LUŠTICA BAY
ELECTRICITY COMPANY

On the basis of Article 122 of the Energy Law (Official Gazette of Montenegro 5/16) and the Articles of Association of DOO "Luštica Bay Electricity Company" Tivat, the following is defined:

RULES FOR THE FUNCTIONING OF THE CLOSED ELECTRICITY DISTRIBUTION SYSTEM

I GENERAL PROVISIONS

Article 1

These rules regulate the work of the electricity distribution system for the service area of DOO "Luštica Bay Electricity Company" Tivat (hereinafter: LBEC) in accordance with the licence for the performance of the activity of electricity distribution, in particular:

1) maintenance and development procedure for the distribution system;
2) development planning procedure and technical conditions for planning;
3) operation and functioning of the distribution system;
4) technical conditions for connection to the distribution system and interconnection with other systems;
5) technical and other conditions for the safe functioning of the electricity system to ensure that customers are supplied with electricity of the prescribed quality;
6) procedure for the submission of data and information to the transmission system operator, market operator, suppliers and other energy undertakings, which are necessary for their work;
7) distribution system's operational procedures for extraordinary or emergency situations;
8) general conditions for the use of the distribution system;
9) conditions for the termination of contracts on the use of the distribution system that do not hinder the transition to another supplier;
10) standard contracts referred to in Article 116 paragraph 1 item 9 of the Law;

Na osnovu člana 122 Zakona o energetici ("Službeni list CG", broj 5/16) i Statuta DOO "Luštica Bay Electricity Company" Tivat, utvrđuju se:

PRAVILA ZA FUNKCIONISANJE ZATVORENOG DISTRIBUTIVNOG SISTEMA ELEKTRIČNE ENERGIJE

I OSNOVNE ODREDBE

Član 1

Ovim pravilima uređuje se rad distributivnog sistema električne energije za područje opsluživanja DOO "Luštica Bay Electricity Company" Tivat (u daljem tekstu: LBEC) u skladu sa licencom za obavljanje djelatnosti distribucije električne energije, a naročito:

1) način održavanja i razvoja distributivnog sistema;
2) način planiranja razvoja i tehnički uslovi za planiranje;
3) rad i funkcionisanje distributivnog sistema;
4) tehnički uslovi za priključenje na distributivni sistem i interkonekciju sa drugim sistemima;
5) tehnički i drugi uslovi za sigurno funkcionisanje elektroenergetskog sistema radi snabdijevanja potrošača električnom energijom propisanog kvaliteta;
6) način dostavljanja podataka i informacija operatoru prenosnog sistema, operatoru tržišta, snabdjevačima i drugim energetskim subjektima, koji su neophodni za njihov rad;
7) način rada distributivnog sistema u vanrednim ili hitnim situacijama;
8) opšti uslovi za korišćenje distributivnog sistema;
9) uslovi za raskid ugovora o korišćenju distributivnog sistema koji ne otežavaju promjenu snabdjevača;
10) formularni ugovori iz člana 116 stav 1 tačka 9 Zakona;

11) manner of connecting electricity generation plants to the distribution system which includes non-discriminatory procedures for connecting various types of generation to the system;
12) manner of giving priority for accessing or taking over electricity generated from renewable energy sources or high-efficient cogeneration.

11) način priključenja objekata za proizvodnju energije na distributivni sistem koji uključuje nediskriminatorne procedure za priključenje na sistem za različite vrste proizvodnje;
12) način davanja prioriteta u pristupu i preuzimanju električne energije proizvedene iz obnovljivih izvora i visokoefikasne kogeneracije.

Electricity distribution system

Article 2

(1) The electricity distribution system comprises 35 kV plants, 35/xkV/kV transformers and 35 kV lines, as well as plants, transformers and lines of a lower voltage level, to the point of connection of system users, as well as facilities, telecommunication and information equipment and other infrastructure necessary for their functioning, except in the case referred to in Article 117 of the Law.
(2) The distribution system, in the context of these rules, also encompasses facilities and/or elements of power facilities or networks of a medium or low voltage which are the property of a CDS user, through which electricity is distributed to other CDS users as well.

Distributivni sistem električne energije

Član 2

(1) Distributivni sistem električne energije čine postrojenja 35 kV, transformatori 35/x kV/kV i vodovi 35 kV, kao i postrojenja, transformatori i vodovi nižeg naponskog nivoa, do mjesta priključka korisnika sistema, kao i objekti, telekomunikaciona i informaciona oprema i druga infrastruktura neophodna za njegovo funkcionisanje, osim u slučaju iz člana 117 Zakona.
(2) Distributivni sistem, u smislu ovih pravila, obuhvata i objekte i/ili elemente elektroenergetskih objekata ili mreže srednjeg i niskog napona koji su u vlasništvu korisnika ZDS, a preko kojih se vrši distribucija električne energije i drugim korisnicima ZDS.

Scope of application

Article 3

In the technical and technological aspect, these rules apply to the parts of the system owned by LBEC and the parts of the system owned by a user, through which electricity is distributed.

Article 4

(1) These rules apply to:
1) closed distribution system operator;
2) distribution system users.

Područje primjene

Član 3

U tehničko-tehnološkom pogledu, ova pravila se primjenjuju na djelove sistema u vlasništvu LBEC i djelove sistema u vlasništvu korisnika a preko kojih se obavlja distribucija električne energije.

Član 4

(1) Ova pravila se odnose na:
1) operatora zatvorenog distributivnog sistema;
2) korisnike distributivnog sistema.

(2) LBEC is obliged to carry out the distribution activity according to the principles of objectivity, transparency and non-discrimination.

(2) LBEC je dužan da djelatnost distribucije obavlja na principima objektivnosti, transparentnosti i nediskriminatornosti.

Exemptions

Article 5

(1) If specific energy undertakings or users are obliged but are not in the position to apply certain obligations from these rules, they may submit a request for temporary exemption from such obligations.
(2) A user or energy undertaking submits the request referred to in paragraph 1 of this Article to LBEC.
(3) The exemption request must include:
   1) detailed description of the individual obligations for which exemption is sought, the degree of the exemption and the area or part of the distribution network/system for which exemption is sought;
   2) detailed explanation of the reasons why exemption is sought;
   3) proposed measures for overcoming the reasons and consequences of the sought exemption for the period of the proposed duration of exemption and
   4) period for which exemption is sought.

(4) LBEC will decide on the request referred to in paragraph 2 of this Article within 15 days since the day of receipt.

Izuzeća

Član 5

(1) Ukoliko su pojedini energetski subjekti ili korisnici obavezni, a nijesu u mogućnosti da primijene određene obaveze iz ovih pravila, mogu podnijeti zahtjev za privremeno izuzeće od takve obaveze.
(2) Zahtjev iz stava 1 ovog člana korisnik odnosno energetski subjekat podnosi LBEC.
(3) Zahtjev za izuzeće mora sadržati:
   1) detaljan opis u pogledu kojih pojedinačnih obaveza, u kojoj mjeri i na kom području ili dijelu distributivne mreže/sistema se traži izuzeće;
   2) detaljno obrazloženje zašto se izuzeće traži;
   3) predložene mjere za prevazilaženje razloga i posledica traženog izuzeća za vrijeme predloženog trajanja izuzeća i
   4) vremenski rok na koji se izuzeće traži.

(4) LBEC će po zahtjevu iz stava 2 ovog člana odlučiti u roku od 15 dana od dana prijema.

Abbreviations

Article 6

(1) The abbreviations used in these rules have the following meanings:
ARC: automatic reconnection;
AC: alternating current;
CDSO: closed distribution system operator;
CDS: closed electricity distribution system;
DC: direct current;
EES: electrical energy system;
EEF: electrical energy facility;
ET: energy transformer;

Skraćenice

Član 6

(1) Skraćenice upotrijebljene u ovim pravilima imaju sljedeće značenje:
APU: automatsko ponovno uključenje;
AC - Alternate Current: naizmjenična struja;
OZDS: operator zatvorenog distributivnog sistema;
ZDS: zatvoreni distributivni sistem električne energije;
DC - Direct current: jednosmjerna struja;
EES: elektroenergetski sistem;

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IEC: international energy standards;
CDPD: current differential protection device;
CJB: cable junction box;
SPP: small power plant;
MDB: meter distribution board;
NTC: network three-frequency command;
VIT: voltage instrument transformer;
LV: low voltage;
DSO: distribution system operator – CEDIS;
TS: electricity transmission system;
ERA: Energy Regulatory Agency;
RTC: radio three-frequency command;
ABC: aerial bundled conductor;
CIT: current instrument transformer;
MV: medium voltage;
THD: total harmonic distortion;
TS: transformer station;
HV: high voltage.

EEO: elektroenergetski objekt
ET: energetski transformator;
IEC: internacionalni energeski standardi;
ZUDS: zaštitni uređaj diferencijalne struje;
KPK: kablovska priključna kutija;
ME: mala elektrana;
MRO: mjerno - razvodni orman;
MTK: mrežna trofrekventna komanda;
NMT: naponski mjerni transformator;
NN: niski napon;
ODS: operator distributivnog sistema - CEDIS;
PS: prenosni sistem električne energije;
RAE: regulatorna agencija za energetiku;
RTK: radio trofrekventna komanda;
SKS: samonosivi kablovski snop;
SMT: strujni mjerni transformator;
SN: srednji napon;
THD: vrijednost faktora ukupnoga harmonijskog izobličenja;
TS: transformatorska stanica;
VN: visoki napon.

Definitions

Article 7

(1) The terms used in these rules have the meanings defined by the Law.
(2) For the purpose of these rules, the following terms are used:
   1) **extraordinary circumstances** are unpredictable natural events which have the character of natural hazards (floods, earthquakes, fires, storms), as well as other circumstances proclaimed as such by competent authorities (general power outage, immediate danger of war, etc.);
   2) **extraordinary inspection** is an inspection conducted in case of extremely worsened weather conditions or if the need arises;
   3) **load value range**:
      a) for generating units: load between the technical minimum and the available power of the generating unit;
      b) for lines: load determined by the allowed thermal load rating;

Značenje izraza

Član 7

(1) Izrazi upotrijebljeni u ovim pravilima imaju značenje utvrđeno Zakonom.
(2) U smislu ovih pravila koriste se izrazi koji imaju sljedeće značenje:
   1) **vanredne okolnosti** su nepredvidljivi prirodni događaji koji imaju karakter elementarnih nepogoda (poplave, potresi, požari, olujni vjetrovi), kao i druge okolnosti koje proglasi nadležni organ (opšta nestašica električne energije, neposredna ratna opasnost i dr.);
   2) **vanredni pregled** je pregled koji se vrši u slučaju izuzetno pogoršanih pogonskih uslova ili ukazane potrebe;
   3) **opseg vrijednosti opterećenja**:
      a) za proizvodne jedinice: opterećenje između tehničkog minimuma i raspoložive snage proizvodne jedinice;
      b) za vodove: opterećenje koje određuje dozvoljeno termičko opterećenje provodnika;

c) for power transformers: load between idle time and power rating of the transformer;

4) **distribution network losses** are the difference between the taken and delivered electricity in the distribution system;
5) **distribution management centre** is a specially organised part of LBEC responsible for the contents of orders for manipulations in connection to the work, plants and management of the distribution system;
6) **dispatch** is a communicated and mutually recorded and registered brief and important notification, request or approval of operational significance;
7) **work permit** is a document given by LBEC to the operations manager after the performance of the prescribed activities on securing the place of work;
8) **distribution system element** is a piece of equipment or a device, or a set of equipment or devices which constitute a part of the distribution system with specific functions in the distribution of electricity, such as: underground and overhead power line (long-distance line, line, cable), power transformer, busbar, switch, disconnector, etc.;
9) **power line** is the common name for overhead and underground lines;
10) **power plant – substation or switching station** is a facility intended for the transformation or distribution of electricity;
11) **power facility** is a facility in which one or more technological functions of power generation, transmission or distribution are performed;
12) **flicker** is an occurrence registered by the human eye during a change in the brightness of a light fixture. This happens due to a fluctuation in the specific level and frequency of the light fixture's supply voltage. The occurrence is most often characterised by two intensity indicators:
    a) short-term flicker intensity index (10-minute period), P_{st},

c) za energetske transformatore: opterećenje između praznog hoda i nazivne snage transformatora;

4) **gubici u distibutivnoj mreže** su razlika između preuzete i isporučene električne energije u distributivnom sistemu;
5) **distributivni centar upravljanja** je posebno organizovan dio LBEC odgovoran za sadržaj naloga za manipulacije u vezi rada, pogona i upravljanja distributivnim sistemom;
6) **depeša** je saopšteno i obostrano zabilježeno i registrovano kratko i važno obavještenje, zahtjev ili odobrenje pogonskog značaja;
7) **dozvola za rad** je dokumenat koji LBEC daje rukovodiocu radova nakon sprovođenja propisanih aktivnosti na obezbjeđenju mjesta rada;
8) **element distributivnog sistema** je oprema ili uređaj, odnosno skup opreme ili uređaja koji čine dio distributivnog sistema sa specifičnim funkcijama u distribuciji električne energije, kao što su: podzemni ili nadzemni elektroenergetski vod (dalekovod, vod, kabal), energetski transformator, sabirnica, prekidač, rastavljač i dr;
9) **energetski vod** je zajednički naziv za nadzemni i podzemni vod;
10) **energetsko postrojenje - transformatorska stanica**, odnosno razvodno postrojenje je objekat namijenjen za transformaciju, odnosno razvođenje elektricne energije;
11) **energetski objekat** je objekat u kojem se vrši jedna ili više tehnoloških funkcija proizvodnje, prenosa, distribucije električne energije;
12) **fliker** je pojava koju zapaža ljudsko oko pri promjeni osvjetljenja rasvjetnog tijela. Pojava nastaje kao posljedica promjene određenog nivoa i frekvencije napona napajanja rasvjetnog tijela. Pojava se najčešće karakteriše s dva indeksa jačine:
    a) indeks jačine flikera kratkog trajanja (period 10 minuta), Pst ,

b) long-term flicker intensity index (12 measurements of P_{st} in a 120-minute period),

$$P_h = \sqrt[3]{\frac{1}{12}\sum_{i=1}^{12} P_{st}^3}$$

13) **Law** is the Energy Law;
14) **disconnection** is an action taken by LBEC for the purpose of separating users' plants and installations from the distribution network;
15) **distribution system user** is a supplier, producer, self-supplying customer, transmission system operator for his own consumption needs and closed distribution system operator, who takes electricity from the CDS for the needs of his customers or directly;
16) **manipulation** is any change in the operational status of CDS elements;
17) **metering place** is the place on which taken or delivered electricity or power are metered;
18) **metering devices** are devices for the metering and registration of electricity, power and other energy values which electricity is characterised by;
19) **measurements and tests** are a set of works and procedures involving metering and testing devices by which metering values are determined;
20) **point of connection** is the place where the connection to the CDS is made;
21) **electricity delivery point** is the place where electricity is delivered to or taken from the distribution system;
22) **rated voltage** is the voltage by which the grid or equipment are labelled and in relation to which their characteristics are provided;
23) **work order** is a document which precisely defines the CDS EEF and the exact place of work, work task, person in charge of securing the place of work and the executives, and it is issued to the operations manager;

b) indeks jačine flikera dugog trajanja (12 mjerenja Pst u periodu od 120 minuta),

$$P_h = \sqrt[3]{\frac{1}{12}\sum_{i=1}^{12} P_{st}^3}$$

13) **Zakon** je zakon o energetici;
14) **isključenje** je radnja koju preuzima LBEC radi odvajanja postrojenja i instalacija korisnika od distributivne mreže;
15) **Korisnik distributivnog sistema** je snabdjevač, proizvođač, kupac - samosnabdjevač, operator prenosnog sistema za potrebe sopstvene potrošnje i operator zatvorenog distributivnog sistema, koji za potrebe svojih kupaca ili neposredno preuzima električnu energiju iz ZDS.
16) **manipulacija** je svaka promjena uklopnog stanja elementa ZDS;
17) **mjerno mjesto** je mjesto na kome se mjeri preuzeta, odnosno predata električna energija i snaga;
18) **mjerni uređaji** su uređaji za mjerenje i registraciju električne energije, snage i ostalih energetskih veličina koje karakterišu električnu energiju;
19) **mjerenja i ispitivanja** je skup radova i postupaka sa mjernim i ispitnim uređajima pomoću kojih se utvrđuju vrijednosti mjerenih veličina;
20) **mjesto priključenja** je spojno mjesto u kojem se priključak spaja na ZDS;
21) **mjesto primopredaje električne energije** je mjesto na kome se električna energija isporučuje iz, odnosno preuzima u distributivni sistem;
22) **nazivni napon** je napon kojim su mreža ili oprema označeni i u odnosu na koji se daju njihove karakteristike;
23) **nalog za rad** je dokumenat u kome je precizno definisan EEO ZDS i tačno mjesto rada, radni zadatak, osoba zadužena za obezbjeđenje mjesta rada i izvršioci, i isti se izdaje rukovodiocu radova;

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24) **unplanned maintenance** is a process which comprises repairs of facilities following a surprise defect and due to a need for taking urgent measures on a facility after a shortcoming or defect is established;
25) **low-voltage network** is a network with a rated voltage of up to 1 kV;
26) **normal operation** is the sort of operation when none of the distribution system elements are out of operation due to defects and/or overloading;
27) **approved connection capacity** is the maximum simultaneous power from the connection permit;
28) **billable metering place** is the place in the network where the quantity of electricity and/or power which the user takes and/or delivers to the network is measured;
29) **workplace security** is a set of actions which imply the performance of manipulations, application of specific procedures, use of protective equipment and means of personal and collective protection with the aim of preventing accidents at work;
30) **notification on completion of works** is a standard document by which the operations manager informs the person in charge of securing the place of work that the works have been completed;
31) **trigger** is an electromechanical switch for turning on/off the switchgear;
32) **investment plan** is the plan of the construction of new and the reconstruction of existing facilities and elements of the distribution system harmonised with the distribution system development plans;
33) **supply interruption** is a state in which there is no supply of electricity and power to a specific customer or group of customers;
34) **preventive maintenance** is a planned process that is conducted based on the maintenance strategy;
35) **review** implies a periodic check of the basic parameters of a power facility aimed at establishing the condition and operational

24) **neplanirano održavanje** je proces koji se sastoji u popravkama objekata nakon iznenadnog nastanka kvara i kao posljedica potrebe za preduzimanjem hitnih mjera na objektu nakon utvrđivanja nekog nedostatka ili kvara;
25) **niskonaponska mreža** je mreža nazivnog napona do 1 kV;
26) **normalan pogon** je pogon pri kojem nijedan element distributivnog sistema nije ispao iz pogona zbog kvara i/ili preopterećenja;
27) **odobrena priključna snaga** je maksimalna jednovremena snaga iz saglasnosti za priključenje;
28) **obračunsko mjerno mjesto** je mjesto u mreži na kojem se mjeri količina električne energije i/ili snage koju korisnik preuzima i/ili isporučuje u mrežu;
29) **osiguranje mjesta rada** je skup radnji koje podrazumijevaju izvršenje manipulacija, primijenu određenih postupaka, korišćenje zaštitne opreme i sredstva lične i kolektivne zaštite u cilju spriječavanja nezgoda na radu;
30) **obavještenje o završetku radova** je formularni dokumenat kojim rukovodilac radova obavještava osobu zaduženu za obezbjeđenje mjesta rada da su radovi završeni;
31) **okidač** je elektromehanički sklop za uključenje i/ili isključenje rasklopnog uređaja;
32) **plan investicija** je plan izgradnje novih i rekonstrukcije postojećih objekata i elemenata distributivnog sistema usklađen sa planovima razvoja distributivnog sistema;
33) **prekid isporuke** je stanje u kome nema isporuke električne energije i snage određenom korisniku ili grupi korisnika;
34) **preventivno održavanje** je planski proces koji se sprovodi na osnovu strategije održavanja;
35) **pregled** podrazumijeva periodičnu provjeru osnovnih parametara energetskih objekata u cilju utvrđivanja stanja i pogonske spremnosti

readiness of the power facility or a part of the facility;

36) **maintenance works** encompass review, planned interventions and overhaul as well as occasional checks of facilities and plants, completeness and up-to-dateness of the technical, operational documentation, as well as the documentation related to power facilities;

37) **reconstruction, revitalisation** is the performance of construction and other works on an existing distribution facility, which modify the constructive elements, technical characteristics, improve its functionality, change the purpose or change the conditions under which the facility was built. Reconstruction also implies works by which a significantly damaged facility is brought to the pre-damage condition if the condition is the result of the facility's age or a consequence of natural hazards;

38) **overhaul** implies large-scale maintenance works that are carried out periodically based on the situation established during a periodic review or according to the manufacturer's instructions, whose aim is to keep the power facility in a proper technical state within the limits of operational needs, by means of larger repairs and replacements of worn parts, while the activities taken do not have the character of a reconstruction;

39) **operations manager** is the responsible professional who is tasked with performing work or supervising work in/on a CDS power facility, individually or in a team;

40) **connection permit** is an administrative act which is issued by LBEC, in accordance with the Law and other regulations, on the basis of which facilities are connected to the electricity distribution system;

41) **medium-voltage network** is a network with a rated voltage of 10 kV, 20 kV, and 35 kV;

42) **failure** is a large-scale defect which leads to a significant distortion of the function or significant damage to a facility or distribution system elements;

energetskog objekta ili dijela objekta;

36) **radovi na održavanju** obuhvataju pregled, planirne intervencije i remont kao i povremenu kontrolu objekata i postrojenja, kompletnost i ažurnost tehničke, pogonske dokumentacije, kao i dokumentacije vezane za elektroenergetski objekat;

37) **rekonstrukcija, revitalizacija** je izvođenje građevinskih i drugih radova na postojećem distributivnom objektu kojima se mijenjaju konstruktivni elementi, tehničke karakteristike, poboljšava njegova funkcionalnost, mijenja namjena ili mijenjaju uslovi po kojima je izgrađen objekat. Rekonstrukcijom se smatraju i radovi kojima se znatno oštećeni objekat, dovodi u stanje prije oštećenja ako je oštećenje nastalo usljed starosti objekta ili kao poslj edica prirodnih nepogoda;

38) **remont** su radovi održavanja u većem obimu koji se izvode periodično na osnovu utvrđenog stanja tokom periodičnog pregleda ili prema uputstvima proizvođača, a koji imaju za cilj da se većim opravkama i zamjenama dotrajalih djelova, u granicama pogonskih potreba održi energetsko postrojenje u tehnički ispravnom stanju, a preduzete radnje nemaju karakter rekonstrukcije;

39) **rukovodilac** radova je odgovorno stručno lice kome je povjereno da sa ekipom ili samostalno izvrši rad ili nadzor nad radom u/na elektroenergetskom objektu ZDS;

40) **saglasnost za priključenje** je upravni akt koji, u skladu sa Zakonom i drugim propisima, izdaje LBEC, na osnovu koga se vrši priključenje objekta na distributivni sistem električne energije;

41) **srednjenaponska mreža** je mreža nazivnog napona 10 kV;

42) **havarija** je kvar većeg obima koji je doveo do bitnog poremećaja funkcije ili znatnog oštećenja objekta ili elemenata distributivnog sistema;

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43) **contracted capacity** is the power contained in the connection agreements with costumers at whose facilities power is measured, which cannot be higher than the one approved in the connection permit;
44) **access agreement** is an informal agreement which refers to customers entered in LBEC's records.

