhutan, 2001;

“**Licensee**” means the holder of a Licence issued by the Authority under the Electricity Act of Bhutan, 2001;

“**Safety Audit**” means an audit undertaken by, or on behalf of the Authority, of the effectiveness of a Licensee’s Safety Management System or of the extent of compliance with a Licensee’s Safety Rules;

“**Safety Indicator**” means an indicator, defined by the Authority, which measures a particular aspect of a Licensee’s safety performance;

“**Safety Management System**” is the means by which a Licensee ensures that employees and contractors comply with its Safety Rules;

“**Safety Records**” means records kept by Licensees during the normal course of business and relating to their operating performance in respect of safety;

“**Safety Reports**” means reports prepared by a Licensee on issues relating to electrical safety in compliance with the requirements of the Authority;

“**Safety Rules**” means procedures or work instructions issued by a Licensee to ensure that the operation, maintenance and testing of power plant and equipment under the control of the Licensee is undertaken in a manner that is Electrically Safe; and

“**Serious Safety Incident**” means an incident arising from the design, construction, operation or maintenance of a electric power plant or equipment that:

- (a) Results in the death of any person;
- (b) Results in an injury to any person which results in disability;
- (c) Causes damage to property other than property belonging to a Licensee.

## **6 Responsibilities of the Authority**

- 6.1 The Authority shall take all lawful steps necessary to ensure that the generation, transmission, and distribution of electricity within the Kingdom of Bhutan is undertaken in a manner that is Electrically Safe.
- 6.2 In exercising its responsibility under Clause 6.1 of this Regulation, the Authority shall establish a regulatory framework that ensures that the design, construction, operation and maintenance of electric power plant and equipment by Licensees are undertaken in manner that is Electrically Safe.
- 6.3 The regulatory framework may include:
- (i) Issuance of standards, codes or guidelines that specify safety requirements or procedures relevant to the design, construction, operation and maintenance of electric power plant and equipment by Licensees;
  - (ii) Setting of minimum standards of competence for persons responsible for the design, construction, operation and maintenance of electric power plant and equipment;
  - (iii) Audits of the operations of Licensees to determine the extent to which these operations are undertaken in a manner that is Electrically Safe and that complies with relevant standards, codes and guidelines and with Safety Rules;
  - (iv) Promotion of electrical safety issues to increase public awareness of electrical hazards and the need for electrical workers to adopt safe working practices;
  - (v) A regime where Licensees are required to report to the Authority on their safety performance; and
  - (vi) Compilation and dissemination of safety statistics in relation to the operations of Licensees.

## **7 Responsibilities of Licensees**

- 7.1 Licensees shall undertake their operations in a manner that is Electrically Safe and in a manner that complies with the Authority's regulatory framework and the Licensee's own Safety Rules.
- 7.2 Notwithstanding the provision of Clause 3.2 of this Regulation, Licensees shall ensure that all power plant and equipment under their control is designed and

constructed in a manner that will enable it to be operated and maintained in an Electrically Safe manner in accordance with the requirements of this Regulation.

- 7.3 Licensees shall issue Safety Rules for the design, construction, operation and maintenance of power plant and equipment under their control in a manner that is Electrically Safe. The Safety Rules shall
- (i) comply with relevant standards, codes and guidelines issued by the Authority,
  - (ii) be consistent with good industry practice, and
  - (iii) be relevant in that due account is taken of the structure of a Licensee's organization and the specific arrangements in place to manage its operations.
- 7.4 Licensees shall put in place a Safety Management System to ensure compliance with their Safety Rules.
- 7.5 Licensees shall keep Safety Records and provide Safety Reports as required by the Authority.
- 7.6 Licensees shall provide safety equipment as required by its Safety Rules and by the Authority's standards, codes and guidelines and shall also regularly inspect and test these equipment as recommended by the manufacturers, and shall maintain records of all safety inspections and tests.
- 7.7 Licensees shall report Serious Safety Incidents to the Authority.
- 7.8 Licensees shall assist the Authority in the conduct of any Safety Audit or investigation into a Serious Safety Incident and provide all information reasonably required by the Authority during any Safety Audit or investigation of any Serious Safety Incident.

## **8 Safety Code**

- 8.1 The Authority shall publish a Safety Code that shall set out the minimum safety requirements to be met by Licensees. Failure by a Licensee to comply with relevant requirements of the Safety Code shall be a breach of its License conditions.
- 8.2 The Authority may also issue other safety standards and guidelines it considers appropriate.

