

Pursuant to the Article 32, 5th paragraph, of the Energy Law (Official Gazette of the Republic of Montenegro, No: 39/03), the Ministry for Economic Development promulgates

Regulation on technical conditions for connection of small power plants to the electricity distribution network

The Regulation is published in the Official Gazette of the Republic of Montenegro, No. 25/2007 dated 11.05.2007

I GENERAL PROVISIONS

Article 1

This regulation specifies technical conditions for connection of new Small Power Plants with capacity of up to 10 MVA to the network as well as Small Hydro Power Plants (hereinafter to be referred as: sHPPs) whose rehabilitation would entail a change of connection conditions as well as with respect to construction of a connection.

Article 2

Small Hydro Power Plants, as described in the Article 1 of this Regulation, shall be connected to electricity distribution network subject to obtaining a Permit for connection of a sHPP to electricity distribution system.

II METHOD AND CONDITIONS FOR OBTAINING A PERMIT TO CONNECT TO ELECTRICITY DISTRIBUTION SYSTEM

Article 3

Power plants as described in the Article 1 of this Regulation shall be connected to electricity distribution system in accordance with the Energy law (Official Gazette of the Republic of Montenegro, No 39/03), this regulation and rules on operation of electricity distribution system, as well as in accordance with standards and technical regulations specifying conditions for connection to and use of electricity facilities, devices and installations and with Distribution code.

Article 4

Connection of a sHPP to electricity distribution system shall be performed based on a Consent for connection, in accordance with conditions for elaboration of technical documentation for connection facilities, as issued by energy entity who owns the system to which a plant is to be connected with a consent of Distribution Operator.

Article 5

Consent for connection of a sHPP shall be issued on request of investor in the sHPP. A request from the first paragraph of this Article shall specifically contain the information concerning:

- 1) owner of facility, i.e. owner of right to use a facility (business name, legal seat, tax identification number, registration number, bank account and responsible person);
- 2) a facility for which a connection consent is requested (address, location of a facility);
- 3) total installed capacity of a facility, number and capacity of generators, generator voltage and set transformer;
- 4) expected date for connection of a facility;
- 5) expected annual and monthly generation;
- 6) protection and measurement devices.

Together with the request from the first paragraph of this Article, the applicant shall submit the energy permit for connection to the network and a licence issued in accordance with the Law.

Article 6

Together with the request for a connection Consent for sHPP, i.e. rehabilitated energy facility which is already connected to electricity distribution system, applicant shall also submit

a permit for construction of a facility, together with a property right certificate, that is right to use the facility certificate.

Article 7

Besides from elements specified by the law, a Consent for connection of a facility to electricity distribution system (hereinafter: Decision), shall also contain other information:

- 1) characteristics of a sHPP (installed capacity, received/taken electricity on annual level, power factor, auxiliary consumption, operation mode of a power plant);
- 2) number of generator sets, type and rated capacity of a drive engine, generator type and rated voltage, capacity and frequency of generator, rated capacity and transformation ratio of a transformer, rated capacity of a device for compensation of reactive power and voltage level of a compensation, allowed voltage and frequency deviations on a connection point with the network under normal operational conditions;
- 3) connection point and method of connection to electricity distribution system: location, type and cross-section of a connection line, type of a switching device (circuit breaker, disconnecter), type of protection devices;
- 4) connection conditions, information concerning HV and LV network on a connection point: (rated voltage, rated frequency, actual current (power) of a three-pole short circuit on a power plant connection point, maximum allowed short-circuit power on HV/LV busbars, maximum expected current of a single-pole earth fault on 10 kV/ 20/35 kV level);
- 5) connection within a power plant: site (cubicle for connection of installation, substation, distribution cabinet, etc), equipment, information about switching device, protection equipment and safety measures in case of contact with live parts of equipment, overvoltage, and measures in accordance with existing technical regulation, standards and recommendations, with appropriate check through measurement with certification;
- 6) metering point: location, equipment (metering devices, instrument transformers, control devices, registration, etc) in accordance with the Energy law, this Regulation, rules for operation and other technical regulation;
- 7) identification of electricity facility onto which a connection is made in accordance with spatial plans developed in line with planning and construction regulation;
- 8) validity period for a connection consent;
- 9) costs of connection;
- 10) conditions of Distribution in accordance with the Law, operational rules and other technical regulation;
- 11) quality of electricity in accordance with the Law, operational rules and other technical regulation;
- 12) other obligations pursuant to the Law.

Article 8

Decision from the Article 7 of this Regulation shall be issued with two years validity period with a possibility to extend this period until the deadline for construction of a sHPP.