43) **Ugovorena snaga** je snaga sadržana u ugovoru o priključenju kod korisnika kod kojih se snaga mjeri, koja ne može biti veća od odobrene u saglasnosti za priključenje;
44) **Ugovor o pristupu** je neformalni ugovor koji se odnosi na korisnike koji se vode u evidenciji LBEC.

II GENERAL CONDITIONS FOR THE USE OF THE DISTRIBUTION SYSTEM

Rights and obligations of LBEC

Article 8

(1) LBEC is obliged to:
1) maintain, improve and develop the electricity distribution system with the aim of ensuring a reliable, safe and efficient supply of all users, while respecting environmental protection conditions;
2) maintain and develop information and communication technologies in accordance with the needs related to the development, management and supervision of the distribution system;
3) install metering devices at electricity delivery points, along with their regular maintenance and control;
4) monitor the quality of the service and the electricity delivered to the distribution system, for the purpose of the continuity and safety of supply;
5) procure electricity for covering distribution losses in a public and transparent manner;
6) maintain the connection, if it has been transferred to LBEC's fixed assets or LBEC and the user have concluded a maintenance agreement;
7) prepare a ten-year distribution system development plan and a three-year investment plan;
8) establish a platform for the exchange of data that are collected by LBEC and are in its

II OPŠTI USLOVI ZA KORIŠĆENJE DISTRIBUTIVNOG SISTEMA

Obaveze i prava LBEC

Član 8

(1) LBEC je dužan da:
1) održava, unapređuje i razvija distributivni sistem električne energije u cilju obezbjeđenja pouzdanog, sigurnog i efikasnog snabdijevanja (napajanja) svih korisnika, uz poštovanje uslova zaštite životne sredine;
2) održava i razvija informaciono-komunikacione tehnologije u skladu sa potrebama razvoja, upravljanja i nadzora distributivnog sistema;
3) ugrađuje mjerne uređaje na mjestima preuzimanja i isporuke električne energije, uz redovno održavanje i kontrolisanje istih;
4) prati kvalitet usluge i isporučene električne energije u distributivni sistem, radi neprekidnosti i sigurnosti snabdijevanja;
5) na javan i transparentan način nabavlja električnu energiju za pokrivanje distributivnih gubitaka;
6) održava priključak, ukoliko je isti predat u osnovno sredstvo LBEC ili su LBEC i korisnik zaključili ugovor o održavanju;
7) utvrdi desetogodišnji plan razvoja distributivnog sistema i trogodišnji investicioni plan;
8) utvrdi platformu za razmjenu podataka koje prikuplja i posjeduje LBEC i utvrdi

possession, and establish an electronic format for the exchange of data among LBEC, system users and other data users;

9) keep databases connected to the performance of the licenced activity;
10) ensure the protection of confidential information received directly or indirectly during the implementation of agreements;
11) in an adequate and non-discriminatory manner, carry out the exchange of information from its databases, with participants in the electricity market, along with ensuring the protection of confidential information pursuant to the law;
12) ensure that data on the distribution system use possibilities are public and accessible to the stakeholders;
13) ensure for all distribution system users a quality electricity distribution service in accordance with the valid technical regulations and rules;
14) ensure metering data for the preparation of the final calculation of the end user's consumption after each change of the electricity supplier;
15) ensure an objective, transparent and non-discriminatory access to the distribution network for all distribution system users in accordance with the Law and these rules;
16) adopt decisions on refused access to the distribution system in the cases prescribed by the Law and submit a notification to the applicant on the measures which are necessary and are conducted for the improvement of the distribution system;
17) decide on requests for connection, increase or decrease of the connection capacity in the deadlines prescribed by the Law, issue connection permits and conclude connection agreements;
18) define the amount of the fee for the connection to the CDS or the increase of the connection capacity of an existing facility in accordance with the methodology for the

elektronski format putem kojeg se vrši razmjena podataka između LBEC, korisnika sistema i drugih korisnika podataka;

9) vodi bkaze podataka vezane za obavljanje licencirane djelatnosti;
10) obezbjedi zaštitu povjerljivih informacija dobijenih neposredno ili posredno tokom realizacije ugovora;
11) na odgovarajući i nediskriminatoran način vrši razmjenu informacija kojima raspolaže u svojim bazama podataka, sa učesnicima na tržištu električne energije,muz obezbjeđenje zaštite povjerljivih informacija u skladu sa zakonom;
12) zainteresovnim licima obezbijedi javnost i dostupnost podataka o mogućnostima korišćenja distributivnog sistema;
13) svim korisnicima distributivnog sistema obezbijedi kvalitetnu uslugu distribucije električne energije u skladu sa važećim tehničkim propisima i pravilima;
14) obezbijedi mjerne podatke radi izrade konačnog obračuna potrošnje krajnjeg korisnika nakon svake promjene snabdjevača električne energije;
15) omogući objektivan, transparentan i nediskriminatoran pristup distributivnoj mreži svim korisnicima distributivnog sistema u skladu sa Zakonom i ovim pravilima;
16) donese rješenje o odbijanju pristupa distributivnom sistemu u slučajevima propisanim Zakonom i podnosiocu zahtjeva dostavi obavještenje o mjerama koje su potrebne i koje sprovodi na unapređenju distributivnog sistema;
17) odlučuje po zahtjevima za priključenje, povećanje ili smanjenje priključne snage u rokovima propisanim Zakonom, izdaje saglasnosti za priključenje i zaključuje ugovore o priključenju;
18) odredi visinu naknade za priključenje na ZDS ili povećanje priključne snage postojećeg objekta u skladu sa

definition of fees for the connection to the electricity distribution system;

19) install the connection and equip the metering place for end users in accordance with the connection permit and the concluded agreement;
20) ensure that the calculation and issuance of invoices/bills for the use of the CDS is done in a cost-effective and efficient manner;
21) submit all notifications intended for distribution system users;
22) connect the users' facilities to the distribution system in accordance with the connection permit and the connection agreement;
23) read the metering devices at electricity delivery points and submit the metering data;
24) monitor the level of the back effect on the distribution system;
25) determine the typical consumption profiles of customers connected to the distribution system and assign to each customer the appropriate profile;
26) inform in an adequate manner distribution system users about planned works and suspensions of the delivery of electricity;
27) resolve end users' complaints in the manner and within the deadlines prescribed by the law and bylaws, as well as conduct appropriate procedures acting upon complaints or appeals of end users in accordance with the laws and rules;
28) pay potential financial compensations to the supplier, on the basis of a failure to meet the minimum quality of supply and the documented responsibility of LBEC, in accordance with the Law, along with the provision of proof that the supplier compensated the final customer for the damages;
29) keep orderly records of limitations and interruptions of the electricity supply, on which basis the reasons and the duration of a limitation or interruption can be determined;

metodologijom za utvrđivanje naknada za priključenje na distributivni sistem električne energije;

19) izvede priključak i opremi mjerno mjesto za krajnje korisnike u skladu sa saglasnošću za priključenje i zaključenim ugovorom;
20) obezbijedi da se obračun i ispostavljanje faktura/računa za korišćenje ZDS vrši na ekonomičan i efikasan način;
21) dostavlja sva obavještenja namijenjena korisnicima distributivnog sistema;
22) priključi objekte korisnika na distributivni sistem u skladu sa saglasnošću za priključenje i ugovorom o priključenju;
23) očitava mjerne uređaje na mjestima preuzimanja i isporuke električne energije i dostavlja mjerne podatke;
24) prati nivo povratnog uticaja na distributivni sistem;
25) utvrdi tipske profile potrošnje kupaca priključenih na distributivni sistem i svakom kupcu dodijeli odgovarajući profil;
26) na prigodan način obavještava korisnike distributivnog sistema o planiranim radovima i obustavama isporuke električne energije;
27) rješava prigovore krajnjih korisnika na način i u rokovima propisanim zakonom i podzakonskim aktima, te provodi odgovarajuće postupke po prigovoru, odnosno žalbi krajnjih korisnika u skladu sa zakonima i pravilima;
28) plati eventualne finansijske kompenzacije snabdjevaču, po osnovu neispunjavanja minimuma kvaliteta snabdijevanja i dokumentovano utvrđene odgovornosti LBEC, u skladu sa Zakonom, uz pružanje dokaza da je snabdjevač izvršio isplatu štete prema krajnjem kupcu;
29) vodi urednu evidenciju o ograničenjima i prekidima napajanja električnom energijom iz koje se mogu utvrditi razlozi i trajanje ograničenja ili prekida;

30) act in accordance with the legally prescribed measures and these rules;
31) suspend the delivery of electricity and disconnect the final customer's facilities if the final customer acts contrary to the law, rules and concluded agreements;
32) apply the tariff rates for the use of the distribution system defined by the Agency;
33) provide distribution system users with clear and precise information on the conditions for the provision of services, especially in relation to access to the distribution system which encompasses technical, contracted and available capacities;
34) submit a notification to the final customer/producer in case of temporary disconnection from the distribution network in accordance with these rules;
35) act in the manner and within the deadlines prescribed by the supplier change rules;
36) ensure simple accessibility to the pricelist of its services for all distribution system users;
37) organise the receipt of claims and complaints of customers and system users and also ensure non-discriminatory decision-making, in the manner and within the deadlines determined by the law and the licence;
38) keep a register of complaints and claims of customers and system users together with the accompanying documentation and adopted decisions;
39) require from the user, before connection to the distribution system, the submission of a certificate of the proper functioning of the installations as well as other documentation in accordance with these rules;
40) adopt a rulebook on the manner of submitting data and information to the DSO, other energy undertakings and participants in the electricity market which are necessary for their work;
41) report to the Agency in accordance with the Law and the regulations adopted by the Agency.

30) postupa u skladu sa zakonom propisanim mjerama i ovim pravilima;
31) obustavi isporuku električne energije i isključi objekte krajnjeg korisnika ukoliko krajnji korisnik postupa suprotno zakonu, pravilima i zaključenim ugovorima;
32) primjenjuje tarifne stavove za korišćenje distributivnog sistema koje utvrdi Agencija;
33) obezbijedi korisnicima distributivnog sistema jasne i precizne informacije o uslovima pružanja usluga, a naročito u odnosu na pristup distributivnom sistemu koje obuhvataju tehničke, ugovorene i raspoložive kapacitete;
34) dostavi obavještenje krajnjem korisniku/proizvođaču u slučaju privremenog isključenja sa distributivne mreže u skladu sa ovim pravilima;
35) postupa na način i u rokovima propisanim pravilima za promjenu snabdjevača;
36) obezbjedi jednostavnu dostupnost cjenovnika svojih usluga svim korisnicima distributivnog sistema;
37) organizuje prijem reklamacija i prigovora kupaca i korisnika sistema i obezbjeđuje i nediskriminatorno odlučivanje, na način i u rokovima utvrđenim zakonom i licencom;
38) vodi registar prigovora i žalbi kupaca i korisnika sistema zajedno sa pripadajućom dokumentacijom i donesenim odlukama;
39) zahtijeva prije priključenja na distributivni sistem, od korisnika, dostavu atesta o ispravnosti instalacija kao i ostale dokumentacije u skladu sa ovim pravilima;
40) donese pravilnik o načinu dostavljanja podataka i informacija ODS, drugim energetskim subjektima i učesnicima na tržištu električne energije koji su neophodni za njihov rad;
41) izvještava Agenciju u skladu sa Zakonom i propisima koje donosi Agencija.

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LUŠTICA BAY
ELECTRICITY COMPANY

(2) LBEC has the right to:

1) terminate the connection agreement in the cases prescribed by the Law, these rules and the connection agreement;
2) unobstructed access to metering devices and equipment for the purpose of installation and sealing, reading, replacement, control and disconnection;
3) manage distribution system users' power facilities in the manner prescribed by these rules;
4) check any violation of the approved connection capacity in accordance with these rules;
5) assume ownership of a technically proper functioning connection when offered by a final customer in accordance with the Law;
6) charge a fee for the use of the distribution network in accordance with the defined prices and tariffs for the use of the distribution system;
7) charge a fee for the maintenance costs of connections in the distribution system which are not its property;
8) in an adequate and non-discriminatory manner, carry out the exchange of information on final customers with the supplier, along with ensuring the protection of confidential information pursuant to the law;
9) establish unauthorised electricity consumption and take measures for the purpose of its elimination, calculation and billing in accordance with the Law, the rules which regulate the procedure for detecting, establishing and preventing unauthorised electricity use and the methodology which regulates the manner of calculating and billing electricity taken without authorisation;
10) limit and suspend the supply of electricity and disconnect a final customer from the distribution network if the final customer is acting contrary to the Law, these rules and the concluded agreements;

(2) LBEC ima pravo na:

1) raskid ugovora o priključenju u slučajevima propisanim Zakonom, ovim pravilima i ugovorom o priključenju;
2) nesmetani pristup mjernim uređajima i opremi u svrhu ugradnje i plombiranja, očitavanja stanja, zamjene, kontrole i isključenja;
3) upravljanje elektroenergetskim postrojenjima korisnika distributivnog sistema na način propisan ovim pravilima;
4) vršenje provjere prekoračenja odobrene priključne snage u skladu sa ovim pravilima;
5) preuzimanje u vlasništvo tehnički ispravnog priključka kada mu to krajnji korisnik ponudi u skladu sa Zakonom;
6) naplatu korišćenja distributivne mreže u skladu sa utvđenim cijenama i tarifama za korišćenje distributivnog sistema;
7) naplatu troškova održavanja priključaka na distributivnom sistemu koji nijesu u njegovom vlasništvu;
8) odgovarajući i nediskriminatoran način da vrši razmjenu informacija o krajnjim korisnicima sa snabdjevačem uz obezbjeđenje zaštite povjerljivih informacija u skladu sa zakonom;
9) utvrđivanje neovlašćene potrošnje električne energije i preduzimanje mjera u cilju njenog otklanjanja, obračuna i naplate u skladu sa Zakonom, pravilima kojima se uređuje postupka otkrivanja, utvrđivanja i sprečavanja neovlašćenog korišćenja električne energije i metodologijom kojom se uređuje način obračuna i naplate neovlašćeno preuzete električne energije;
10) ograničenje i obustavu isporuke električne energije i isključenje krajnjeg korisnika sa distributivne mreže ukoliko krajnji korisnik postupa suprotno Zakonu, ovim pravilima i zaključenim ugovorima;
11) obustavu isporuke električne energije ukoliko kupac bez opravdanog razloga odbije zaključivanje ugovora o

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11) suspend the delivery of electricity if a customer, without justification, refuses to conclude a connection agreement and/or amend the existing connection agreement on the basis of amended laws and bylaws which cannot be applied directly and whose application requires the conclusion of an agreement or the amendment of the existing agreement;
12) contract exemptions from the standard quality of delivered electricity in accordance with these rules;
13) make use of all available capacities of the distribution system elements, regardless of their ownership, if this does not jeopardise the quality of electricity supply to the infrastructure owner and existing users, provided that LBEC has concluded with the infrastructure owner a (preliminary) purchase agreement, in accordance with the Law;
14) connect a new distribution system user to infrastructure not owned by LBEC if this does not jeopardise the quality of electricity supply to the infrastructure owner and existing users, provided that LBEC has concluded with the owner a (preliminary) infrastructure purchase agreement, in accordance with the Law;
15) suspend the delivery of electricity to a user who has not concluded an agreement or refuses to conclude a connection agreement or provisional connection agreement.

Rights and obligations of the supplier

Article 9

(1) The supplier is obliged to:
1) submit to LBEC the licence for electricity supply, excerpt from the Central Register of Business Entities, identification numbers (TIN, VAT and PIN), data on the registered office, address, contact person, proof of membership in the balance group;

priključenju i/ili izmjene postojećeg ugovora o priključenju zbog izmijenjenih zakonskih i podzakonskih propisa koji se ne mogu neposredno primjenjivati i za čiju je primjenu potrebno zaključivanje ugovora odnosno izmjene postojećeg ugovora;
12) ugovoranje izuzetaka od standardnog kvaliteta isporučene električne energije u skladu sa ovim pravilima;
13) na raspolaganje svim raspoloživim kapacitetima elemenata distributivnog sistema, bez obzira na vlasništvo, ukoliko se ne ugrožava kvalitet snabdijevanja električnom energijom vlasnika infrastrukture i postojećih korisnika, i ukoliko je LBEC sa vlasnikom infrastrukture zaključio predugovor odnosno ugovor o otkupu, u skladu sa Zakonom;
14) priključi novog korisnika distributivnog sistema na infrastrukturu koja nije u vlasništu LBEC ukoliko se ne ugrožava kvalitet snabdijevanja električnom energijom vlasnika infrastrukture i postojećih korisnika i ukoliko je LBEC, u skladu sa Zakonom, zaključio predugovor odnosno ugovor o otkupu infrastrukture, sa vlasnikom;
15) korisniku koji ne zaključi ugovor ili odbije da zaključi ugovor o priključenju ili privremeni ugovor o priključenju, obustavi isporuku električne energije.

Prava i obaveze snabdjevača

Član 9

(1) Snabdjevač je dužan da:
1) dostavi LBEC licencu za snabdijevanje električnom energijom, izvod iz Centralnog registra privrednih subjekata, identifikacione brojeve (PIB, PDV i JMBG), podatke o sjedištu, adresi, kontakt licu, dokaz o članstvu u balansnoj grupi;

2) conclude an agreement on the use of the electricity distribution system with LBEC,
3) pay LBEC for the use of the distribution system, in accordance with the Law and the agreement on the use of the electricity distribution system;
4) apply tariffs for the use of the distribution system in accordance with the data received from LBEC;
5) pay LBEC the amounts invoiced for the use of the distribution system within the agreed deadline;
6) maintain and develop information and communication technologies in accordance with the data exchange platform established by LBEC;
7) ensure the protection of confidential information received from LBEC directly or indirectly during the implementation of the agreement;
8) exchange information from its databases with LBEC, in an adequate and non-discriminatory manner;
9) submit to LBEC classified complaints and claims with data on the basis of which it is possible to precisely establish LBEC's responsibility and the justification of the final customers' complaints, along with timely informing the final customer;
10) inform final customers about all rules and methodologies that are defined by LBEC, and approved by the Agency, as well as about any amendments thereto;
11) submit a notification to LBEC in case of a temporary deregistration of a final customer;
12) inform final customers about any interruption or limitation of electricity supply due to works planned on power facilities;
13) pay LBEC possible financial compensations on the basis of violations of the power capacity limit from the agreement on the use of the distribution system.

2) zaključi ugovor o korišćenju distributivnog sistema električne energije sa LBEC,
3) plati LBEC korišćenje distributivnog sistema, u skladu sa Zakonom i ugovorom o korišćenju distributivnog sistema električne energije;
4) primjenjuju tarife za korišćenje distributivnog sistema u skladu sa podacima primljenim od LBEC;
5) u ugovorenom roku plate LBEC fakturisane iznose za korišćenje distributivnog sistema;
6) održavaju i razvijaju informaciono - komunikacione tehnologije u skladu sa platformom za razmjenu podataka koje utvrđuje LBEC;
7) obezbijedi zaštitu povjerljivih informacija dobijenih od LBEC neposredno ili posredno tokom realizacije ugovora;
8) na odgovarajući i nediskriminatoran način, vrše razmjenu informacija kojima raspolaže u svojim bazama podataka sa LBEC;
9) dostavljaju LBEC klasifikovane prigovore i zahtjeve sa podacima na osnovu kojih se može precizno utvrditi odgovornost LBEC i opravdanost prigovora krajnjih korisnika, kao i blagovremeno obavještavati krajnjeg korisnika;
10) informiše krajnje kupce o svim pravilima i medodologijama koje utvrđuje LBEC, a odobrava Agencija, kao i o njihovim izmjenama;
11) dostavi obavještenje LBEC u slučaju privremene odjave krajnjeg kupca;
12) obavijesti krajnje korisnike o prekidu ili ograničenju isporuke električne energije zbog planiranih radova na elektroenergetskim objektima;
13) plati LBEC eventualne finansijske kompenzacije po osnovu prekoračenja snage iz ugovora o korišćenju distributivnog sistema.