- 8.3 In developing the Safety Code and other safety standards and guidelines, the Authority shall consult with Licensees and other stakeholders. Submissions received during the consultation process may be considered by the Authority before the Safety Code or other safety standards or guidelines are finalized and issued.
- 8.4 The Safety Code and other safety standards and guidelines may be amended by the Authority as it deem necessary.

## **9 Safety Rules**

- 9.1 Each Licensee shall issue a set of documented Safety Rules that employees and contractors are required to follow in the design, construction, operation and maintenance of electric power plant and equipment under the control of the Licensee.
- 9.2 The Safety Rules shall take due account of the nature of the electric power plant and equipment owned and operated by the Licensee and also the structure of the Licensee's organization.
- 9.3 Safety Rules shall incorporate good industry practice.
- 9.4 Safety Rules shall be reviewed by the Licensee on a regular basis and updated as required.
- 9.5 Licensees shall put in place a Safety Management System that ensures compliance with its Safety Rules by employees and contractors. The effectiveness of this system may be audited by the Authority.
- 9.6 A Safety Management System may include lawful provisions for disciplining employees for willful non-compliance with the Safety Rules. Such provisions may include a range of penalties, including dismissal for serious breaches.

## **10 Safety Audits**

- 10.1 The Authority may audit the compliance of employees and contractors with a Licensee's Safety Rules and the effectiveness of a Licensee's Safety Management System. The frequency and scope of Safety Audits shall be determined by the Authority.
- 10.2 Safety Audits may be undertaken by the Authority's own staff or by an appropriately qualified contractor engaged by the Authority for the purpose. The costs associated with a Safety Audit shall be paid by the Licensee.

- 10.3 The Authority shall normally give a Licensee reasonable notice of its intention to undertake a Safety Audit. However, the Authority may undertake a Safety Audit without prior notice should it be warranted.
- 10.4 The Authority shall give a Licensee an opportunity to comment on the report of a Safety Audit prior to the finalization of the report.
- 10.5 The Authority may require a Licensee to take, at the Licensee's own cost, appropriate corrective action to address any findings of a Safety Audit.

## **11 Investigation of Serious Safety Incidents**

- 11.1 All Serious Safety Incidents shall be reported to the Authority no later than the end of the next Business Day following the occurrence of the Serious Safety Incident.
- 11.2 The Authority may require a Licensee to investigate, or may itself investigate, any Serious Safety Incident.
- 11.3 Where the Serious Safety Incident results in a fatality, an investigation pursuant to Clause 11.2 of this Regulation shall be carried out. Where the Serious Safety Incident does not involve a fatality, the Authority may decide whether an investigation shall be undertaken.
- 11.4 The Authority may engage an appropriately qualified contractor to undertake an investigation into a Serious Safety Incident on its behalf.
- 11.5 Licensees shall not destroy evidence that may be relevant to an investigation into a Serious Safety Incident without the prior consent of the Authority, and shall comply with all reasonable requests of the Authority in relation to the conduct of any such investigation.
- 11.6 A written report shall be prepared on each investigation into a Serious Safety Incident. The report shall identify the probable cause of the Serious Safety Incident and shall make recommendations on corrective actions to be taken to reduce the risk of similar events occurring in the future to the extent that this is appropriate.
- 11.7 The Authority may require a Licensee to take corrective actions as a result of the findings of an investigation into a Serious Safety Incident.
- 11.8 All costs associated with an investigation into a Serious Safety Incident shall be borne by the Licensee.

## **12 Safety Reporting**

- 12.1 The Authority may require Licensees to regularly report to it on the safety of their operations, and may specify the format, frequency and content of such Safety Reports.
- 12.2 The Authority may determine and define a set of standard Safety Indicators to be reported by Licensees in their Safety Reports.
- 12.3 Licensees shall maintain all Safety Records necessary to ensure the accuracy of Safety Reports.

## **13 Safety Awareness**

- 13.1 The Authority shall raise public awareness of the hazards associated with the operation of electric power plant and equipment. It shall also work with Licensees to minimize the risks to the general public.
- 13.2 The Authority may, either on its own initiative or in partnership with Licensees, undertake public awareness campaigns or workshops designed to raise awareness of risks inherent in the transmission, distribution and use of electrical energy and to minimize the risks to the general public.
- 13.3 Nothing in this Regulation shall (i) limit the responsibility of Licensees to design, construct, operate and maintain their power plant and equipment in a manner that minimizes the risk to the general public, (ii) limit or reduce the obligations and responsibilities of Licensees under any law, (iii) indemnify Licensees from any legal liability or (iv) prevent Licensees from undertaking their own public awareness campaigns independently of the Authority.

*Approved in the Ninth Commission Meeting held on March 28, 2008.*