Article 9

Costs of connection to electricity distribution system shall be borne by applicant for a connection.

Level of costs as described in the first paragraph of this Article shall be determined by the Distribution Operator based on market prices of material, equipment and works required for construction of a connection and costs of preparation of consent, through tariffs.

Calculation of costs as described in the first paragraph of this Article shall be made based on location of a connection point, required construction of new facilities and works implemented and necessary equipment installed.

Article 10

Prior to connecting small scale HPP to electricity distribution network, an electricity customer and energy entity carrying out electricity supply activity shall enter into Electricity Sale Agreement, in accordance with the law and rules on operation of electricity distribution system.

Energy entity shall connect customer's facility to electricity distribution system not later than 15 days from the day of signing of Electricity Sale Agreement, subject to customer fulfilling terms and conditions specified in the Decision, submitting operational permit for facility as well as a proof that prescribed technical conditions are met which ensure safety of people and property.

III QUALITY OF ELECTRICITY

Article 11

Small Hydro Power Plants shall be connected to electricity distribution system in accordance with standard requirements relating to quality of electricity and safety of operation or to electricity supply to existing electric power system users.

Article 12

Electricity generated in sHPP which is delivered to customers shall be of a rated voltage and rated frequency.

Frequency in a network of electricity delivering entity shall be 50 Hz \pm 0,5 Hz (hertz).

Allowed voltage deviation on electricity delivery point from a standard voltage for a connection point of a small Hydro Power Plant to electricity distribution system, under normal operating conditions is as follows: on low voltage 230/400 V between +10% and -10%, on medium voltage \pm 5%.

Allowed voltage deviation while putting generator connected to electricity distribution system into operation and while putting it out of operation is as follows: in low voltage network: \pm 6% rated voltage (231/400 V), in medium voltage network: \pm 2% rated voltage (10 kV; 20 kV; 35 kV).

Exceptionally, if in the event of failure caused by Force Majeure on electricity facilities belonging to electricity delivering entity, or if in case of overloading, it is not possible to maintain voltage conditions from the third paragraph of this Article, bigger deviations shall also be allowed.

In the event of bigger deviations as described in the fifth paragraph of this Article, electricity delivering entity shall immediately implement necessary measures and shall as soon as practically possible repair failure and reestablish appropriate voltage conditions.

IV METERING METHOD FOR DELIVERED ELECTRICITY

Article 13

Delivered electricity and power shall be metered by applying proscribed measures while using appropriate metering devices such as are:

- 1) voltage and current instrument transformers;
- 2) meters for active and reactive electricity;
- 3) auxiliary devices (time switches, RTK receivers, summary meters, registrators and indicators of reactive and active power and other accessories). ...

Installed metering devices have to be certified and sealed by an authorised organisation, and their connections shall be checked and sealed.

Seals on metering devices as described in the first and second paragraph of this Article shall not be older than two years.

Type of metering devices to be used shall be decided based on technical characteristics of a power plant.

Article 14

Metering devices shall meet proscribed standards, technical regulations and quality standards.

Distribution Operator shall specify a type, accuracy class, required number and metering range of metering devices as well as a place and method for their storage in accordance with this regulation and technical conditions for settlement metering place.

Article 15

Meters belonging to entities delivering electricity into low voltage network, where only active energy is metered, shall be of at least 2.0 accuracy class.

Meters belonging to entities delivering electricity into low voltage network where active energy is metered, as well as reactive energy and peak load (direct or semi-indirect metering sets), shall be of at least 1.0 accuracy class for all values, except for reactive energy where accuracy class shall be at least 3.0.

Meters belonging to entities delivering electricity into high voltage network (above 1 kV) shall meter active energy, reactive energy and peak load, with accuracy class of at least 0.5 for all values, for generation levels up to 10 GWh/p.a., e.g. at least 0.2 for all values for generation levels over 10 GWh/p.a., except for reactive energy where accuracy class shall be at least 3.0.

Accuracy class of instrument transformers metering electricity of up to 10 GWh/p.a. per one metering group shall be maximum 0.5, and for meterings of larger quantities of electricity shall be of at least 0.2 class.

Distribution Operator and electricity delivering entity may reach an agreement concerning additional metering requirements for settlement metering place, in accordance with this regulation and technical conditions.

Article 16

Electricity delivering entity and Distribution Operator shall maintain and ensure regular maintenance of metering devices in accordance with conditions specified by the law.

V CLOSING PROVISION

Article 17

This regulation shall enter into force on the eighth (8th) day after its publication in the Official Gazette of the Republic of Montenegro.

No: 01-1739

Podgorica, May 7, 2007

Minister,
Branimir Gvozdenović