(2) The supplier has the right to:
1) access the distribution system in order to supply final customers with electricity;
2) construct a direct line in the cases and in the manner prescribed by the law and bylaws, with the prior consent of the Agency;
3) use data related to a final customer which are the property of LBEC, provided that the protection of confidential information is ensured in accordance with the law, general conditions for electricity supply, these rules and other relevant bylaws approved by the Agency;
4) submit a request to LBEC for the suspension of electricity supply in the facility of a customer who fails to fulfil the obligations arising from the electricity supply agreement, in the cases and in the manner prescribed by the Law and these rules;
5) potential financial compensations from LBEC, on the basis of a failure to meet the minimum quality of supply by the system operator in accordance with the Law and based on the established responsibility of LBEC, along with the provision of proof that he compensated the final customer for the damages.

(2) Snabdjevač ima pravo na:
1) pristup distributivnom sistemu radi snabdijevanja krajnjih kupaca električnom energijom;
2) izgradnju direktnog voda u slučajevima i na način propisan zakonom i podzakonskim aktima, uz prethodnu saglasnost Agencije;
3) korišćenje podataka koji se odnose na krajnjeg kupca a koji su u posjedu LBEC uz obezbjeđenje zaštite povjerljivih informacija u skladu sa zakonom, opštim uslovima za snabdijevanje električnom energijom, ovim pravilima i drugim relevantnim podzakonskim aktima koje je odobrila Agencija;
4) podnošenje zahtjeva LBEC za obustavu isporuke električne energije u objektu kupca koji ne izvršava obaveze po ugovoru o snabdijevanju električnom energijom, u slučajevima i na način propisanim Zakonom i ovim pravilima;
5) eventualne finansijske kompenzacije od LBEC, po osnovu neispunjavanja minimuma kvaliteta snabdijevanja od strane operatora sistema u skladu sa Zakonom a na osnovu utvrđene odgovornosti LBEC, uz pružanje dokaza da je izvršio isplatu štete prema krajnjem kupcu.

Rights and obligations of final customers

Article 10

(1) The final customer has the right to:
1) objective, transparent and non-discriminatory access to the distribution system, in accordance with the law and bylaws;
2) connect his facility and devices to the CDS, when technical and power conditions exist pursuant to the Law and technical rules and regulations;
3) a decrease or increase of the previously approved connection capacity in accordance with the bylaws;
4) a consumption category in accordance with the law and bylaws;

Prava i obaveze krajnjih kupaca

Član 10

(1) Krajnji kupac ima pravo:
1) na objektivan, transparentan i nediskriminatoran pristup distributivnom sistemu, u skladu sa zakonom i podzakonskim aktima;
2) na priključenje svog objekta i uređaja na ZDS, kada za to postoje tehnički i energetski uslovi u skladu sa Zakonom i tehničkim pravilma i propisima;
3) na smanjenje i povećanje ranije odobrene priključne snage u skladu sa podzakonskim aktima;
4) na kategoriju potrošnje u skladu sa zakonom i podzakonskim aktima;

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5) transfer ownership of a technically properly functioning connection to LBEC in accordance with the law and these rules;
6) additional maintenance services for connections in his ownership but not included in the price for the use of the distribution system, while paying a fee to LBEC in accordance with the pricelist;
7) request a check of the proper functioning of metering devices as well as other technical and metering data;
8) request from LBEC or the supplier a temporary disconnection from the distribution system in accordance with these rules;
9) submit a complaint or appeal in regard to LBEC's actions, in accordance with the Law and bylaws.

(2) The final customer is obliged to:
1) submit a request for the issuance of a connection permit in accordance with the Law and these rules, and act as per the conditions from the permit before connecting new facilities or modifying the purpose of the facilities or connection capacity;
2) before the conclusion of a connection agreement, submit to LBEC operational instructions for more complex power facilities in his ownership;
3) conclude an agreement on the connection to the CDS with LBEC and an electricity supply agreement with the supplier;
4) enable LBEC unobstructed access to metering devices, installations and the point of connection for the purpose of reading, checking the proper functioning, elimination of defects, replacement and maintenance of the devices and relocation of metering places or suspension of power supply in cases of unauthorised electricity use or failure to pay electricity bills in accordance with the defined deadlines and conditions;
5) enable LBEC unobstructed access to real estate on which power facilities are located or are being built, for the purpose of carrying

5) da prenese tehnički ispravan priključak u vlasništvo LBEC u skladu sa zakonom i ovim pravilima;
6) na dodatne usluge održavanja priključaka koji je u njegovoj svojini a koji nijesu sadržani u cijenu za korišćenje distributivnog sistema uz plaćanje naknade LBEC u skladu sa cjenovnikom;
7) da zahtijevaju provjeru ispravnosti mjernih uređaja, te ostalih tehničkih i mjernih podataka;
8) da zahtijeva od LBEC odnosno snabdjevača privremeno isključenje sa distributivnog sistema u skladu sa ovim pravilima;
9) da podnese prigovor, odnosno žalbu u vezi postupanja LBEC, a u skladu sa Zakonom i podzakonskim aktima.

(2) Krajnji kupac je dužan da:
1) podnese zahtjev za izdavanje saglasnosti za priključenje u skladu sa Zakonom i ovim pravilima, i postupi po uslovima iz saglasnosti prije priključenja novih objekata ili promjene namjene objekta ili priključne snage;
2) prije zaključenja ugovora o priključenju, dostavi LBEC pogonsko uputstvo za složenije energetske objekte u svom vlasništvu;
3) zaključi ugovor o priključenju na ZDS, sa LBEC i ugovor o snabdijevanju električnom energijom, sa snabdjevačem;
4) omogući LBEC nesmetan pristup mjernim uređajima, instalacijama i mjestu priključka u svrhu očitavanja, provjere ispravnosti, otklanjanja kvarova, zamjene i održavanja uređaja i izmještanja mjernih mjesta ili obustave isporuke energije u slučajevima neovlašćenog korišćenja električne energije ili neplaćanja računa za isporučenu električnu energiju u skladu sa utvrđenim rokovima i uslovima;
5) omogući LBEC nesmetan pristup do i na nepokretnostima na kojima se nalaze ili grade energetski objekti, radi izvođenja radova na

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out works on the construction, maintenance, properness check in regard to the facilities, devices, plants or equipment and the performance of other necessary works;

6) for the purpose of ensuring unobstructed electricity flows, enable LBEC to use equipment in his ownership, which is necessary for the functioning of the electricity distribution system, and to maintain said infrastructure in an operational state, pursuant to the Law;

7) maintain the connection in his ownership or conclude a maintenance agreement;
8) use electricity only for own needs;

9) use electricity and power in accordance with the concluded agreements and these rules;

10) inform LBEC about any changes, including possible defects on the connection and metering devices, in the manner and within the deadlines in accordance with the rules and concluded agreements;
11) compensate for the damage he causes by prohibited actions prescribed by the law;
12) enable LBEC the use of all available capacities of the distribution system elements in his ownership, if this does not jeopardise the quality of electricity supply to users, provided that LBEC has concluded with the owner a (preliminary) purchase agreement for said infrastructure, in accordance with the Law;

13) enable LBEC to connect a new distribution system user to infrastructure in his ownership, if this does not jeopardise the quality of electricity supply to users, provided that LBEC has concluded with the owner a (preliminary) purchase agreement for said infrastructure, in accordance with the Law.

izgradnji, održavanju, kontroli ispravnosti objekata, uređaja, postrojenja ili opreme i izvođenja drugih neophodnih radova;

6) radi obezbjeđenja nesmetanih tokova električne energije, LBEC-u omogući korišćenje opreme, koja je u njegovom vlasništvu, a koja je potrebna za funkcionisanje distributivnog sistema električne energije i da održava tu infrastrukturu u funkcionalnom stanju, u skladu sa Zakonom;

7) održava priključak u njegovom vlasništvu ili zaključi ugovor o održavanju;
8) koristi električnu energiju samo za vlastite potrebe;
9) koristi električnu energiju i snagu u skladu sa zaključenim ugovorima i ovim pravilima;

10) obavijesti LBEC o svim promjenama, uključujući eventualne kvarove na priključku i mjernim uređajima, na način i u rokovima u skladu sa pravilima i zaključenim ugovorima;

11) nadoknadi štetu koju učini nedozvoljenim radnjama propisanim zakonom;
12) omogući LBEC korišćenje raspoloživih kapaciteta elemenata distributivnog sistema u njihovom vlasništvu, ukoliko se ne ugrožava kvalitet snabdijevanja električnom energijom korisnika, pod uslovom da je LBEC sa vlasnikom zaključio predugovor odnosno ugovor o otkupu predmetne infrastrukture u skladu sa Zakonom;

13) omogući LBEC priključenje novog korisnika distributivnog sistema na infrastrukturu u njegovom vlasništvu, ukoliko se ne ugrožava kvalitet snabdijevanja električnom energijom korisnika i ukoliko je LBEC, u skladu sa Zakonom, zaključio predugovor odnosno ugovor o otkupu infrastrukture, sa vlasnikom.

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Rights and obligations of electricity producers connected to the CDS

Article 11

(1) An electricity producer has the right to:
1) an objective, transparent and non-discriminatory access to the CDS, in accordance with the law and bylaws;
2) connect his power facilities, when technical and power conditions exist, pursuant to the Law and technical rules and regulations;
3) a temporary connection of a power facility for the purpose of a test run, in accordance with the laws and bylaws;
4) conclude with LBEC an agreement on the connection to the CDS and an agreement on the use of the CDS in accordance with the Law and these rules.

(2) An electricity producer is obliged to:
1) submit a request for the issuance of a connection permit in accordance with these rules, and act as per the issued conditions from the permit;
2) before the conclusion of a connection agreement, submit to LBEC operational instructions for power facilities in his ownership;
3) before the start of the distribution system use, conclude an agreement on the connection to the distribution system, an electricity supply agreement and an agreement on the use of the distribution system;
4) enable LBEC unobstructed access to the metering place for the purpose of reading, checking the proper functioning, elimination of defects, replacement and maintenance of devices and relocation of metering places or suspension of power supply in cases of unauthorised power use or failure to pay electricity bills in accordance with the defined deadlines and conditions;
5) '' access to real estate on which power facilities are located or are being built, for the purpose of carrying out works on the

Prava i obaveze proizvođača električne energije priključenih na ZDS

Član 11

(1) Proizvođač električne energije ima pravo:
1) na objektivan, transparentan i nediskriminatoran pristup ZDS, u skladu sa zakonom i podzakonkim aktima;
2) na priključenje svojih elektroenergetskih objekata, kada za to postoje tehnički i energetski uslovi, u skladu sa Zakonom i tehničkim pravilima i propisima;
3) na privremeno priključenje proizvodnog objekta za potrebe probnog rada, u skladu sa zakonima i podzakonskim aktima;
4) da sa LBEC zaključi ugovor o priključenju na ZDS i ugovor o korišćenju ZDS u skladu sa Zakonom i ovim pravilima.

(2) Proizvođač električne energije je dužan da:
1) podnese zahtjev za izdavanje saglasnosti za priključenje, u skladu sa ovim pravilima, i postupi po izdatim uslovima iz saglasnosti;
2) prije zaključenja ugovora o priključenju, dostavi LBEC pogonsko uputstvo za energetske objekte u svom vlasništvu;
3) prije početka korišćenja distributivnog sistema, zaključi ugovor o priključenju na distributivni sistem, ugovor o snabdijevanju električnom energijom i ugovor o korišćenju distributivnog sistema;
4) omogući LBEC nesmetan pristup mjernom mjestu u svrhu očitavanja, provjere ispravnosti, otklanjanja kvarova, zamjene i održavanja uređaja i izmještanja mjernih mjesta ili obustave isporuke energije u slučajevima neovlašćenog korišćenja energije ili neplaćanja računa za isporučenu energiju u skladu sa utvrđenim rokovima i uslovima;
5) omogući LBEC nesmetan pristup do i na nepokretnostima na kojima se nalaze ili grade energetski objekti, radi izvođenja radova na

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construction, maintenance, properness check in regard to the facilities, devices, plants or equipment and the performance of other necessary works;

6) for the purpose of ensuring unobstructed electricity flows, enable LBEC to use equipment in his ownership, which is necessary for the functioning of the distribution system, and to maintain said infrastructure in an operational state;
7) bear the maintenance costs of the connection if its ownership has not been transferred to LBEC;
8) use electricity only for own needs, via metering devices, without the possibility of its resale or enabling the supply of another final customer via own installations without LBEC's approval;
9) use electricity and power in accordance with the concluded agreements;
10) inform LBEC about any changes, including possible defects on the connection and metering devices, in the manner and within the deadlines in accordance with the rules and concluded agreements;
11) compensate for the damage he causes by prohibited actions prescribed by the Law;
12) enable LBEC the use of all available capacities of the distribution system elements in his ownership, if this does not jeopardise the quality of electricity supply to users, provided that LBEC has concluded with the owner a (preliminary) purchase agreement for said infrastructure, in accordance with the Law;
13) enable LBEC to connect a new distribution system user to infrastructure in his ownership, if this does not jeopardise the quality of electricity supply to users, provided that LBEC has concluded with the owner a (preliminary) purchase agreement for said infrastructure, in accordance with the Law;
14) pay LBEC possible financial compensations on the basis of violations of the power

izgradnji, održavanju, kontroli ispravnosti objekata, uređaja, postrojenja ili opreme i izvođenja drugih neophodnih radova;

6) radi obezbjeđenja nesmetanih tokova električne energije, LBEC omogući korišćenje opreme, koja je u njegovom vlasništvu, a koja je potrebna za funkcionisanje distributivnog sistema i da održava tu infrastrukturu u funkcionalnom stanju;
7) snosi troškove održavanja priključka ukoliko isti nije prenesen u vlasništvo LBEC;
8) koristi električnu energiju samo za vlastite potrebe, preko mjernih uređaja, bez mogućnosti preprodaje iste ili omogućavanja drugom krajnjem kupcu bez odobrenja LBEC napajanje preko svojih instalacija;
9) koristi električnu energiju i snagu u skladu sa zaključenim ugovorima;
10) obavijesti LBEC o svim promjenama, uključujući eventualne kvarove na priključku i mjernim uređajima, na način i u rokovima u skladu sa pravilima i zaključenim ugovorima;
11) nadoknadi štetu koju učine nedozvoljenim radnjama propisanim Zakonom;
12) omogući LBEC korišćenje raspoloživih kapaciteta elemenata distributivnog sistema u njihovom vlasništvu, ukoliko se ne ugrožava kvalitet snabdijevanja električnom energijom korisnika, i ukoliko je LBEC, u skladu sa Zakonom, zaključio predugovor odnosno ugovor o otkupu infrastrukture, sa vlasnikom;
13) omogući LBEC priključenje novog korisnika distributivnog sistema na infrastrukturu u njihovom vlasništvu, ukoliko se ne ugrožava kvalitet snabdijevanja električnom energijom korisnika, i ukoliko je LBEC, u skladu sa Zakonom, zaključio predugovor odnosno ugovor o otkupu infrastrukture, sa vlasnikom;
14) plati eventualne finansijske kompenzacije LBEC po osnovu prekoračenja snaga iz

capacity limit from the agreement on the use of the electricity distribution system;

15) upon LBEC's request, depending on the operational characteristics of the user's plants and devices, install and put at LBEC's disposal equipment which shall enable the necessary form of remote management of the switching equipment, permanent remote supervision of the power values significant for the administration of the CDS or the installation of communication devices for the receipt of LBEC's operational orders.

ugovora o korišćenju distributivnog sistema električne energije;

15) po zahtjevu LBEC, u zavisnosti od pogonskih karakteristika postrojenja i uređaja korisnika, ugradi i stavi na raspolaganje LBEC opremu koja će omogućiti neophodan vid daljinskog upravljanja rasklopnom opremom, stalni daljinski nadzor nad energetskim veličinama bitnim za vođenje ZDS ili ugradnju komunikacionih uređaja za primanje pogonskih naloga LBEC.

Standard services

Article 12

(1) Standard services provided by LBEC are services whose provision costs are covered by the fees for the use of the system and the connection fees, in accordance with the bylaws which regulate this area.

(2) Standard services provided by LBEC through the performance of the electricity distribution activity are:

1) development and construction of the distribution system in order to create conditions for meeting the users' justified needs for electricity, reliability and safety of supply;
2) maintenance of the distribution system in accordance with the law and these rules;
3) creation of preconditions for the connection of new users to the network;
4) managing the operation of the distribution system in normal, abnormal and extraordinary conditions as per the principles of safe and reliable electricity supply;
5) ensuring and monitoring the quality of electricity supply;
6) re-establishment of users' supply after disruptions of failures of the system;
7) disconnection and reconnection of users in emergencies;
8) standard management of consumption and consumption times as per the methodology

Standardne usluge

Član 12

(1) Standardne usluge koje pruža LBEC su usluge čiji su troškovi pružanja obuhvaćeni naknadama za korišćenje sistema i naknadama za priključenje, u skladu sa podzakonskim aktima koje regulišu ovu oblast.

(2) Standardne usluge koje puža LBEC kroz obavljanje djelatnosti distribucije električne energije su:

1) razvoj i izgradnja distributivnog sistema radi stvaranja uslova za zadovoljavanje opravdanih zahtjeva korisnika za električnom energijom, pouzdanošću i sigurnošću isporuke;
2) održavanje distributivnog sistema u skladu sa zakonom i ovim pravilima;
3) stvaranje pretpostavki za priključenje novih korisnika na mrežu;
4) vođenje pogona distributivnog sistema u normalnim, poremećenim i vanrednim stanjima prema načelima sigurne i pouzdane isporuke električne energije;
5) osiguranje i praćenje kvaliteta isporuke električne energije;
6) ponovno uspostavljanje napajanja korisnika nakon poremećaja ili raspada sistema;
7) isključenje i ponovno uključenje korisnika u hitnim slučajevima;
8) standardno upravljanje potrošnjom i vremenima potrošnje prema metodologiji za

for the establishment of the legally allowed revenue and prices;
9) alignment of the distribution system's operation with transmission and other systems;
10) taking electricity from privileged producers connected to the CDS;
11) conclusion of standard agreements in accordance with the law and these rules;
12) monitoring the execution of agreements, termination of agreements and implementation of the cancellation of standard agreements in accordance with the law and these rules;
13) contracting modifications in relation to the basic standard agreements in accordance with the law and these rules;
14) concluding and monitoring the execution of agreements on the self-reading of meters with specific final customers;
15) long-term metering and analysis of the quality of electricity upon a special request of the user – conditionally, in case the user's request turns out to be justified;
16) standard services in the area of metering are given in the rules which regulate metering in the electricity distribution system.

utvrđivanje regulatorno dozvoljenog prihoda i cijena;
9) usklađivanje pogona distributivnog sistema sa prenosnim i drugim sistemima;
10) preuzimanje električne energije od povlašćenih proizvođača priključenih na ZDS;
11) zaključivanje formularnih ugovora u skladu sa zakonom i ovim pravilima;
12) praćenje ostvarenja ugovora, prestanka ugovora i sprovođenje raskida formularnih ugovora u skladu sa zakonom i ovim pravilima;
13) ugovaranje promjena u odnosu na osnovne formularne ugovore u skladu sa zakonom i ovim pravilima;
14) sklapanje i praćenje ostvarenja ugovora o samoočitanju brojila sa određenim krajnjim kupcima;
15) dugotrajna mjerenja i analiza kvaliteta električne energije na poseban zahtjev korisnika - uslovno, ako se zahtjev korisnika pokaže opravdanim;
16) standardne usluge iz oblasti mjerenja su date u pravilima kojima se reguliše mjerenje u distributivnom sistemu električne energije.

Nonstandard services

Article 13

(1) Nonstandard services are LBEC services whose payment is not covered by the fees for the use of the CDS and the connection fees, and they are instead calculated in accordance with the pricelist for the provision of nonstandard services, defined by LBEC and approved by the Agency.
(2) Nonstandard services provided by LBEC which do not arise from the performance of the electricity distribution activity are:
1) preparation of a study on the connection to the CDS, when necessary;
2) obtaining the prescribed permits and approvals, preparation of the necessary investment and technical documentation for

Nestandardne usluge

Član 13

(1) Nestandardne usluge su usluge LBEC čije plaćanje nije obuhvaćeno naknadama za korišćenje ZDS i naknadama za priključenje, već se obračunavaju u skladu sa cjenovnikom za pružanje nestandardnih usluga, koje utvrđuje LBEC a odobrava Agencija.
(2) Nestandardne usluge koje pruža LBEC a koje ne proizilaze iz obavljanja djelatnosti distribucije električne energije su:
1) izrada elaborata o priključenju na ZDS, kada je to potrebno;
2) pribavljanje propisanih saglasnosti i odobrenja, izrada potrebne investiciono - tehničke dokumentacije za priključak

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the connection (designs, design reviews, studies, etc.);
3) conducting professional supervision of the construction of a connection when the connection is not constructed by the distribution operator;
4) necessary tests and performance of other tasks, in accordance with the regulations, for the purpose of connecting a facility when the connection is not executed by the distribution operator;
5) ensuring a supply quality better than the standard one;
6) tariff management upon the user's special request;
7) managing power facilities owned by the user, upon the user's special request;
8) managing the load upon the user's special request;
9) metering and testing plants and installations of users or producers prior to their connection to the network, or upon a special request after the connection;
10) metering and reporting on the voltage quality and the supply quality upon the user's request, if the user's request proves to be unjustified;
11) metering the power factor (cosf) upon the user's request;
12) different individual services, upon the user's request, on the connection and billable metering place (e.g. replacement of main fuse links, replacement of limiters, activation of limiters upon impact, etc.);

13) disconnections or connections upon the request of the final customer or the supplier;
14) disconnections or connections because of the non-payment of obligations to LBEC,
15) disconnection of users in the presence of persons tasked with physical protection;
16) long-term metering and analysis of the quality of electricity upon a special request of the user – conditionally, in case the user's request turns out to be unjustified;

(projekti, revizija projekata, elaborate i sl.);
3) vođenje stručnog nadzora na izvođenju priključka kada priključak ne izvodi operator distribucije,

4) potrebna ispitivanja i obavljanje drugih poslova, u skladu sa propisima, radi priključenja objekta kada priključenje ne izvodi operator distribucije,

5) osiguranje kvaliteta isporuke bolje od standardne;
6) upravljanje tarifama na poseban zahtjev korisnika;
7) upravljanje energetskim objektima koji su u vlasništvu korisnika, na poseban zahtjev korisnika;
8) upravljanje opterećenjem na poseban zahtjev korisnika;
9) mjerenje i ispitivanje postrojenja i instalacija korisnika ili proizvođača prije priključenja na mrežu, ili po posebnom zahtjevu nakon priključenja;
10) mjerenje i izvještavanje o kvalitetu napona i kvalitetu isporuke prema zahtjevu korisnika, ako se zahtjev korisnika pokaže neopravdanim;
11) mjerenje faktora snage (cosf) prema zahtjevu korisnika;
12) različite pojedinačne usluge prema zahtjevu korisnika na priključku i obračunskom mjernom mjestu (na primjer, zamjena uložaka glavnog osigurača, zamjena limitatora, aktiviranje limitatora nakon djelovanja i sl.);
13) isključenja ili uključenja prema zahtjevu krajnjeg kupca ili snabdjevača;
14) isključenja ili uključenja zbog neplaćanja obaveza LBEC,
15) isključenje korisnika u pratnji osoba za fizičku zaštitu;
16) dugotrajna mjerenja i analiza kvaliteta električne energije na poseban zahtjev korisnika-uslovno, ako se zahtjev korisnika pokaže neopravdanim;

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17) nonstandard services in the area of metering are given in the rules which regulate metering in the electricity distribution system.

III CONTRACTS

Article 14

The relations among LBEC, CDS users and other entities on the electricity market are regulated by contracts.

Standard agreements (templates)

Article 15

(1) LBEC is obliged to prepare standard agreements which regulate:
   1) connection to the distribution system, with system users;
   2) use of the distribution system, with system users;
   3) use of the distribution system, with the supplier and on behalf of final customers;
   4) procurement of electricity for the coverage of losses in the distribution system, with bidders on the market;
(2) LBEC is obliged to publish the templates of standard agreements on its website.

Agreement on the connection to the electricity distribution system

Article 16

(1) After the submission of a written notification on the fulfilment of conditions by the applicant, LBEC verifies, within 15 days, the fulfilment of the conditions from the connection permit and, if the conditions have been fulfilled, concludes an agreement on the connection to the electricity distribution system.
(2) If LBEC establishes that the applicant has not fulfilled the conditions from the connection permit, it informs the applicant within 15 days by a special document while also stating the conditions that need to be fulfilled.

17) Nestandardne usluge iz oblasti mjerenja su date u pravilima kojima se reguliše mjerenje u distributivnom sistemu električne energije.

III UGOVORI

Član 14

Odnosi između LBEC, korisnika ZDS i drugih subjekata na tržištu električne energije, uređuju se ugovorima.

Formularni ugovori (tipski obrasci)

Član 15

(1) LBEC je dužan da sačini formularne ugovore kojima se reguliše:
   1) priključenje na distributivni sistem, sa korisnicima sistema;
   2) korišćenje distributivnog sistema, sa korisnicima sistema;
   3) korišćenje distributivnog sistema, sa snabdjevačem u ime krajnjih kupaca;
   4) nabavka električne energije za pokrivanje gubitaka u distributivnom sistemu, sa ponuđačima na tržištu;
(2) LBEC je dužan da objavi obrasce formularnih ugovora na svojoj internet stranici.

Ugovor o priključenju na distributivni sistem električne energije

Član 16

(1) Nakon dostavljanja pisanog obavještenja o ispunjenosti uslova, od strane podnosioca zahtjeva, LBEC u roku od 15 dana ispituje ispunjenost uslova iz saglasnosti za priključenje i, ako su uslovi ispunjeni, zaključuje ugovor o priključenju na distributivni sistem električne energije.
(2) Ako LBEC utvrdi da podnosilac zahtjeva nije ispunio uslove iz saglasnosti za priključenje, u roku od 15 dana posebnim aktom sa navođenjem uslova koje treba da ispuni obavještava podnosioca zahtjeva.

(3) If all conditions from the connection permit have been met, LBEC concludes with the user an agreement on the connection to the CDS.

(4) The connection agreement referred to in paragraph 3 of this Article is concluded in written form and in particular includes:

1) data on the contracting parties;
2) subject of the agreement, number and date of the conclusion of the agreement;
3) name and address of the facility which is connected to the CDS;
4) number and date of the connection permit;
5) data on the approved (connection) and contracted capacity;
6) ownership, rights and obligations of the contracting parties in relation to the connection;
7) technical and exploitation characteristics of the facility;
8) manner of and conditions for the system's operation;
9) specification of the possible negative back effects of the installed devices;
10) rights and obligations in relation to the quality of electricity;
11) manner of electricity metering;
12) health and safety measures in normal conditions and in conditions when the system's operation is disrupted;
13) protective measures during the maintenance of facilities;
14) obligations, deadlines and manner of mutual notifying;
15) responsibilities in case of default;
16) manner of resolving appeals and complaints;
17) duration of the agreement and conditions for the extension of the agreement;
18) rights and obligations in case of the termination of the agreement;
19) if necessary, detailed instructions on manipulations in the distribution system and on the part of the user which include:
    a) list of authorised persons,
    b) schedule of necessary manipulations,

(3) Ako su ispunjeni svi uslovi iz saglasnosti za priključenje LBEC sa korisnikom zaključuje ugovor o priključenju na ZDS.

(4) Ugovor o priključenju iz stava 3 ovog člana zaključuje se u pisanoj formi i naročito sadrži:

1) podatke o ugovornim stranama;
2) predmet ugovora, broj i datum zaključenja ugovora;
3) naziv i adresu objekta koji se priključuje na ZDS;
4) broj i datum saglasnosti za priključenje;
5) podatke o odobrenoj (priključnoj) i ugovorenoj snazi;
6) vlasništvo, prava i obaveze ugovornih strana u odnosu na priključak;
7) tehničke i eksploatacione karakteristike objekta;
8) način i uslove rada sistema;
9) specifikaciju mogućih negativnih povratnih uticaja ugrađenih uređaja;
10) prava i obaveze u vezi kvaliteta električne energije;
11) način mjerenja električne energije;
12) mjere zaštite na radu u normalnim uslovima i uslovima poremećaja rada sistema;
13) mjere zaštite u održavanju objekata;
14) obaveze, rokove i način međusobnog obavještavanja;
15) odgovornosti u slučaju nepoštovanja ugovora;
16) način rješavanja žalbi i prigovora;
17) trajanje ugovora i uslove za produženje ugovora;
18) prava i obaveze u slučaju prestanka ugovora;
19) po potrebi, detaljno uputstvo o manipulacijama u distributivnom sistemu i na strani korisnika koje sadrži:
    a) spisak ovlašćenih lica,
    b) redosljed potrebnih manipulacija,

c) determining the manner of accessing devices which are located on the user's property, and
d) separation of competences.

20) amount of the fee and terms of payment for the connection or for an increase in the connection capacity;
21) if necessary, instructions in regard to data exchange and requests for operational actions.

Agreement on the use of the electricity distribution system

Article 17

(1) The agreement on the use of the electricity distribution system is concluded in written form and, depending on the energy undertaking which concludes the agreement with LBEC, in particular includes:

1) data on the contracting parties;
2) subject of the agreement, number and date of the conclusion of the agreement;
3) number and date of the connection permit and the connection agreement;
4) power values approved in the connection permit;
5) electricity delivery point, place and manner of metering;
6) address, deadline and manner of submission of notifications if the distribution system user so requires;
7) exemptions from the standard quality of electricity supply;
8) possibility of contracting higher safety in the supply than the standard safety;
9) level of allowed back effect on the CDS;
10) management of the power facilities of the distribution system user by LBEC;
11) maintenance of connections;
12) unobstructed access for LBEC for the purpose of the installation and sealing of metering devices, reading of meters, replacement of metering devices and

c) određivanje načina pristupa uređajima koji su smješteni na posjedu korisnika, i
d) razgraničenje nadležnosti.

20) visinu naknade i način plaćanja za priključenje ili za povećanje priključne snage;

21) po potrebi, uputstva u vezi razmjene podataka i zahtjeva za operativno postupanje.

Ugovor o korišćenju distributivnog sistema električne energije

Član 17

(1) Ugovor o korišćenju distributivnog sistema električne energije zaključuje se u pisanoj formi i u zavisnosti od energetskog subjekta koji zaključuje ugovor sa LBEC, naročito sadrži:

1) podatke o ugovornim stranama;
2) predmet ugovora, broj i datum zaključenja ugovora;
3) i datum saglasnosti za priključenje i ugovora o priključenju;
4) energetske veličine odobrene u saglasnosti za priključenje;
5) mjesto isporuke/prijema električne energije, mjesto i način mjerenja;
6) adresu, rok i način dostave obavještenja ako korisnik distributivnog sistema to zahtijeva;
7) izuzetke od standardnog kvaliteta isporuke električne energije;
8) ugovaranja veće sigurnosti u napajanju od standardne sigurnosti;
9) nivo dopuštenog povratnog uticaja na ZDS;
10) upravljanje elektroenergetskim postrojenjima korisnika distributivnog sistema od strane LBEC;
11) održavanje priključaka;
12) nesmetani pristup LBEC u svrhu ugradnje i plombiranja mjernih uređaja, očitavanja

equipment, as well as the control of metering devices and equipment;
13) regular reading of metering devices and submission of data to the supplier for the purpose of calculation;
14) notification of distribution system users before the start of scheduled works on the maintenance of the distribution network;
15) tariff rates for the use of the distribution system defined by the Agency;
16) informing distribution system users about changes in the prices and tariffs for the use of the CDS;
17) calculation period;
18) paying for the use of the CDS in accordance with the prices and tariffs for CDS users, according to the calculation shown on the delivered bill;
19) calculation of interest in accordance with the regulations;
20) exemptions in the supply of electricity in accordance with the prescribed restrictive measures, in case of greater disruptions in the electricity supply;
21) reasons for the suspension of the electricity supply;
22) manner of the suspension of the electricity supply;
23) temporary disconnection of users from the connection point in accordance with these rules;
24) informing users in case of a temporary disconnection of the users' facilities from the distribution network;
25) obligation and description of efficient procedures, in the manner and within the deadlines prescribed for a change of the supplier;
26) ensuring metering data in order to prepare the final calculation of a final customer's consumption after each change of the electricity supplier;
27) reporting, data exchange and confidentiality of information or specific data received directly or indirectly during the implementation of the agreement;

stanja mjerila, zamjene mjernih uređaja i opreme, te kontrolu mjernih uređaja i opreme;
13) uredno očitanje mjernih uređaja i dostavljanje podataka snabdjevaču radi obračuna;
14) obavještenja korisnicima distributivnog sistema prije početka planiranih radova na održavanju distributivne mreže;
15) tarifne stavove za korišćenje distributivnog sistema koje utvrđuje Agencija;
16) obavještavanje korisnika distributivnog sistema o promjenama cijena i tarifa za korišćenje ZDS;
17) obračunski period;
18) plaćanje korišćenja ZDS u skladu sa cijenama i tarifama za korisnike ZDS, prema obračunu iskazanom na dostavljenom računu;
19) obračun kamate u skladu sa propisima;
20) izuzetke u isporuci električne energije u skladu sa propisanim restriktivnim mjerama, u slučaju većih poremećaja u snabdijevanju električnom energijom;
21) razloge obustave isporuke električne energije;
22) način obustave isporuke električne energije;
23) privremenu odjavu korisnika sa mjesta priključenja u skladu sa ovim pravilima;
24) obavještavanje korisnika u slučaju privremenog isključenja objekta korisnika sa distributivne mreže;
25) obavezu i opis efikasnog postupanja, na način i u rokovima propisanim za promjenu snabdjevača;
26) obezbjeđenje mjernih podataka radi izrade konačnog obračuna potrošnje krajnjeg korisnika nakon svake promjene snabdjevača električne energije;
27) izvještavanje, razmjenu podataka i povjerljivost informacija odnosno određenih podataka dobijenih neposredno ili posredno tokom realizacije ugovora;

28) force majeure;
29) manner of submitting to the supplier the complaints of final customers which fall within his competence;
30) manner of resolving appeals and complaints;
31) possibility of contracting arbitration;
32) agreement validity period;
33) conditions and manner of terminating the agreement.

(2) The agreement on the use of the electricity distribution system which LBEC concludes with the supplier, apart from the data referred to in paragraph 3 of this Article, also contains provisions connected to:
1) enabling the supplier to use the final customer's data along with ensuring the protection of confidential information in accordance with the law;
2) informing LBEC in case of a temporary disconnection of the final customer from the point of connection;
3) suspension of the delivery of electricity by LBEC to the final customer's facility at the supplier's request in the cases and in the manner prescribed by the Law and these rules;
4) acting upon the complaints of final customers, submitting to LBEC the requests which fall within its competence, as well as timely informing the final customer upon LBEC's requests;
5) enabling LBEC to exchange information on final customers along with the protection of confidential data in accordance with the law;
6) application of prices and tariffs for the use of the distribution system, in accordance with the data received from LBEC, separately stated on the bills;
7) paying LBEC the invoiced amounts for the use of the distribution system, in accordance with the agreement;
8) quantity and contracted capacity for the delivery of electricity as well as contractual penalties in case of deviations;

28) višu silu;
29) način dostavljanja snabdjevaču prigovora krajnjih korisnika za koje je isti nadležan;

30) način rješavanja žalbi i prigovora;

31) mogućnost ugovaranja arbitraže;
32) period važenja ugovora;
33) uslove i način raskida ugovora.

(2) Ugovor o korišćenju distributivnog sistema električne energije koji LBEC zaključuje sa snabdjevačem pored podataka iz stave 3 ovog člana sadrži i odredbe vezane za:

1) omogućavanje snabdjevaču korišćenja podataka krajnjeg korisnika uz obezbjeđenje zaštite povjerljivih informacija u skladu sa zakonom;
2) obavještavanje LBEC u slučaju privremene odjave krajnjeg kupca sa mjesta priključenja;
3) obustavu isporuke električne energije od strane LBEC objektu krajnjeg kupca na zahtjev snabdjevača u slučajevima i na način propisan Zakonom i ovim pravilima;
4) postupanje po prigovorima krajnjih kupaca, dostavljanje LBEC zahtjeva za koje je nadležan, kao i blagovremeno obavještavanje krajnjeg korisnika po zahtjevima LBEC;
5) omogućavanje LBEC razmjene informacija o krajnjim kupcima uz obezbjeđenje zaštite povjerljivih podataka u skladu sa zakonom;
6) primjenu cijena i tarifa za korišćenje distributivnog sistema, u skladu sa podacima primljenim od LBEC, uz odvojeno iskazivanje na računima;
7) plaćanje LBEC fakturisanih iznosa za korišćenje distributivnog sistema, u skladu sa ugovorom;
8) količinu i ugovorenu snagu za isporuku električne energije kao i ugovornu kaznu za slučaj odstupanja;

9) conditions and manner of terminating the agreement.

9) uslove i način raskida ugovora.

Termination of the agreement on the connection to the distribution system

Article 18

(1) The agreement on the connection to the distribution system can be terminated upon the request of one contracting party in case the other party is not fulfilling its contractual obligations.
(2) The procedure for the termination of the agreement is initiated by a written notice of intent to terminate.
(3) The agreement is considered terminated after the expiration of 60 days since the receipt of the notice referred to in paragraph 2 of this Article, if the defaulting party does not start fulfilling its obligations or if it does not prove its inability to fulfil them due to force majeure.
(4) A user whose connection agreement was terminated becomes eligible for the conclusion of a new connection agreement after the elimination of the reasons for which the agreement was terminated.
(5) In case a connection agreement is terminated, LBEC will inform the competent supplier within three days since the day of the termination of the agreement.

Raskid ugovora o priključenju na distributivni sistem

Član 18

(1) Ugovor o priključenju na distributivni sistem može se raskinuti na zahtjev jedne ugovorne strane u slučaju da druga ugovorna strana ne ispunjava obaveze iz ugovora.
(2) Postupak za raskid ugovora pokreće se pisanim obavještenjem o namjeri raskida.
(3) Ugovor se smatra raskinutim po isteku roka od 60 dana od dana prijema obavještenja iz stava 2 ovog člana, ukoliko ugovorna strana koja ne ispunjava svoje obaveze ne počne da ih ispunjava ili ne dokaže da je do nemogućnosti ispunjenja došlo usled dejstva više sile.
(4) Korisnik sa kojim je raskinut ugovor o priključenju stiče pravo na zaključivanje novog ugovora o priključenju nakon otklanjanja razloga zbog kojih je ugovor raskinut.
(5) U slučaju raskida ugovora o priključenju LBEC će obavijestiti nadležnog snabdjevača u roku od tri dana od dana raskida ugovora.

Termination of the agreement on the use of the distribution system

Article 19

(1) The agreement on the use of the distribution system can be terminated:
   1) upon the request of one contracting party in case the other contracting party is in default;
   2) in case of the termination of the supply agreement;
   3) in case of the termination of the connection agreement.

Raskid ugovora o korišćenju distributivnog sistema

Član 19

(1) Ugovor o korišćenju distributivnog sistema može se raskinuti:
   1) na zahtjev jedne ugovorne strane u slučaju da druga ugovorna strana ne ispunjava obaveze iz ugovora;
   2) u slučaju raskida ugovora o snabdijevanju;
   3) u slučaju raskida ugovora o priključenju.

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(2) The procedure for the termination of the agreement is initiated by a written notice of intent to terminate.

(3) The agreement is considered terminated after the expiration of three days since the receipt of the notice referred to in paragraph 2 of this Article.

IV DELIVERY OF ELECTRICITY

Electricity delivery safety

Article 20

(1) Within its competences, LBEC is obliged to ensure a continuous, reliable and high-quality supply of electricity, in accordance with the Law and these rules.

(2) The CDS user is obliged to take appropriate measures in order to ensure the protection of own plants and installations against the consequences of an interruption in the delivery of electricity.

(3) In case of an interruption in the delivery of electricity, LBEC is obliged to establish supply as soon as possible.

(4) If LBEC estimates that an interruption in the delivery of electricity is going to last more than two hours, it is obliged to inform CDS users about the estimated duration of the interruption via the media and/or its website.

(5) Interruptions in the delivery of electricity are considered scheduled if they have been announced in accordance with these Rules, otherwise they are considered unscheduled.

(6) In case of necessary works and/or a need for the connection of new CDS users, LBEC can, with a prior announcement to the distribution system users, temporarily interrupt the delivery/taking of electricity, while such interruptions may not last longer than what was stated in the announcement, all in accordance with the provisions of these Rules.

(2) Postupak za raskid ugovora pokreće se pisanim obavještenjem o namjeri raskida.

(3) Ugovor se smatra raskinutim po isteku roka od tri dana od dana prijema obavještenja iz stava 2 ovog člana.

IV ISPORUKA ELKTRIČNE ENERGIJE

Sigurnost isporuke električne energije

Član 20

(1) LBEC je u okviru svojih nadležnosti, je obavezan da obezbijedi kontinuiranu, pouzdanu i kvalitetnu isporuku električne energije, u skladu sa Zakonom i ovim pravilima.

(2) Korisnik ZDS dužan je da preduzme odgovarajuće mjere kako bi osigurao zaštitu vlastitih postrojenja i instalacija od posljedica prekida isporuke električne energije.

(3) LBEC je dužan da u slučaju prekida isporuke električne energije u najkraćem mogućem roku uspostaviti napajanje.

(4) Ukoliko LBEC procijeni da će prekid isporuke električne energije trajati duže od dva sata dužan je o procijenjenom trajanju prekida obavijestiti korisnike ZDS putem sredstava javnog informisanja i/ili svoje internet stranice.

(5) Prekidi isporuke električne energije smatraju se planiranim ukoliko su najavljeni u skladu sa ovim Pravilima, u suprotnom smatraju se neplaniranim.

(6) U slučaju neophodnih radova i/ili potrebe priključenja novih korisnika ZDS, LBEC može, uz prethodnu najavu korisnicima distributivnog sistema privremeno prekinuti isporuku/preuzimanje električne energije, pri čemu ti prekidi ne smiju trajati duže nego što je navedeno u najavi, a sve u skladu sa odredbama ovih Pravila.

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Quality conditions

Article 21

(1) LBEC is obliged to maintain its plants in a condition which ensures a reliable, safe and quality delivery of electricity to the distribution system users.
(2) Electricity which is delivered to the final customer should satisfy the quality conditions in terms of the height of the voltage, sinusoidal voltage waveform, frequency, number and duration of the interruption in the electricity supply, in accordance with the Rules on the minimum quality of electricity delivery.
(3) LBEC is obliged to submit, upon a CDS user's written request, a report on the voltage quality at the electricity delivery point in accordance with the Rules on the minimum quality of electricity delivery.
(4) LBEC is obliged to constantly maintain and improve the quality level of the delivery of electricity at the electricity delivery point in accordance with the Rules on the minimum quality of electricity delivery, these rules and other relevant regulations.
(5) A CDS user who requires a quality level higher than the one established by the Rules on the minimum quality of electricity delivery is obliged to pay the actual costs of increasing the quality level of the delivery of electricity determined by LBEC.
(6) The provisions on the obligations and responsibilities of LBEC in connection to the quality of electricity delivery do not apply in cases of force majeure or emergencies.

Uslovi kvaliteta

Član 21

(1) LBEC je obavezan da, svoja postrojenja održava u stanju koje obezbjeđuje pouzdanu, sigurnu i kvalitetnu isporuku električne energije korisnicima distributivnog sistema.
(2) Električna energija koja se isporučuje krajnjem korisniku treba da zadovoljava uslove kvaliteta u pogledu visine napona, talasnog oblika sinusoide napona, frekvencije, broja i trajanja prekida u napajanju električnom energijom, u skladu s Pravilima o minimumu kvaliteta isporuke električne energije
(3) LBEC je dužan na pisani zahtjev korisnika ZDS, dostaviti izvještaj o kvalitetu napona na mjestu preuzimanja/predaje električne energije u skladu s Pravilima o minimumu kvaliteta isporuke električne energije.
(4) LBEC je dužan da trajno održava i poboljšava nivo kvaliteta isporuke električne energije na mjestu preuzimanja/predaje električne energije u skladu s Pravilima o minimumu kvaliteta isporuke električne energije, ovim pravilima i ostalim relevantnim propisima.
(5) Korisnik ZDS koji zahtjeva nivo kvaliteta viši od utvrđenog u Pravilima o minimumu kvaliteta isporuke električne energije, dužan je platiti stvarne troškove povećanja nivoa kvaliteta isporuke električne energije koje utvrđuje LBEC.
(6) Odredbe o obavezama i odgovornostima LBEC vezane za kvalitet isporuke električnom energijom ne primjenjuju se u slučaju nastanka više sile ili vanrednog događaja.

Allowed voltage deviations

Article 22

(1) Deviation from the nominal voltage at the electricity delivery point, for a final customer connection to the CDS at a medium voltage (35, 20 and 10 kV), may as a rule be up to ±10% of the nominal voltage (Un).

Dozvoljena odstupanja napona

Član 22

(1) Odstupanje od nominalnog napona na mjestu isporuke električne energije, krajnjem kupcu priključenom na ZDS srednjeg napona (10 kV), može da bude u pravilu do ±10 % od nominalnog napona (Un).

(2) Deviation from the nominal voltage at the electricity delivery point, in a low-voltage distribution network, may be within the limits of ±10 of the nominal voltage (Un).

(3) Exceptionally, if due to a defect on the power facilities of the producer, LBEC or a defect on the power facilities of the DSO to which the CDS is connected, caused by force majeure, it is not possible to establish the normal operational status and voltage conditions of the distribution network as provided in the previous paragraphs of this Article, larger deviations from the rated voltage are allowed as well. Such deviations are only allowed for the duration of the consequences of force majeure, about which LBEC will inform the distribution system users in an appropriate manner.

(4) A final customer whose technology is especially sensitive to disruptions in the electricity supply may contract special electricity supply conditions or ensure his own reserve supply, if necessary.

(5) The nominal voltages of the distribution network are defined by the standard MEST EN 50160.

(2) Odstupanje od nominalnog napona na mjestu isporuke električne energije, na distributivnoj mreži niskog napona, može da bude u granicama od ±10 nominalnog napona (Un).

(3) Izuzetno, ako usljed kvara na elektroenergetskim objektima proizvođača, LBEC ili kvara na energetskim postrojenjima ODS na koje je priključen ZDS, prouzrokovanog višom silom, nije moguće uspostaviti normalno uklopno stanje i naponske prilike distributivne mreže date u prethodnim stavovima ovog člana, dozvoljena su i veća odstupanja od nazivnog napona. Ovakva odstupanja dozvoljena su samo za vrijeme trajanja posljedica više sile, o čemu će LBEC na prikladan način obavijestiti korisnike distributivnog sistema.

(4) Krajnji kupac čija je tehnologija posebno osjetljiva na poremećaje u napajanju električnom energijom, može ugovoriti posebne uslove napajanja električnom energijom, ili obezbijediti vlastito rezervno napajanje, ako je to neophodno.

(5) Nominalni naponi distributivne mreže su definisani standardom MEST EN 50160.

Excessive reactive energy/power uptake and higher harmonics

Article 23

(1) A final customer whose devices take from the distribution network a higher reactive power than what corresponds to the average power factor (cosf=0.95) is obliged to carry out an appropriate compensation for the reactive power with the aim of reducing excessive reactive power uptake from the distribution network.

(2) If a final customer takes a higher reactive power than what corresponds to the average power factor (cosf=0.95), he pays for it in accordance with the valid Methodology which is determined by the Agency.

(3) An electricity producer connected to the CDS is obliged to use the reactive power according to the conditions from the connection permit. If he still in certain power plant operational regimes takes from the distribution energy a reactive power

Prekomjerno preuzeta reaktivna energija/snaga i viši harmonici

Član 23

(1) Krajnji kupac čiji uređaji uzimaju iz distributivne mreže veću reaktivnu energiju nego što to odgovara prosječnom faktoru snage (cosf=0,95), obavezan je izvršiti odgovarajuću kompenzaciju reaktivne snage u cilju smanjenja prekomjernog preuzimanja reaktivne energije iz distributivne mreže.

(2) Ukoliko krajnji korisnik preuzima veću reaktivnu energiju nego što to odgovara prosječnom faktoru snage (cosf=0,95) istu plaća u skladu sa važećom Metodologijom koju utvrđuje Agencija.

(3) Proizvođač električne energije priključen na ZDS, obavezan je koristiti reaktivnu energiju, prema uslovima iz saglasnosti za priključenje. Ukoliko ipak u pojedinim režimima rada elektrane preuzima reaktivnu energiju iz

higher than what has been approved for him in the connection permit, he pays for it as per the valid tariff rates for distribution system users.

(4) An electricity producer whose production facilities are connected to the CDS is obliged to adjust the production/consumption of the reactive power to the actual system needs, i.e. to the maintenance of the voltage and optimal energy flows in the system, i.e. strictly comply with the work conditions and regime, prescribed by LBEC.

(5) If a final customer does not appropriately compensate for the reactive power, LBEC will send him a warning urging him to pay the compensation and to reduce the harmonic distortion below the prescribed limits in the deadline defined by LBEC, which the user is obliged to act upon.

(6)

distributivne mreže veću nego što mu je odobreno saglasnošću za priključenje, istu plaća po važećim tarifnim stavovima za korisnike distrbutivnog sistema.

(4) Proizvođač električne energije, čiji su proizvodni objekti priključeni na ZDS, obavezan je proizvodnju/potrošnju reaktivne energije prilagoditi stvarnim potrebama sistema, odnosno održavanju napona i optimalnih energetskih tokova u sistemu, odnosno striktno se pridržavati uslova i režima rada, propisanih od strane LBEC.

(5) Ako krajnji korisnik ne izvrši odgovarajuću kompenzaciju reaktivne snage, LBEC će mu poslati upozorenje za izvršenje kompenzacije i svođenje harmoničke distorzije u propisane granice u roku koji utvrđuje LBEC, po kojem je korisnik dužan postupiti.

Complaint by the distribution system user about the quality of the electricity voltage

Article 24

(1) If a distribution system user submits to LBEC a written complaint about the voltage quality, LBEC will carry out measurements and deliver to the user a written report on the results of the measurements at the point of connection of the user to the CDS in the deadline prescribed by the Rules on the minimum quality of service.

(2) If it is established that the complaint is ungrounded, the measurement costs are borne by the distribution system user, and if the complaint is grounded, the measurement costs are borne by LBEC.

(3) If the distribution system user submits a report by an authorised institution on the results of the voltage quality measurements, LBEC will accept the results or act in the manner described in paragraphs (1) and (2) of this Article.

(4) If it is established that the complaint is grounded, LBEC will ensure the prescribed voltage quality in accordance with the Rules on the minimum quality of electricity delivery and supply.

Prigovor korisnika distributivnog sistema na kvalitet napona električne energije

Član 24

(1) Ako korisnik distributivnog sistema podnese LBEC pisani prigovor na kvalitet napona, LBEC će izvršiti mjerenja i dostaviti korisniku pisani izvještaj o rezultatima mjerenja na mjestu priključenja korisnika na ZDS u roku propisanim Pravilima o minimumu standarda kvaliteta usluge.

(2) Ako se utvrdi da je prigovor neosnovan, troškove mjerenja snosi korisnik distributivnog sistema, a ako je prigovor osnovan troškove mjerenja snosi LBEC.

(3) Ako korisnik distributivnog sistema dostavi izvještaj ovlašćene institucije o rezultatima mjerenja kvaliteta napona, LBEC će prihvatiti rezultate ili postupiti na način opisan u stavovima (1) i (2) ovog člana.

(4) Ako se utvrdi da je prigovor osnovan, LBEC će u skladu sa Pravilima o minimumu kvaliteta isporuke i snabdijevanja električne energije, obezbjediti propisan kvalitet napona.

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Standards and deadlines for the establishment of the quality of electricity

Article 25

(1) LBEC is obliged to work, through adequate investments in the building and development of the distribution system, on the alignment of the quality of electricity supplied to the national standard MEST EN 50160 for public distribution networks and the Rules on the minimum quality of service defined by the Agency.

(2) Until the full application of the relevant standards referred to in paragraph 1, the provisions on quality prescribed by the Rules on minimum quality of electricity delivery and supply will apply.

(3) The quality of electricity is measured at delivery points, while the entity that delivers electricity is responsible for the quality.

(4) LBEC is obliged to provide proof of the quality of electricity supplied upon a distribution system user's written request.

Standardi i rokovi za uspostavljanje kvaliteta električne eneregije

Član 25

(1) LBEC je obavezan da kroz adekvatna ulaganja u izgradnju i razvoj distributivnog sistema radi na usklađivanju kvaliteta isporučene električne energije sa nacionalnim standardom MEST EN 50160 za javne distributivne mreže i Pravilima o minimumu standarda kvaliteta usluge koje utvrđuje Agencija.

(2) Do potpune primjene relevantnih standarda iz tačke 1, primjenjivaće se odredbe o kvalitetu propisane Pravilima o minimumu kvaliteta isporuke i snabdijevanja električne energije.

(3) Kvalitet električne energije se mjeri na mjestima preuzimanja i predaje (isporuke), a za kvalitet je odgovoran onaj ko predaje (isporučuje) električnu energiju.

(4) LBEC je obavezan da na pisani zahtjev korisnika distributivnog sistema dostavi dokaz o kvalitetu isporučene električne energije.

V PLANNING THE DEVELOPMENT OF THE DISTRIBUTION SYSTEM

Article 26

(1) The planning of the development of the CDS is done in accordance with the Law and the Rules for the preparation and monitoring of the implementation of the ten-year plan for the development of the electricity distribution system.

(2) The planning of the distribution system's development encompasses all medium - (35 kV and 10 kV) and low-voltage (0.4 kV) facilities and plants.

(3) The development planning is based on the monitoring and modelling of the technical characteristics and network topology and network loads per element and voltage level.

(4) The planning must be based on clearly defined criteria.

(5) The planning is conducted in the deadlines prescribed by the laws and bylaws.

V PLANIRANJE RAZVOJA DISTRIBUTIVNOG SISTEMA

Član 26

(1) Planiranje razvoja ZDS vrši se u skladu sa Zakonom i Pravilima za izradu i praćenje realizacije desetogišnjeg plana razvoja distributivnog sistema električne energije.

(2) Planiranje razvoja distributivnog sistema obuhvata sve objekte i postrojenja srednjeg (10 kV) i niskog (0,4 kV) napona.

(3) Planiranje razvoja se zasniva na praćenju i modelovanju tehničkih karakteristika i topologije mreže i opterećenjima mreže po elementima i naponskim novoima.

(4) Planiranje mora biti zasnovano na jasno definisanim kriterijumima.

(5) Planiranje se odvija u rokovima propisanim zakonskim i podzakonskim aktima.

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Planning methodology

Article 27

The distribution system development planning methodology includes:

1) Defining the collection of input data;
2) Planning guidelines;
3) Preparation of the distribution network model necessary for technical and economic analyses;
4) Definition of the optimal operational conditions (schemes) of the distribution system in order to keep losses on all bases as low as possible, along with maintaining the safety, reliability and quality of the customers' supply;
5) Preparation of short-term and long-term distribution system development plans with an overview of later development;
6) Identification of possible technical and/or economic limitations in the distribution network and the manner and possibilities for their elimination;
7) Selection of the most favourable scenario for the implementation of development plans.

Metodologija planiranja

Član 27

Metodologija planiranja razvoja distributivnog sistema obuhvata:

1) Definisanje prikupljanja ulaznih podataka
2) Smjernice planiranja;
3) Izradu modela distributivne mreže potrebnog za tehničke i ekonomske analize;
4) Određivanje optimalnih uklopnih stanja (šema) distributivnog sistema kako bi gubici po svim osnovama bili što manji, uz očuvanje sigurnosti, pouzdanosti i kvaliteta snabdijevanja korisnika;
5) Izradu planova razvoja distributivnog sistema u kratkoročnom i dugoročnom periodu uz sagledavanje kasnijeg razvoja;
6) Identifikaciju mogućih tehničkih i/ili ekonomskih ograničenja u distributivnoj mreži i načina i mogućnosti njihovog otklanjanja;
7) Izbor najpovoljnijeg scenarija za realizaciju planova razvoja.

Planning goals

Article 28

(1) LBEC performs an activity of public interest and in that sense it plans and is responsible for the development of the distribution system, in accordance with the Energy Law, Energy Development Strategy, Action Plan, Law on Spatial Development and Construction of Structures and these Rules, being obliged to:
   1) ensure the conditions for a safe, efficient and quality operation of the distribution system;
   2) timely ensure sufficient network capacities which would satisfy the actual needs of the existing distribution system users for increases in power and electricity consumption;

Ciljevi planiranja

Član 28

(1) LBEC vrši djelatnost od javnog interesa i u tom smislu planira i odgovoran je za razvoj distributivnog sistema, u skladu sa Zakonom o energetici, Strategijom razvoja energetike, Akcionim planom, Zakonom o uređenju prostora i izgradnji objekata i ovim Pravilima, pri čemu je dužan da:
   1) obezbijedi uslove za siguran, efikasan i kvalitetan rad distributivnog sistema;
   2) blagovremeno obezbijedi dovoljne kapacitete mreže koji će zadovoljiti realne potrebe postojećih korisnika distributivnog sistema za povećanje snage i potrošnje električne energije;

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3) ensure sufficient capacities of the distribution system for the actual needs for the connection of new users to the distribution system;
4) ensure the pace of the building and reconstruction of the distribution system in a manner which would satisfy the users' electricity needs, ensure the development of the distribution system in accordance with urban plans, and ensure the normal operation of the distribution system.

(2) During the planning of the distribution system's development, LBEC must pay attention to:
1) provision of electricity distribution services pursuant to the Law;
2) use of the system up to the technically and economically justified limits;
3) selection of the development strategy as per the techno-economically optimal solutions;
4) fulfilment of the conditions prescribed by the standards;
5) observance of the regulations on health and safety, fire protection, environmental protection; and
6) observance of the regulations for the quality of electricity supply.

(3) LBEC is obliged to update and review the adopted development plans in accordance with changes in the consumption caused by the connection of new users and requests for the increase of power lodged by existing ones.

Article 29

(1) LBEC bases the development plans on:
1) Development plans for own needs for the improvement of the system;
2) Development plans adopted by state authorities and local administration authorities.

(2) Development plans of state authorities are:
1) Spatial plan of the State;
2) Energy Development Strategy and Action Plan;
3) National special purpose spatial planning studies.

(3) Spatial plans of local administrations are:

3) obezbijedi dovoljne kapacitete distributivnog sistema za realne potrebe priključenja novih korisnika na distributivni sistem;
4) obezbijedi dinamiku izgradnje i rekonstrukcije distributivnog sistema na način koji će zadovoljiti potrebe korisnika za električnom energijom, obezbijedi razvoj distributivnog sistema u skladu sa urbanističkim planovima, kao i da obezbijedi normalan pogon distributivnog sistema.

(2) Prilikom planiranja razvoja distributivnog sistema, LBEC mora voditi računa o:
1) pružanju usluga za distribuciju električne energije u skladu sa Zakonom;
2) upotrebi sistema do tehnički i ekonomski opravdanih granica;
3) odabiru strategije razvoja prema tehnoekonomski optimalnim rješenjima;
4) ispunjavanju uslova propisanih standardima;
5) poštovanju propisa o zaštiti na radu, zaštite od požara, zaštite životne okoline; i
6) poštovanju propisa za kvalitet isporuke električne energije.

(3) LBEC je dužan da, u skladu sa promjenama potrošnje, koje su uzrokovane priključenjem novih korisnika i zahtjevima za povećanje snage postojećih, ažurira i preispituje usvojene planove razvoja.

Član 29

(1) LBEC planove razvoja bazira na:
1) Planovima razvoja za sopstvene potrebe unapređenja sistema;
2) Planovima razvoja koje donose državni organi i organi lokalnih samouprava.

(2) Planovi razvoja državnih organa su:
1) Prostorni plan Države;
2) Strategija razvoja energetike i Akcioni plan
3) Državne studije o planiranju prostora posebnih namjena;

(3) Prostorni planovi lokalnih samouprava su;

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1) Local detailed urban plans and General urban studies of local administrations;
2) Local location studies for special purpose areas;
3) other planning documents of local administrations of general public interest and importance.

1) Lokalni detaljni urbanistički planovi i Generalne urbanističke razrade lokalnih samouprava;
2) Lokalne studije o lokaciji za prostore posebnih namjena;
3) druga planska dokumentima lokalnih samouprava od opšteg društvenog interesa i značaja.

Types of plans

Article 30

LBEC is obliged to:

1) define the ten-year distribution system development plan which is updated every five years and submit it to the Agency (hereinafter: Agency) for its consent no later than 1 July of the year preceding the first year of the period to which the plan applies, in compliance with:
   - Energy Development Strategy and Action Plan, taking into consideration future power plant projects and projects of the use of energy from renewable sources;
   - transmission system development plan;
   - local energy plans and other planning documents;
   - own plans for the development and improvement of the system.
2) according to the system users' needs, and in line with the spatial and planning documents, define the three-year investment plan which is updated every year and submit it to the Agency for its consent no later than 1 July of the year preceding the first year of the period to which the plan applies, including:
   - investments for which a decision has already been made; and
   - new investments which need to be implemented in the next three years for each year individually.

Vrste planova

Član 30

LBEC je dužan da:

1) utvrdi desetogodišnji plan razvoja distributivnog sistema koji se ažurira svake pete godine i dostavi Agenciji (u daljem tekstu Agencija) na davanje saglasnost najkasnije do 1. jula godine koja prethodi prvoj godini perioda na koji se plan odnosi, usklađen sa:
   - Strategijom razvoja energetike i Akcionim planom, uzimajući u obzir projekte budućih elektrana i projekte korišćenja energije iz obnovljivih izvora;
   - planom razvoja prenosnog sistema;
   - lokalnim energetskim planovima i drugim planskim dokumentima;
   - sopstvenim planovima razvoja i unapređenja sistema.
2) prema potrebama korisnika sistema, a u skladu sa prostorno-planskim dokumentima, utvrdi trogodišnji investicioni plan koji ažurira svake godine i dostavi Agenciji na saglasnost najkasnije do 1. jula godine koja prethodi prvoj godini perioda na koji se plan odnosi, a koji sadrži:
   - investicije za koje je već donijeta odluka; i
   - nove investicije koje treba izvršiti u naredne tri godine za svaku godinu pojedinačno.

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Article 31

During the preparation of the plans referred to in Article 30 of these Rules, LBEC is obliged to:

1) assess the potential for increasing the energy and economic efficiency in distribution system facilities and specify the goals for the increase in the energy and economic efficiency;
2) define concrete measures and investments for the introduction of economically viable improvements in the distribution system's energy efficiency, including the pace of the implementation of the measures;
3) take load management into consideration.

Član 31

Pri izradi planova iz člana 30 ovih Pravila, LBEC je dužan da:

1) procijeni potencijal za povećanje energetske i ekonomske efikasnosti u objektima distributivnog sistema i specificira ciljeve za povećanje energetske i ekonomske efikasnosti;
2) utvrdi konkretne mjere i ulaganja za uvođenje ekonomski isplativih poboljšanja energetske efikasnosti distributivnog sistema, uključujući i dinamiku realizacije mjera;
3) uzme u obzir upravljanje opterećenjem.

General conditions for the conceptualisation of the distribution system

Article 32

(1) During the planning of the distribution system's development, LBEC is obliged to ensure for the users:
   1) the quality of electricity and the level of safety of the distribution system's operations which are defined by the Agency's regulations and these Rules;
   2) constantly improve the level of electricity quality and/or supply safety. LBEC and the users ensure adequate planning with appropriate technical solutions according to specially contracted conditions.
(2) LBEC is obliged to plan and build the distribution system in a manner which would ensure its ability to adjust to modified conditions in relation to the assumed ones, ensuring a wide range of input parameters, phase construction in a manner which would ensure its easier upgrade or the installation of new elements in the already built part of the system.
(3) LBEC is obliged to define concrete measures and investments for the introduction of economically viable improvements in the CDS's energy efficiency, including the pace of the implementation of the defined measures;

Opšti uslovi za koncipiranje distributivnog sistema

Član 32

(1) Prilikom planiranja razvoja distributivnog sistema, LBEC je dužan da korisnicima obezbijedi:
   1) kvalitet električne energije i nivo sigurnosti rada distributivne mreže, koji su utvrđeni propisima Agencije i ovim Pravilima;
   2) vrši stalno unapređenje nivoa kvaliteta električne energije i/ili sigurnosti napajanja. LBEC i korisnici obezbjeđuju adekvatno planiranje sa odgovarajućim tehničkim rješenjima prema posebno ugovorenim uslovima.
(2) LBEC je dužan da distributivni sistem planira i izgrađuje na način koji će obezbijediti njegovu prilagodljivost izmijenjenim uslovima u odnosu na pretpostavljene, obezbjeđujući širok ospeg ulaznih parametara, etapnu izgradnju na način koji će obezbijediti njegovu lakšu dogradnju, odnosno ugradnju novih elemenata u izgrađeni dio sistema.
(3) LBEC je dužan da utvrdi konkretne mjere i ulaganja za uvođenje ekonomski isplativih poboljšanja energetske efikasnosti ZDS, uključujući dinamiku realizacije utvrđenih mjera

(4) The distribution system is conceived in a manner which would satisfy the following conditions and requirements:
1) safety of operation;
2) quality of electricity;
3) safety of supply;
4) cost-effectiveness;
5) environmental protection;
6) flexibility;
7) manageability;
8) observance and improvement of the existing situation.

(4) Distributivni sistem se koncipira na način koji će zadovoljiti sljedeće uslove i zahtjeve:

1) bezbjednost funkcionisanja;
2) kvalitet električne energije;
3) sigurnost napajanja;
4) ekonomičnost;
5) zaštitu životne sredine;
6) fleksibilnost;
7) upravljivost;
8) uvažavanje i unapređenje postojećeg stanja.

Safety of operation

Article 33

The planning of the CDS's development is conceived so that the conditions related to the safe implementation of development plans, maintenance and exploitation of the CDS are met.

Bezbjednost funkcionisanja

Član 33

Planiranje razvoja ZDS se koncipira tako da se zadovolje uslovi bezbijedne realizacije plana razvoja, održavanja i eksploatacije ZDS.

Quality

Article 34

(1) Distribution system elements in a user's plant must be built and set up so that, while in operation, they have no impact on the quality of electricity in the distribution system or at another system user's facility, and there must be no adverse effects during metering, transmission of signals and other information.
(2) LBEC is obliged to align the quality of electricity with the Rules on the minimum quality of electricity delivery and supply, defined by the Agency pursuant to the Law.
(3) A user is obliged to keep as low as possible all adverse back effects (flickers, voltage drops, higher harmonics, asymmetries, other occurrences which cause disturbances in the communication and information system of the distribution system operator) at the point of connection to the distribution system. If, within a reasonable deadline determined by LBEC, the system user does not eliminate any adverse back effects on the distribution system and/or other

Kvalitet

Član 34

(1) Elementi distributivnog sistema u postrojenju korisnika moraju biti izgrađeni i podešeni tako da, dok su u pogonu, nemaju uticaja na kvalitet električne energije u distributivnom sistemu ili kod drugog korisnika sistema, kao i da ne dolazi do neželjenih uticaja prilikom mjerenja, prenosa signala i drugih informacija.
(2) LBEC je dužan da kvalitet električne energije uskladi sa Pravilima o minimumu kvaliteta isporuke i snabdijevanja električnom energijom koja u skladu sa Zakonom utvrđuje Agencija.
(3) Korisnik je dužan da svede na najmanju mjeru pojavu svih negativnih povratnih uticaja (flikeri, propadi napona, viši harmonici, asimetrije, druge pojave koje izazivaju smetnje u komunikacionom i informacionom sistemu opreratora distributivnog sistema) u tački priključka na distributivni sistem. Ukoliko korisnik sistema u razumnom roku koji odredi LBEC ne otkloni negativne povratne uticaje na distributivni sistem i/ili druge korisnike sistema, LBEC će raskinuti

system users, LBEC will terminate the Connection Agreement and disconnect such user from the network.

(4) During the normal operational regime of the CDS, voltage values must be maintained within the following limits:
1) voltage frequency in the range 49.5 – 50.5 Hz;
2) allowed voltage range, according to table T.1 (Article 44 paragraph 6).

Ugovor o priključenju i takvog korisnika isključiti sa mreže.

(4) U toku normalnog radnog režima ZDS, naponske prilike se moraju održavati u sledećim granicama:

1) frekvencija napona u opsegu od 49.5 - 50.5 Hz;
2) dozvoljeni opseg napona, prema tabeli T.1 (čl.44 stav 6).

Safety

Article 35

(1) Safety of supply is ensured by selecting technical solutions on the basis of a reliability analysis which encompasses the likelihood of defects, amount of damages due to undelivered electricity and the degree of unacceptability of supply interruptions.

(2) LBEC defines the safety of supply by applying:
1) safety criterion "n-1", prescribed in Article 44 of these Rules and by keeping an optimal number of spare network elements and the automatisation of the work process (remote control system)
2) monitoring and checking the flows of power and capacities of system elements;
3) analysis of short circuits in the system and the reliability of system elements;
4) analysis of current loads of system elements (overhead lines, cables, transformers, etc.) in the normal and the disrupted operational regime of the system;
5) analysis of the alignment and reliability of protections and switching elements;
6) monitoring the capacitive earth-fault current due to the expansion of consumption and timely planning in terms of sectioning or neutral point earthing;
7) monitoring damages incurred due to failures, maintenance costs and comparison with new investments on these bases guided by the criterion of cost-effectiveness;
8) and other relevant data.

Sigurnost

Član 35

(1) Sigurnost napajanja se obezbeđuje tako što se tehnička rješenja biraju na osnovu analize pouzdanosti koja obuhvata vjerovatnoću kvarova, visinu šteta zbog neisporučene električne energije i stepen neprihvatljivosti prekida isporuke.

(2) Sigurnost napajanja LBEC utvrđuje koristeći se:
1) kriterijumom sigurnosti "n-1", propisan u članu 44 ovih Pravila i držanjem optimalnog broja rezervnih elemenata mreže i automatizacijom procesa rada (sistem daljinskog upravljanja)
2) praćenjem i kontrolom tokova snaga i kapaciteta elemenata sistema;
3) analizom kratkih spojeva u sistemu i pouzdanosti elemenata sistema;
4) analizom strujnih opterećenja elemenata sistema (nadzemni vodovi, kablovi, transformatori,…) u normalnom i poremećenom režimu rada sistema;
5) analizom usklađenosti i pouzdanosti zaštita i prekidačkih elemenata;
6) praćenje kapacitivnih struja zemljospoja usled širenja konzuma i blagovremeno planiranje u smislu sekcionisanja ili uzemljenja neutralne tačke;
7) praćenjem nastalih šteta usled ispada, troškova održavanja i upoređenjem sa novim investicijama po tim osnovima rukovodeći se kriterijumom ekonomičnosti.
8) i drugim relevantnim podacima.

DH

(3) For the purpose of ensuring the safety of supply, LBEC also plans the maintenance of an optimal number of spare network elements.

(3) Radi obezbeđenja sigurnosti napajanja LBEC planira i držanje optimalnog broja rezervnih elemenata mreže.

Data and bases for planning

Podaci i podloge za planiranje

Article 36

Data and bases for planning are:

1) data on electricity consumption in the previous period;
2) data on energy taken in the previous period;
3) data on measurements;
4) Energy Development Strategy and Action Plan;
5) spatial and other urban plans;
6) state and local location studies;
7) demographic data;
8) network data;
9) data on new users;
10) data on the existing condition of the CDS.

Član 36

Podaci i podloge za planiranje su:

1) podaci o potrošnji električne energije u prethodnom periodu;
2) podaci o preuzetoj električnoj energiji u prethodnom periodu;
3) podaci o mjerenjima;
4) Strategija razvoja energetike i Akcioni plan
5) prostorni i drugi urbanistički planovi
6) državne i lokalne studije o lokaciji
7) demografski podaci;
8) podaci o mreži;
9) podaci o novim korisnicima;
10) podaci o postojećem stanju ZDS.

Article 37

Data on electricity consumption in the previous period are:

1) total consumption in the consumption area or its parts with the structure (per voltage level, consumption time and consumption group);
2) spatial allocation of consumption per TS of all voltage levels and per settlement;
3) peak power and active and reactive energy passed per TS 110/X kV and 35/10 kV;
4) peak power, active and reactive energy of a user whose peak load is higher than 150 kW or annual consumption higher than 300,000 kWh.

Član 37

Podaci o potrošnji električne energije u prethodnom periodu su:

1) ukupna potrošnja na konzumnom području ili njegovim djelovima sa strukturom (po naponskim nivoima, vremenu potrošnje i po grupama potrošnje);
2) prostorna raspodjela potrošnje po TS svih naponskih nivoa i po naseljima;
3) vršne snage i protekle aktivne i reaktivne energije po TS;
4) vršne snage, aktivne i reaktivne energije korisnika čije je vršno opterećenje veće od 150 kW ili godišnja potrošnja veća od 300.000 kWh.

Article 38

Data on electricity taken in the previous period are:

1) peak powers of active and reactive energy at points of delivery from the transmission network;
2) data on the generation of plants connected to the CDS.

Član 38

Podaci o preuzetoj električnoj energiji u prethodnom periodu su:

1) vršne snage aktivne i reaktivne energije na mjestima preuzimanja iz prenosne mreže;
2) podaci o proizvodnji elektrana priključenih na ZDS.

DM

Article 39

Data on measurements are:

1) current per tap and transformer bay, voltage of busbars for TS110/X kV and 35/X kV (dispatcher measurements);
2) values of voltage and current per TS X/0.4 kV in annual high load periods;
3) values of the capacitive current of galvanically connected 35 kV and 10 kV networks in transformer areas in which operations are conducted with an insulated neutral point;
4) recorded number of switch trippings, transformer failures, power lines and other system elements.

Član 39

Podaci o mjerenjima su:

1) struje po izvodima i trafo poljima, napon sabirnica (dispečerska mjerenja);
2) vrijednosti napona i struja po TS X/0,4 kV u godišnjim periodima visokih opterećenja;
3) vrijednosti kapacitivne struje galvanski povezane 10 kV mreže na traforenoima na kojima se vrši pogon sa izolovanom neutralnom tačkom;
4) evidentirani broj prorada prekidača, ispada transformatora, dalekovoda i drugih elemenata sistema.

Article 40

Urban and demographic data are:

1) spatial and other urban plans with the implementation schedule;
2) state and local location studies;
3) other plans of general public interest;
4) demographic data;
5) number of inhabitants and households per settlement in previous population censuses;
6) planned population for the period of the preparation of the CDS development plan, if available;
7) plans for district heating and gasification.

Član 40

Urbanistički i demografski podaci su:

1) prostorni i drugi urbanistički planovi sa dinamikom realizacije;
2) državne i lokalne studije o lokaciji;
3) drugi planovi od opšteg društvenog interesa;
4) demografski podaci;
5) broj stanovnika i domaćinstava po naseljima prema prethodnim popisima;
6) planirani broj stanovnika za period izrade plana razvoja ZDS, ako se njime raspolaže;
7) planovi toplifikacije i gasifikacije.

Article 41

Network data are:

1) up-to-date maps with all 110/X kV, 35/10 kV transformer stations and 35 kV and 10 kV voltage lines, if possible on digitalised, georeferenced maps of the area in the appropriate scale;
2) characteristics of lines and TS;
3) single-pole schemes and dispositions of TS;
4) operational schemes of the network for normal operation during peak load;
5) power flows;
6) capacitive current of galvanically connected 35 kV and 10 kV networks in transformer areas in which operations are conducted with an insulated neutral point;

Član 41

Podaci o mreži su:

1) ažurne karte sa svim trafostanicama i vodovima napona i 10 kV, po mogućnosti na digitalizovanim, georeferenciranim kartama područja u odgovarajućoj razmjeri;
2) karakteristike vodova i TS;
3) jednopolne šeme i dispozicije TS;
4) uklopne šeme mreže za normalan pogon pri vršnom opterećenju;
5) tokovi snaga;
6) kapacitivne struje galvanski povezane 10 kV mreže na traforeonima gdje se vrši pogon sa izolovanom neutralnom tačkom;

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7) short circuit power;
8) estimate of the lifespan of network elements;
9) data on events in the network;
10) unit prices of network elements for the planning period;
11) unit prices of losses for the planning period;
12) estimates of average maintenance costs for all types of facilities.

Article 42

Data on new distribution system users whose connection is expected in the planning period are:

1) Approved connection capacities from the connection permit and contracted capacities;
2) missing power facilities whose construction would create conditions for the issuance of new decisions on the issuance of connection permits;
3) data on planned facilities from the spatial planning documentation.

Article 43

An electricity producer connected to the CDS and other users whose peak load is higher than 150 kW or whose annual consumption is higher than 300,000 kWh are obliged to submit to LBEC, by the end of June of the current year, the data necessary for the planning of the CDS's development, as follows:

1) envisaged annual production/consumption and peak power for the next five years;
2) plan of modifications of the production scope or the technological process which have an impact on the consumption of electricity;
3) plan of the installation of devices for reactive energy compensation.

Technical criteria for development planning

Article 44

(1) During the distribution system planning, the criterion of the allowed current load is the basic technical criterion of the network's operation, while during normal operation none of the network elements may be loaded above the load

7) snage kratkih spojeva;
8) procjene vijeka trajanja elemenata mreže;
9) podaci o događajima na mreži;
10) jedinične cijene elemenata mreže za planski period;
11) jedinične cijene gubitaka za planski period;
12) procjene prosječnih troškova održavanja za sve vrste objekata.

Član 42

Podaci o novim korisnicima distributivnog sistema čije se priključenje očekuje u planskom periodu su:

1) Odobrene-priključne snage iz saglasnoti za priključenje i ugovorene snage;
2) nedostajući elektroenergetski objekti čijom izgradnjom bi se stvorili uslovi za izdavanje novih rješenja o izdavanju saglasnosti za priključenje;
3) podaci o planiranim objektima iz prostorno-planske dokumentacije.

Član 43

Proizvođač električne energije povezan na ZDS i drugi korisnik čije je vršno opterećenje veće od 150 kW ili mu je godišnja potrošnja veća od 300.000 kWh, dužan je do kraja juna tekuće godine, dostaviti LBEC podatke potrebne za planiranje razvoja ZDS, i to:

1) predviđenu godišnju proizvodnju/potrošnju i vršnu snagu za narednih pet godina;
2) plan promjene obima proizvodnje ili tehnološkog procesa koji utiču na potrošnju električne energije;
3) plan ugradnje uređaja za kompenzaciju reaktivne energije.

Tehnički kriterijumi za planiranje razvoja

Član 44

(1) Pri planiranju distributivnog sistema, kriterijum dozvoljenog strujnog opterećenja je osnovni tehnički kriterijum rada mreže, pri čemu u normalnom pogonu nijedan od elemenata mreže ne smije biti opterećen iznad opterećenja za koje je

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for which a given element was designed multiplied by the element utilisation factor.

(2) The element utilisation factor is the ratio of the maximum load which occurs during normal operation to the load for which the given element was designed. The element utilisation factor is defined by the strategy and the study of the network's development depending on the choice of the network's form and manner of reservation.

(3) The planning also includes an analysis of how the network works when operations are disrupted, where permanently allowed current loads can be used for calculation. Permanently allowed current loads are maximum current values at which no characteristics of the materials are going to be impaired.

(4) Development planning must also take into consideration the data from the previous exploitation period (e.g. number of switch trippings, amortisation of lines and their condition, reliability, etc.).

(5) The distribution system should be planned so that, in all development phases and at all loads between the maximum and minimum, the voltage value remains within the pre-determined limits.

(6) Allowed voltage deviations above and below the rated value for the needs of planning are given in table T.1.

dati element projektovan pomnožen sa faktorom iskorišćenja elementa.

(2) Faktor iskorišćenja elementa je odnos između maksimalnog opterećenja koje se javlja u normalnom pogonu i opterećenja za koje je dati element projektovan. Faktor iskorišćenja elementa se definiše strategijom i studijom razvoja mreže u zavisnosti od izbora oblika mreže i načina rezerviranja

(3) Pri planiranju se analizira i rad mreže u poremećenom pogonu, pri čemu se može računati sa trajno dozvoljenim strujnim opterećenjima. Trajno dozvoljena strujna opterećenja su maksimalne vrijednosti struja, pri kojima neće doći do narušavanja svojstava materijala

(4) Planiranje razvoja mora uvažiti i podatke iz prethodnog perioda eksploatacije (npr. broj prorada prekidača, amortizacija vodova i njihovo stanje, pouzdanost i dr.

(5) Distributivni sistem treba da bude planiran tako da u svim etapama razvoja i pri svim opterećenjima između maksimalnih i minimalnih, vrijednost napona ostane u okviru unaprijed određenih granica

(6) Dozvoljena odstupanja napona iznad i ispod naznačene vrijednosti za potrebe planiranja data su u tabeli T.1.

Table: T.1

Tabela: T.1

Rated network voltage	Minimum voltage at normal operation	Minimum voltage at disrupted operation	Maximum voltage at normal operation
kV	kV	kV	kV
35	33.25	31.5	38
10	9.5	9	10.7
0.4/0.231	0.36/0.208	0.36/0.208	0.42/0.242

(7) The safety criterion "n-1" (single outage criterion) implies that a single outage of a CDS element does not lead to a disruption of the normal operation of the CDS.

(8) The development of the medium-voltage 35 kV and 10 kV network is planned while respecting the "n-1" criterion where this is economically justified considering the density of electricity

(7) Kriterijum sigurnosti "n-1" (kriterijum jednostrukog ispada) podrazumijeva da jednostruki ispad elementa ZDS ne dovodi do narušavanja normalnog pogona ZDS.

(8) Razvoj srednjenaponske mreže 10 kV se planira uz poštovanje kriterijuma "n-1" tamo gdje je to ekonomski opravdano s obzirom na gustinu potrošnje električne energije. U ostalim

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consumption. In other cases, the network is planned radially. Upon the user's request, the network is planned according to the (n-1) criterion, in which case the costs are borne by the network user.

slučajevima mreža se planira radijalno. Na zahtjev korisnika mreže se planira prema kriterijumu (n-1), u kojem slučaju troškove snosi korisnik mreže.

(9) The "n-1" criterion does not apply in the case of low-voltage networks.

(9) Kod niskonaponske mreže se ne primjenjuje kriterijum "n-1"

(10) Other technical criteria which represent an obligation for LBEC and arise from the rulebook on technical norms which deal with this topic.

10) Ostali tehnički kriterijumi koji predstavljaju obavezu LBEC, a proističu iz pravilnika o tehničkim normativima koji tretiraju ovu problematiku.

Ten-year distribution system development plan

Desetogodišnji plan razvoja distributivnog sistema

Article 45

Član 45

(1) The ten-year development plan elaborates on the selected optimal variant of the distribution system's development for a planning period of 10 years, which as a rule includes:
   1) description of the existing condition;
   2) estimate of the peak power and electricity consumption;
   3) overview of facilities at all voltage levels planned for construction and reconstruction per year;
   4) overview of the equipment of accompanying systems: remote control, consumption management, telecommunication, information equipment and other with the installation schedule;
   5) special study on the necessity of the construction or reconstruction of power facilities of the electricity transmission system operator which influence the development of the CDS;

(1) U desetogodišnjem planu razvoja se razrađuje izabrana optimalna varijanta razvoja distributivnog sistema za planski period od 10 godina, koji u pravilu sadrži:
   1) opis postojećeg stanja;
   2) prognozu vršne snage i potrošnje električne energije;
   3) pregled objekata svih naponskih nivoa planiranih za izgradnju i rekonstrukciju po godinama;
   4) pregled opreme pratećih sistema: daljinskog upravljanja, upravljanja potrošnjom, telekomunikacija, informacione opreme i drugog sa dinamikom ugradnje;
   5) poseban elaborat o neophodnosti izgradnje ili rekonstrukcije elektroenergetskih objekata operatora prenosnog sistema električne energije koji utiču na razvoj ZDS;

(2) LBEC harmonises its ten-year development plan with the transmission system development plan;

(2) LBEC usaglašava svoj desetogodišnji plan razvoja sa planom razvoja prenosnog sistema

(3) LBEC harmonises its ten-year development plan with the mid-term development plans of adjacent distribution systems;

(3) LBEC usaglašava svoj desetogodišnji plan razvoja sa srednjoročnim planovima razvoja susjednih distributivnih sistema

(4) LBEC defines the ten-year development plan by the end of July of the year preceding the ten-year period for which the plan is defined;

(4) LBEC utvrđuje desetogodišnji plan razvoja do kraja jula mjeseca u godini koja prethodi desetogodišnjem periodu za koji se plan utvrđuje

(5) Upon the request of stakeholders, LBEC submits to them the ten-year development plan;

(5) Na zahtjev zainteresovanih lica, LBEC im dostavlja desetogodišnji plan razvoja

(6) The ten-year development plan represents the basis for the preparation of annual investment plans;
(7) The ten-year development plan is a public document available in electronic form on LBEC's website or upon a user's request;
(8) The output of the ten-year development plan comprises above all:
1) scope and schedule of the construction of the CDS, necessary resources for investments and the development of the CDS, along with an appropriate table overview and, if possible, a graphic overview;
2) overview of TS110/X kV and 35/X kV envisaged for construction and reconstruction with the necessary resources per year and consumption area;
3) overview of 35 kV and 10 kV lines envisaged for construction and reconstruction with the necessary resources per year and consumption area;
4) overview of the number of TS X/0,4 kV per type envisaged for construction and reconstruction with the necessary resources per year and consumption area;
5) overview of the length of 0.4 kV lines per type envisaged for construction and reconstruction with the necessary resources per year and consumption area;
(9) The ten-year development plan of the distribution system is updated in the fifth year of the plan's validity and submitted to the Agency for its consent.

(6) Desetogodišnji plan razvoja predstavlja osnovu za izradu godišnjih planova investicija
(7) Desetogodišnji plan razvoja je javni dokument dostupan u elektronskoj formi na web strani LBEC ili na zahtjev korisnika.
(8) Izlazne rezultate desetogodišnjeg plana razvoja čine prije svega:
1) obim i dinamika izgradnje ZDS, potrebna sredstva za investicije i razvoj ZDS, uz odgovarajući tabelarni i, po mogućnosti, grafički prikaz;
2) pregled TS predviđenih za izgradnju i rekonstrukciju sa potrebnim sredstvima po godinama i konzumnim područjima;
3) pregled vodova 35 kV i 10 kV predviđenih za izgradnju i rekonstrukciju sa potrebnim sredstvima po godinama i konzumnim područjima;
4) pregled broja TS X/0,4 kV po tipovima predviđenim za izgradnju i rekonstrukciju sa potrebnim sredstvima po godinama i konzumnim područjima;
5) pregled dužina vodova 0,4 kV po tipovima predviđenim za izgradnju i rekonstrukciju sa potrebnim sredstvima po godinama i konzumnim područjima;
(9) Desetogodišnji plan razvoja distributivnog sistema se ažurira u petoj godini važenja plana i dostavlja Agenciji na odobravanje.

Three-year investment plan for the CDS

Article 46

(1) As per the needs of the system users, and in line with the spatial planning documents, ten-year plan and in accordance with the implementation schedule, LBEC is obliged to define a three-year investment plan which is updated every year and submitted to the Agency for its consent no later than 1 July of the year preceding the first year of the period to which the plan applies.

Trogodišnji investicioni plan ZDS

Član 46

(1) Prema potrebama korisnika sistema, a u skladu sa prostorno - planskim dokumentima, desetogodišnjim planom i u skladu sa dinamikom realizacije, LBEC je u obavezi da utvrdi trogodišnji investicioni plan koji ažurira svake godine i dostavlja Agenciji na saglasnost najkasnije do 1. jula godine koja prethodi prvoj godini perioda na koji se plan odnosi.

(2) LBEC harmonises the three-year investment plan for development with the Transmission System Operator.

(2) Trogodišnji investicioni plan razvoja LBEC usaglašava sa Operatorom prenosnog sistema.

Article 47

(1) The three-year investment plan for the CDS contains:
1) investments for which a decision has already been made;
2) new investments which need to be made in the next three years for each year individually.

(2) During the preparation of three-year investment plans, LBEC is obliged to:
1) assess the potential for increasing the energy and economic efficiency in distribution system facilities and specify the goals for the increase in the energy and economic efficiency;
2) define concrete measures and investments for the introduction of economically viable improvements in the distribution system's energy efficiency, including the pace of the implementation of the measures;
3) take load management into consideration.

Član 47

(1) Trogodišnji investicioni plan ZDS-a sadrži:
1) investicije za koje je već donijeta odluka;
2) nove investicije koje treba izvršiti u naredne tri godine za svaku godinu pojedinačno.

(2) Prilikom izrade trogodišnjih investicionih planova LBEC je dužan da:
1) procijeni potencijal za povećanje energetske i ekonomske efikasnosti u objektima distributivnog sistema i specificira ciljeve za povećanje energetske i ekonomske efikasnosti;
2) utvrdi konkretne mjere i ulaganja za uvođenje ekonomski isplativih poboljšanja energetske efikasnosti distributivnog sistema, uključujući i dinamiku realizacije mjera;
3) uzme u obzir i upravljanje opterećenjem.

Reporting on the implementation of the investment plan

Izvještavanje o realizaciji investicionog plana

Article 48

No later than 30 days after the expiration of the quarter, LBEC submits to the Agency a quarterly report and no later than 1 March of the current year for the previous, an annual report on the implementation of the approved investments.

Član 48

LBEC, najkasnije 30 dana od isteka kvartala dostavlja Agenciji kvartalni i najkasnije do 1. marta tekuće za prethodnu godinu, godišnji izvještaj o realizaciji odobrenih investicionih ulaganja.

VI CATEGORIES OF CUSTOMERS

VI KATEGORIJE KUPACA

Article 49

(1) According to the voltage at the electricity delivery point and the approved connection capacity, customers are divided into:
1) customers at whose facilities power is measured
2) customers at whose facilities power is not measured

Član 49

(1) Prema naponu na mjestu predaje električne energije i odobrenoj priključnoj snazi, kupci se dijele na:
1) kupce kod kojih se snaga mjeri
2) kupce kod kojih se snaga ne mjeri

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(2) Customers at whose facilities power is measured are:
1) customers at the 35 kV voltage level
2) customers at the 10 kV voltage level
3) customers at the 0.4 kV low-voltage level with an approved connection capacity higher than 34.5 kW.

(3) Customers at whose facilities power is not measured are customers at the 0.4 kV voltage level with an approved connection capacity of 34.5 kW or less.

(2) Kupci kod kojih se snaga mjeri su:

1) kupci na 35 kV naponskom nivou
2) kupci na 10 kV naponskom nivou
3) kupci na 0,4 kV niskom naponu sa odobrenom priključnom snagom većom od 34,5 kW.

(3) Kupci kod kojih se snaga ne mjeri su kupci na 0,4 kV naponskom nivou sa odobrenom priključnom snagom 34,5 kW ili manjom.

Transformation losses and existing indirect customers

Article 50

(1) In the case of customers at whose facilities electricity is not measured at the delivery point but at a voltage of a lesser or higher level than the delivery voltage, the measured quantity of electricity, increased or decreased by line and transformation losses, is calculated as per the tariff rates valid for the voltage of the delivery point.

(2) If the metering devices of one user, who is connected at a high or medium voltage, are used to supply another existing customer with electricity (indirect customer), the electricity consumption of the customer connected at a high or medium voltage, at whose facility the metering devices are located, is decreased during the calculation by the quantity of electricity and power delivered to the indirect customer.

Gubici u transformaciji i postojeći indirektni kupci

Član 50

(1) Kod kupaca kod kojih se električna energija ne mjeri na mjestu predaje, već na naponu nižeg ili višeg reda od napona predaje, izmjerena količina električne energije uvećana, odnosno smanjena za gubitke u vodovima i transformaciji, obračunava se prema tarifnim stavovima koji važe za napon mjesta predaje.

(2) Ako se preko mjernih uređaja jednog kupca, koji je priključen na visoki ili srednji napon, snabdijeva električnom energijom drugi postojeći kupac (indirektni kupac), potrošnja električne energije kupca priključenog na visoki ili srednji napon, kod kojeg su smješteni mjerni uređaji, umanjuje se prilikom obračunavanja za količinu energije i snage koja je predata indirektnom kupcu.

Article 51

(1) LBEC will grant a consumption category change permit to the customer referred to in paragraph 1 of Article 50, if the customer is the owner of the energy infrastructure and if the infrastructure exclusively serves for the supply of his facilities.

(2) The manner of calculating transformation losses in case of a consumption category change is determined by the connection agreement.

(3) In case of an infrastructure purchase, LBEC may determine another point of connection and consumption category.

Član 51

(1) LBEC će izdati saglasnost za promjenu kategorije potrošnje kupcu iz stava 1 člana 50, ako je kupac vlasnik energetske infrastrukture i ako infrastruktura isključivo služi za napajanje njegovih objekata.

(2) Način obračuna gubitaka u transformaciji kod promjene kategorije potrošnje utvrđuje se ugovorom o priključenju.

(3) U slučaju otkupa infrastrukture LBEC može odrediti drugo mjesto priključenja i kategoriju potrošnje.

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LUŠTICA BAY
ELECTRICITY

VII CONNECTION TO THE ELECTRICITY DISTRIBUTION SYSTEM

General conditions for connection

Article 52

(1) The conditions for connection are determined in accordance with the Law, regulations governing technical norms for construction, operation, maintenance and protection of power facilities and plants, or installations and these rules.

(2) The conditions for the connection of facilities should enable LBEC to ensure the adequate operation of the CDS without any violations of the conditions for the use of the CDS for existing and new customers, while ensuring a safety and quality supply of electricity.

(3) The conditions for connection to the CDS define:
   1) minimum technical, construction, organisational and operational conditions and obligations that need to be fulfilled by users who are already connected to the distribution system or who request a connection to the distribution system;
   2) additional conditions and obligations that might be necessary for the safe operation of the distribution system, in individual cases;
   3) procedures which LBEC conducts in order to ensure alignment with the prescribed criteria, as a condition for the approval of a user's connection to the distribution system;
   4) conditions and obligations for the construction and operational management of one or more connections to the distribution system. The conditions and obligations are prescribed in accordance with technical rules which take into consideration modern technical achievements, and in accordance with the basic directives and recommendations about the operation of distribution systems.

(4) A user may submit a request to LBEC for the provision of a quality of electricity and services higher than what is defined by these rules.

VII PRIKLJUČENJE NA DISTRIBUTIVNI SISTEM ELEKTRIČNE ENERGIJE

Opšti uslovi za priključenje

Član 52

(1) Uslovi za priključenje utvrđuju se u skladu sa Zakonom, propisima kojima se uređuju tehnički normativi za izgradnju, pogon, održavanje i zaštitu elektroenergetskih objekata i postrojenja, odnosno instalacija i ovim pravilima.

(2) Uslovi za priključenje objekata treba da omoguće da LBEC obezbijedi adekvatan rad ZDS uz nenarušavanje uslova korišćenja ZDS postojećim i novim korisnicima uz obezbjeđenje sigurne i kvalitetne isporuke električne energije.

(3) Uslovima za priključenje na ZDS se utvrđuju:
   1) minimum tehničkih, konstruktivnih, organizacionih i operativnih uslova i obaveza koje moraju zadovoljiti korisnici koji su već priključeni na distributivni sistem ili koji zahtijevaju priključenje na distributivni sistem;
   2) dodatni uslovi i obaveze koji mogu biti neophodni za siguran rad distributivnog sistema, u pojedinačnim slučajevima;
   3) procedure koje LBEC sprovodi kako bi osigurao usaglašenost sa propisanim kriterijumima, kao uslov za odobrenje priključenja korisnika na distributivni sistem;
   4) uslovi i obaveze za izgradnju i operativno upravljanje jednog ili više priključaka na distributivni sistem. Uslovi i obaveze su propisani u skladu sa tehničkim pravilima koja uvažavaju savremena tehnološka dostignuća, odnosno u skladu sa osnovnim direktivama i preporukama o radu distributivnih sistema.

(4) Korisnik može podnijeti zahtjev LBEC za pružanje kvaliteta električne energije i usluga većih od onih koji su definisani ovim pravilima.

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(5) In accordance with the request referred to in paragraph 4 of this Article and the system's possibilities, LBEC defines for the applicant special conditions in the connection permit.

(5) LBEC u skladu sa zahtjevom iz stava 4 ovog člana i mogućnostima sistema podnosiocu zahtjeva utvrđuje posebne uslove u saglasnosti za priključenje.

Principles

Article 53

(1) The technical conditions for connection to the CDS apply to all distribution system users, regardless of whether they use the connection for taking or for delivering electricity.
(2) The technical conditions are defined on the basis of the following criteria:
   1) a new or modified existing connection of a distribution system user must not cause adverse effects on the distribution system or on any system user;
   2) distribution system users are treated in an equal, non-discriminatory manner, within the limits of the CDS's capacity and in accordance with the technical rules.
(3) LBEC may refuse access to the distribution system if there is a lack of capacity.
(4) LBEC may refuse or limit access to the system if the granting of access to the distribution system, in the requested scope, could bring into question the provision of the public services referred to in Article 88 of the Law.
(5) The conditions for the connection of users to the distribution system form the basis for the preparation of technical documents, issuance of connection permits and the conclusion of connection agreements.

Principi

Član 53

(1) Tehnički uslovi za priključenje na ZDS primjenjuju se na sve korisnike distributivnog sistema, bez obzira na to da li priključak koriste za preuzimanje ili predaju električne energije.
(2) Tehnički uslovi se definišu na osnovu sljedećih kiterijuma:
   1) novi ili izmijenjeni postojeći priključak korisnika na distributivni sistem ne smije izazvati negativne uticaje na distributivni sistem na bilo kojeg korisnika sistema;
   2) korisnici distributivnog sistema se tretiraju na jednak, nediskriminatorni način, u granicama kapaciteta ZDS i u skladu sa tehničkim pravilima.
(3) LBEC može da odbije pristup distibutivnom sistemu u nedostatku kapaciteta.
(4) LBEC može da odbije ili ograniči pristup sistemu ako bi odobravanje pristupa distributivnom sistemu, u zahtijevanom obimu, moglo da dovede u pitanje pružanje javnih usluga iz člana 88 Zakona.
(5) Uslovi za priključenje korisnika na distributivni sistem čine osnovu za izradu tehničke dokumentacije, izdavanje saglasnosti za priključenje i zaključivanje ugovora o priključenju.

Lack of capacity

Article 54

(1) There is a lack of capacity in the CDS if:
   1) the voltage at the point of connection is outside the limits prescribed in Article 44 paragraph 6 of these rules;
   2) the load of system elements is above the limits prescribed in paragraph 2 item 2 of this Article;
   3) the limitation is of a constructive character;

Nedostatak kapaciteta

Član 54

(1) Nedostatak kapaciteta u ZDS postoji ako je:
   1) napon na mjestu priključenja izvan granica propisanih u članu 44 stav 6 ovih pravila;
   2) opterećenje elemenata sistema iznad granica propisanih u stavu 2 tačka 2 ovog člana;
   3) ograničenje konstruktivnog karaktera;

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4) the earth-fault current value is above the prescribed limits.

(2) The lack of capacity is determined by calculation and/or metering and it exists if:

1) metering with an appropriate metering device (continuously for seven consecutive days) in periods which amount to at least 5% of the total metering time or calculation (if no metering is done) establishes that the voltage in the electricity distribution system at the facilities of the system's end users is outside the prescribed limit, and the problem cannot be resolved in an economically acceptable manner, such as a change of the supply limits in the network of adjacent transformer areas, an improvement of the power factor via the installation of capacitor banks or an optimisation of the regulation of voltage in the electricity distribution network, while paying attention that there are no unacceptably high voltages during minimum loads;

2) the sum of the maximum existing and requested peak load, in optimal operational conditions, reaches a value 5% lower than the value at which there must be a substitution or increase of the capacity of the existing power facility.

3) overload of individual power facilities, so they need to be replaced, calculated according to the following formulas:

a) for power transformers:

$$Pd=1.0ner\,getSn$$

where:
Pd – active power of PT in kW;
Sn – apparent power of PT in kVA.

b) for cable lines:

$$Id=1.0aIn$$

c) for overhead lines:

$$Id=1.0\ In$$

where:
Id – allowed current;
In – nominal current.

4) vrijednost struje zemljospoja iznad propisanih granica.

(2) Nedostatak kapaciteta se utvrđuje proračunom i/ili mjerenjem i postoji kada je:

1) mjerenjem odgovarajućim mjernim uređajem (kontinualno u toku sedam uzastopnih dana) u periodima koji iznose najmanje 5% ukupnog vremena mjerenja ili proračunom (kada nema mjerenje), utvrđeno da je napon u elektrodistributivnom sistemu kod krajnjih korisnik sistema izvan propisanog nivoa, a problem se ne može riješiti na ekonomski prihvatljiv način, kao što je promjena granica napajanja na mreži susjednih trafo reona, poboljšanje faktora snage ugradnjom kondezatorskih baterija ili optimizacija regulacije napona u elektrodistributivnoj mreži, vodeći računa da u vrijeme minimalnih opterećenja ne dođe do pojave nedozvoljeno visokih napona;

2) zbir maksimalnog postojećeg i traženog vršnog opterećenja, pri optimalnom uklopnom stanju, dostigne vrijednost 5% nižu od vrijednosti pri kojoj se mora izvršiti zamjena ili povećanje kapaciteta postojećeg energetskog objekta.

3) preopterećenost pojedinih energetskih objekata, pa se mora izvršiti njihova zamjena, i računaju se prema sljedećim formulama:

a) za energetski transformator:

$$Pd=1.0nergetSn$$

gdje je:
Pd - aktivna snaga ET u kW;
Sn - prividna snaga ET u kVA.

b) za kablovski vod:

$$Id=1.0aIn$$

c) za nadzemni vod:

$$Id=1.0\ In$$

gdje je:
Id - dozvoljena struja;
In - nominalna struja.

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4) lack of a constructive nature, which implies the lack of taps with accompanying elements, lack of power transformers or other elements, as well as any other deficiency of accompanying plants because of which it is not possible to connect the user;
5) increase in the value of the earth-fault current above the prescribed limits due to a possible connection of the user and the need for changing the neutral point earthing of the adequate voltage level in such case.

(3) In the cases referred to in paragraph 2 items 1, 2 and 3 of this Article, measurements and calculations take into consideration existing connection permits issued in the previous period.

4) nedostatak konstruktivne prirode, pod kojima se podrazumijevaju nedostajući izvodi sa pripadajućim elementima, nedostatak energetskih transformatora ili drugih elemenata, kao i ostali nedostaci u pripadajućim postrojenjima zbog kojih nije moguće priključiti korisnika;
5) povećanje vrijednosti struje zemljospoja iznad propisanih granica usljed eventualnog priključenja korisnika i potrebe promjene uzemljenja neutralne tačke pripadajućeg naponskog nivoa u tom slučaju

(3) U slučajevima iz stave 2 tač. 1, 2 i 3 ovog člana mjerenja i proračuni uzimaju u obzir važeće saglasnosti za priključenje izdate u prethodnom periodu.

Point of connection

Article 55

(1) LBEC is obliged to determine the point of connection of a user's plants and installations to the CDS.
(2) The point of connection of the user's plants and installations to the distribution system is, as a rule, at the electricity delivery point.
(3) LBEC is obliged to determine the device for the electric (galvanic) separation of the user's facility installation from the system.
(4) In the procedure for the issuance of a connection permit, on the basis of the statistics of operational events, by means of metering or calculation (if no metering is done), LBEC checks whether the parameters of CDS elements satisfy the technical conditions (allowed connection capacity, short circuit current, manner of earthing, reliability, voltage quality, etc.) which enable the fulfilment of the applicant's requests.
(5) If the technical and operational conditions at the point of connection correspond to the parameters in which the user's installations and plants can work as per the stated conditions, LBEC will determine an appropriate technical solution for connection to the CDS. The user gives LBEC all requested technical and operational data for the establishment and verification of the fulfilment

Mjesto priključenja

Član 55

(1) LBEC je dužan da odredi mjesto priključenja postrojenja i instalacija korisnika na ZDS.
(2) Mjesto priključenja postrojenja i instalacija korisnika na distributivni sistem, po pravilu, je na mjestu preuzimanja/isporuke električne energije.
(3) LBEC je dužan da odredi uređaj za električno (galvansko) odvajanje instalacije objekta korisnika od sistema.

(4) U postupku za izdavanje saglasnosti za priključenje, na osnovu statistike pogonskih događaja, mjerenjem ili proračunom (ako nema mjerenja), LBEC provjerava da li parametri elemenata ZDS zadovoljavaju tehničke uslove (dopuštena priključna snaga, struja kratkog spoja, način uzemljenja, pouzdanost, kvalitet napona i dr.) koji omogućavaju ispunjenje zahtjeva podnosioca.

(5) Ako tehnički i pogonski uslovi na priključnom mjestu odgovaraju parametrima u kojima instalacije i postrojenja korisnika mogu raditi prema navedenim uslovima, LBEC će utvrditi odgovarajuće tehničko rješenje za priključak na ZDS. Korisnik daje LBEC sve zahtijevane tehničke i pogonske podatke za određivanje i provjeru ispunjavanja uslova priključka na ZDS i sarađuje

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of the conditions for connection to the CDS and cooperates with LBEC in finding an optimal technical solution.

(6) LBEC checks the impact of the plants and equipment in the facility of the system user whose connection is requested from the perspective of the safe operation of the CDS, the impact on the CDS and facilities in the vicinity, as well as back effects, in order to ensure the prescribed quality of electricity.

(7) If the technical and operational conditions in the CDS at the billable metering place do not correspond to the parameters at which the user's installations and plants can work as per the technical requirements and conditions, LBEC proposes measures which would enable the connection of the user to the CDS, in accordance with the CDS development plan, the Law and these rules.

(8) If the request includes the construction, reinforcement of the CDS or special technical modifications in the CDS, LBEC determines the scope and procedure of these modifications, as per the technical regulations, standards, the Law and these rules.

(9) The user must design his installation and plant according to the requirements defined by these rules, as well as according to technical recommendations and norms based on the principles of determining adverse back effects on the CDS (e.g. emission of higher harmonic components, flickers, asymmetries, etc.), all in accordance with these rules.

(10) Appropriate operational instructions must also be an integral part of the request for the connection of plants of system users in whose case the management of the plant is done by workers who require mandatory training and examination in terms of plant management. The operational instructions are proposed by the user and confirmed by LBEC.

(11) LBEC and the system user regulate the accompanying rights, obligations and competences in regard to technical requirements, economic factors and legal issues by means of the agreement on the connection to the CDS. The

sa LBEC pri iznalaženju optimalnog tehničkog rješenja.

(6) LBEC provjerava uticaj postrojenja i opreme u objektu korisnika sistema čije se priključenje zahtijeva sa aspekta sigurnog pogona ZDS, uticaja na ZDS i bliske objekte, kao i povratne uticaje, da bi se mogao obezbijediti propisani kvalitet električne energije.

(7) Ako tehnički i pogonski uslovi u ZDS na obračunskom mjernom mjestu ne odgovaraju parametrima u kojima instalacije i postrojenja korisnika mogu raditi prema tehničkim zahtjevima i uslovima, u tom slučaju LBEC predlaže mjere koje će omogućiti priključenje korisnika na ZDS, u skladu sa planom razvoja ZDS, Zakonom i ovim pravilima.

(8) Ako se zahtijeva izgradnja, pojačavanje ZDS ili posebne tehničke promjene u ZDS, tada LBEC utvrđuje opseg i proceduru tih promjena, prema tehničkim propisima, standardima, Zakonom i ovim pravilima.

(9) Korisnik mora dimenzionisati svoju instalaciju i postrojenje prema zahtjevimautvrđenim ovim pravilima, kao i prema tehničkim preporukama i normama koje se temelje na načelima određivanja negativnoga povratnog djelovanja na ZDS (npr. emisija viših harmonijskih komponenti, flikeri, nesimetrije i sl.), a u skladu sa ovim pravilima.

(10) Sastavni dio zahtjeva za priključenje postrojenja korisnika sistema kod kojih upravljanje postrojenjem obavljaju radnici za koje je obavezno osposobljavanje i provjera znanja za upravljanje postrojenjem, moraju biti i odgovarajuća pogonska upustva. Pogonska upustva predlaže korisnik, a potvrđuje ih LBEC.

(11) Pripadajuća prava, obaveze i nadležnosti u pogledu tehničkih zahtjeva, ekonomskih faktora i pravnih pitanja, LBEC i korisnik sistema regulišu ugovorom o priključenju na ZDS. Ugovor o

agreement on the connection to the CDS is concluded between LBEC and the CDS user, in accordance with these rules.

(12) The rights, obligations and competences connected to technical requirements and economic conditions for the use of the distribution network are regulated by the agreement on the use of the CDS. The agreement on the use of the CDS is concluded, on behalf and for the account of the end users, by their supplier and LBEC.

(13) The connection to the CDS is done after the conclusion of the supply agreement between the supplier and the system user.

priključenju na ZDS zaključuje se između LBEC i korisnika ZDS, u skladu sa ovim pravilima.

(12) Prava, obaveze i nadležnosti vezano za tehničke zahtjeve i ekonomske uslove korišćenja distributivne mreže regulišu se ugovorom o korišćenju ZDS. Ugovor o korišćenju ZDS, u ime i za račun krajnjih korisnika zaključuje sa LBEC njihov snabdjevač.

(13) Priključenje na ZDS se vrši poslije zaključenja ugovora o snabdijevanju između snabdjevača i korisnika sistema.

Connection fee

Article 56

(1) The person who submits a request for connection or for a connection capacity increase in the distribution system is obliged to pay the connection fee.

(2) The fee referred to in paragraph 1 of this Article is prescribed by the methodology for the determination of the fee for the connection to the CDS, adopted by LBEC and approved by the Agency, in accordance with Article 180 of the Law.

Naknada za priključenje

Član 56

(1) Podnosilac zahtjeva za priključenje ili povećanje priključne snage, odnosno kapaciteta na distributivni sistem električne energije dužan je da plati naknadu za priključenje.

(2) Naknada iz stav 1 ovog člana propisana je metodologijom za utvrđivanje naknade za priključenje na ZDS, koju donosi LBEC a odobrava Agencija, u skladu sa članom 180 Zakona.

Connection types

Article 57

According to the simultaneously required maximum power and the effect on the CDS and environmental protection, connections are divided into:

1) Standard connection:
   a) connection of a system user's facility to a low-voltage network with a maximum approved capacity below 34.5 kW (3x50A);
   b) connection of a system user's facility to a low-voltage network whose consumption regime cannot jeopardise the supply quality in the accompanying CDS area and
   c) connection of a system user's facility to a low-voltage network whose connection equipment and devices and the electricity

Vrste priključaka

Član 57

Prema jednovremeno zahtijevanoj maksimalnoj snazi, te uticaju na ZDS i zaštitu životne sredine, priključci su podijeljeni na:

1) Standardni priključak:
   a) priključak objekta korisnika sistema na niskonaponsku mrežu čija je maksimalna odobrena snaga manja od 34.5 kW (3x50A);
   b) priključak objekta korisnika sistema na niskonaponsku mrežu čiji režim potrošnje ne može ugroziti kvalitet napajanja na pripadajućem području ZDS i
   c) priključak objekta korisnika sistema na niskonaponsku mrežu čija priključna oprema i uređaji i režim potrošnje električne energije ne

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consumption regime cannot jeopardise environmental protection standards.

2) Nonstandard connection:
   a) connection of a system user's facility to a low-voltage network with a maximum approved capacity of 34.5 kW (3x50A) or higher;
   b) connection of a system user's facility to a 10kV network or a 35kV network;
   c) connection of a system user's facility whose consumption regime can jeopardise the supply quality in the accompanying CDS area or
   d) connection of a system user's facility whose connection equipment and devices and the electricity consumption regime can jeopardise environmental protection standards.

Competences for the connection design and connection execution and connection to the CDS

Article 58

(1) The design of the connection and the execution of works on the connection are, as a rule, carried out by LBEC, except in case the user opts to carry out the design and works on his own.
(2) If the system user opts for the performance of works on the creation of the connection by LBEC, a separate connection creation agreement is concluded.
(3) The design and execution of the connection can also be done by other legal entities that are authorised for such activities, in accordance with the valid regulations and technical recommendations of LBEC.
(4) LBEC is obliged to install a metering device as its own fixed asset.
(5) LBEC is obliged to regularly maintain the metering device referred to in paragraph 4 of this Article.
(6) LBEC is obliged to meter the delivered electricity.

mogu ugroziti standarde zaštite životne sredine.

2) Nestandardni priključak:
   a) priključak objekta korisnika sistema na niskonaponsku mrežu čija je maksimalna odobrena snaga 34.5 kW (3x50A) ili veća;
   b) priključak objekta korisnika sistema na mrežu 10kV ili mrežu 35kV;
   c) priključak objekta korisnika sistema čiji režim potrošnje može ugroziti kvalitet napajanja na pripadajućem području ZDS ili
   d) priključak objekta korisnika sistema čija priključna oprema i uređaji i režim potrošnje električne energije mogu ugroziti standarde zaštite životne sredine.

Nadležnosti projektovanja priključka i izvođenja priključka i priključenje na ZDS

Član 58

(1) Projektovanje priključka i izvođenje radova na priključku, po pravilu, vrši LBEC, osim u slučaju da se korisnik opredijeli da projektovanje i izvođenje radova izvrši samostalno.
(2) Ako se korisnik sistema opredijeli da radove na izradi priključka izvede LBEC, zaključuje se poseban ugovor o izradi priključka.
(3) Projektovanje i izvođenje priključka mogu da vrše i druga pravna lica koja su ovlašćena za obavljanje tih djelatnosti, u skladu sa važećim propisima i tehničkim preporukama LBEC.
(4) LBEC je dužan da mjerni uređaj ugradi kao svoje osnovno sredstvo.
(5) LBEC je dužan da mjerni uređaj iz stava 4 ovog člana uredno održava.
(6) LBEC je dužan da vrši mjerenje isporučene električne energije.

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(7) The connection of the user's facility to the distribution system (energisation) can only be performed by LBEC.

Competences for the design and harmonisation with regulations and recommendations between power facilities and the planned facility

Article 59

(1) LBEC may request the supplementation of the documentation for the issuance of conditions for the preparation of technical documents or the connection permit, if there is doubt that the planned facility might not be in compliance with the regulations and recommendations for power facilities which are below, above or near the location of the power facility, i.e. request a preparation of a study on the compliance with regulations and recommendations between power facilities.

(2) The costs of the preparation of the study referred to in paragraph 1 of this Article are borne by the investor of the facility for the purpose of whose construction and connection the study is made.

(3) If the study on the compliance with regulations and recommendations between power facilities and the planned facility of the applicant for connection to the CDS proves that it would be necessary to relocate the power facility or a part of the CDS, this can only be done if the competent state authority so orders and only in the case of the construction of transport, power and utility infrastructure, facilities for the needs of national defence, water management facilities and facilities for the protection against natural hazards and other facilities which, in accordance with the law governing expropriation, are considered facilities of public interest, and which, due to natural or other characteristics, cannot be built on another location.

(4) In the case referred to in paragraph 3 of this Article, the costs of the relocation of the power facility, which also include the costs of the construction or erection of that power facility on another location, are borne by the investor of the

(7) Priključenje objekta korisnika na distributivni sistem (stavljanje pod napon) može izvršiti samo LBEC.

Nadležnosti projektovanja i usaglašavanje sa propisima i preporukama između elektroenergetskih objekata i planiranog objekta

Član 59

(1) LBEC može zahtijevati dopunu dokumentacije za izdavanje uslova za izradu tehničke dokumentacije ili saglasnosti za priključenje, u slučaju sumnje da planirani objekat nije usaglašen sa propisima i preporukama za elektroenergetske objekte koji se nalaze ispod, iznad ili u blizini lokacije energetskog objekta, odnosno zahtijevati izradu elaborata o usaglašenosti sa propisima i preporukama između elektroenergetskih objekata.

(2) Troškove izrade elaborata iz stava 1 ovog člana snosi investitor objekta radi čije izgradnje i priključenja se radi elaborat.

(3) Ako se elaboratom o usaglašenosti sa propisima i preporukama između elektroenergetskih objekata i planiranog objekta podnosioca zahtjeva za priključenje na ZDS dokaže da je potrebno izmještanje energetskog objekta odnosno dijela ZDS, to se može uraditi samo ako nadležni državni organ to naloži i to samo u slučaju izgradnje objekata saobraćajne, energetske i komunalne infrastrukture, objekata za potrebe odbrane zemlje, vodoprivrednih objekata i objekata za zaštitu od elementarnih nepogoda i drugih objekata koji se, u skladu sa zakonom kojim se uređuje eksproprijacija, smatraju objektima od javnog interesa, a koji se, zbog prirodnih ili drugih karakteristika, ne mogu graditi na drugoj lokaciji.

(4) U slučaju iz stava 3 ovog člana troškove izmještanja energetskog objekta, koji obuhvataju i troškove gradnje, odnosno postavljanja tog energetskog objekta na drugoj lokaciji, snosi investitor objekta radi čije izgradnje se izmješta energetski objekat.

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facility for the purpose of whose construction the power facility is relocated.

(5) The study on the compliance with regulations and recommendations between power facilities and the planned facility of the applicant for connection to the CDS can also be prepared by other legal entities that are authorised for such activities, in accordance with the valid regulations and technical recommendations of LBEC.

(6) If the investor of the facility (future system user) opts for the preparation of the study referred to in paragraph 5 of this Article by LBEC, a special study preparation agreement is concluded.

(7) The works on the compliance with regulations and recommendations between distribution facilities and the planned facility of the applicant for connection to the CDS as per the study can also be prepared by other legal entities that are authorised for such activities, in accordance with the valid regulations and technical recommendations of LBEC.

(8) The costs of the works and the material needed for the compliance with regulations and recommendations between distribution facilities and the planned facility of the applicant for connection to the CDS, as per the study, are borne by the investor.

Back effect on CDS

Article 60

(1) The installations and plants of a CDS user must be designed and built so that, when in operation, their back effects on the CDS (flickers, asymmetry, higher harmonics, etc.) do not exceed the prescribed values.

(2) The user's installations and plants must be designed and built so as to ensure their resistance to possible disturbances and impacts from the CDS.

(3) As an integral part of the main design, it is necessary to analyse the possible back effects on the network and to provide a proposal of measurements and tests during the test run.

(5) Izrada elaborata o usaglašenosti sa propisima i preporukama između elektroenergetskih objekata i planiranog objekta podnosioca zahtjeva za priključenje na ZDS mogu da vrše i druga pravna lica koja su ovlašćena za obavljanje tih djelatnosti, u skladu sa važećim propisima i tehničkim preporukama LBEC.

(6) Ukoliko se investitor objekta (budući korisnik sistema) opredijeli da elaborat iz stava 5 ovog člana, uradi LBEC, zaključuje se poseban ugovor o izradi elaborata.

(7) Radove na usaglašavanju sa propisima i preporukama između distributivnih objekata i planiranog objekta podnosioca zahtjeva za priključenje na ZDS prema elaboratu, mogu da vrše i druga pravna lica koja su ovlašćena za obavljanje tih djelatnosti, u skladu sa važećim propisima i tehničkim preporukama LBEC.

(8) Troškove za radove i materijal na usaglašavanju sa propisima i preporukama između distributivnih objekata i planiranog objekta podnosioca zahtjeva za priključenje na ZDS, prema elaboratu, snosi investitor.

Povratno djelovanje na ZDS

Član 60

(1) Instalacije i postrojenja korisnika ZDS moraju se projektovati i graditi tako da pri pogonu njihovo povratno djelovanje na ZDS (flikeri, nesimetrija, viši harmonici i dr.) ne prelazi propisane vrijednosti.

(2) Instalacije i postrojenja korisnika moraju se projektovati i graditi tako da je osigurana njihova otpornost prema mogućim smetnjama i uticajima iz ZDS.

(3) Kao sastavni dio glavnog projekta potrebno je da se obradi moguće povratno djelovanje na mrežu i predlog mjerenja i ispitivanja u toku probnog rada.

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(4) If the main design does not analyse the possible back effects on the CDS, LBEC will request from the investor and harmonise with him a programme of tests and measurements during the test run, in order to prove that the connection of the investor's facility would not violate the allowed limits of back effects.

(5) The analysis of back effects is the obligation of the user who must prove to LBEC by measurements during the test run that the allowed limits of back effects are not violated.

(6) The user's installations and plants must not disturb the transmission of information and managing signals across the distribution system.

(7) If the user causes an unpermitted back effect, LBEC orders the manner and deadline for returning the back effect to the prescribed or contracted limits. The user is obliged to reduce the back effect to the prescribed or contracted limits.

(8) If the user's back effect is such that it causes damage to the equipment of LBEC and other users for a time longer than the ordered deadline, LBEC has the right to temporarily disconnect that user.

(9) If the user has a reserve supply source, LBEC will determine the technical operational conditions in the connection permit.

(10) If his own supply source causes damage in the CDS, installations and plants of users, the owner of the supply source is responsible for all resulting harmful consequences.

(11) Back effects on basic technical requirements at normal operation must comply with the standard MEST EN 50160 for networks with a rated voltage of up to 35 kV in terms of the quality of electricity at the user's point of connection and the technical conditions prescribed by these rules.

Basic technical requirements at the point of connection to the CDS

Article 61

A user who requests connection to the CDS, must fulfil the minimum technical requirements at the point of connection, in relation to:

(4) Ako glavnim projektom nije obrađeno moguće povratno djelovanje na ZDS, LBEC će od investitora zahtijevati i sa njime uskladiti program ispitivanja i mjerenja u probnom radu kako bi se dokazalo da priključenje objekta investitora ne bi narušilo dopuštene granice povratnog djelovanja.

(5) Analiza povratnog djelovanja je obaveza korisnika koji LBEC mora u probnom pogonu mjerenjem dokazati da ne narušava dopuštene granice povratnog djelovanja.

(6) Instalacije i postrojenja korisnika ne smiju ometati prenos informacija i upravljačkih signala kroz distributivni sistem.

(7) Ako korisnik uzrokuje nedopušteno povratno djelovanje, LBEC nalaže način i rok za dovođenje povratnog djelovanja u propisane ili ugovorene granice. Korisnik je dužan svesti povratno djelovanje u propisane ili ugovorene granice.

(8) Ako je povratno djelovanje korisnika takvo da uzrokuje štetu na opremi LBEC i drugih korisnika u vremenu dužem od naloženog roka, LBEC ima pravo primijeniti mjeru privremenog isključenja tog korisnika.

(9) Ako korisnik posjeduje izvor za rezervno napajanje, LBEC će u saglasnosti za priključenje utvrditi tehničke uslove rada.

(10) Ako vlastiti izvor napajanja prouzrokuje štetu u ZDS, instalacijama i postrojenjima korisnika - vlasnik izvora napajanja odgovoran je za sve nastale štetne posljedice.

(11) Povratno djelovanje na osnovne tehničke zahtjeve u normalnom pogonu mora zadovoljiti standard MEST EN 50160 za mreže naznačenog napona do 35 kV u pogledu kvaliteta električne energije u tački priključka korisnika i tehničke uslove propisane ovim pravilima.

Osnovni tehnički zahtjevi na mjestu priključenja na ZDS

Član 61

Korisnik koji zahtijeva priključenje na ZDS, na mjestu priključenja mora ispuniti minimalne tehničke uslove koji se odnose na:

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1) frequency deviation;
2) voltage deviation;
3) voltage waveform;
4) voltage asymmetry;
5) operational and protective earthing;
6) short circuit level;
7) isolation level;
8) protection against defects and disturbances;
9) power factor.

1) odstupanje frekvencije;
2) odstupanje napona;
3) talasni oblik napona;
4) nesimetriju napona;
5) pogonsko i zaštitno uzemljenje;
6) nivo kratkog spoja;
7) nivo izolacije;
8) zaštitu od kvarova i smetnji;
9) faktor snage.

Frequency deviation

Article 62

(1) The nominal frequency value in the CDS in Montenegro is 50Hz.
(2) The allowed frequency deviation from the rated value in normal operational conditions is: 0.2Hz.
(3) The nominal frequency value and the allowed deviation are determined by the rules of the DSO, for which the DSO is competent and responsible.
(4) Users whose facilities are connected to a medium-voltage network, upon LBEC's request, must ensure devices which enable the automatic separation of the users' plants and devices from the CDS in case of any deviations of the frequency from the allowed values.
(5) LBEC defines the frequency values at which there is an automatic disconnection of users from the CDS.
(6) Maintaining the frequency by relieving the pressure on the CDS is LBEC's task which is implemented in coordination with the DSO.

Odstupanje frekvencije

Član 62

(1) Nominalna vrijednost frekvencije u ZDS Crne Gore je 50Hz.
(2) Dozvoljeno odstupanje frekvencije od naznačene vrijednosti u normalnim pogonskim uslovima je: 0.2Hz.
(3) Nominalna vrijednost frekvencije i dopušteno odstupanje određeni su pravilima ODS, za koju je nadležan i odgovoran ODS.
(4) Korisnici čiji su objekti priključeni na srednjenaponsku mrežu, na zahtjev LBEC moraju obezbijediti uređaje koji omogućavaju automatsko odvajanje postrojenja i uređaja korisnika sa ZDS u slučaju odstupanja frekvencije od dozvoljene vrijednosti.
(5) LBEC određuje vrijednosti frekvencije pri kojima dolazi do automatskog isključenja korisnika sa ZDS.
(6) Održavanje frekvencije rasterećenjem u ZDS zadatak je LBEC koji se ostvaruje koordinacijom sa ODS.

Voltage deviation

Article 63

During the planning and design of the CDS, the allowed deviations from the nominal voltage at the delivery point at normal operation amount to:

1) The prescribed limits of deviations from the rated voltage at normal operation are:
   a) for low voltage: ±10%;
   b) for medium voltage (10 kV, 20 kV, 35 kV): ±10%;
2) The allowed deviations from the nominal voltage in normal operational conditions,

Odstupanje napona

Član 63

Pri planiranju i projektovanju ZDS dopuštena odstupanja od nominalnog napona na mjestu preuzimanja ili predaje u normalnom pogonu iznose:

1) Propisane granice odstupanja od nazivnog napona u normalnom pogonu su:
   a) za niski napon: ±10%;
   b) za srednji napon (10 kV, 20 kV, 35 kV): ±10%;
2) Dopuštena odstupanja od nominalnog napona u uslovima normalnog pogona, osim za

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except for cases arising from supply disturbances and interruptions, and individual cases of existing network users in remote areas with long lines, establish:

a) for low voltage: during a period of seven days, 95% of 10-minute effective voltage value averages should be within the range of Un ±10%. All 10-minute effective voltage value averages should be within the range of Un +10%,
b) for medium voltage: during a period of seven days, 95% of 10-minute effective voltage value averages should be within the range of Un ±10%.

slučajeve nastale uslijed poremećaja i prekida napajanja, te za pojedinačne slučajeve postojećih korisnika mreže u udaljenim područjima s dugačkim vodovima, utvrđuju:

a) za niski napon: tokom razdoblja od sedam dana, 95% 10-minutnih prosjeka efektivnih vrijednosti napona trebaju biti u rasponu od Un ± 10%. Svi 10-minutni prosjeci efektivnih vrijednosti napona trebaju biti unutar raspona Un +10%,
b) za srednji napon: tokom razdoblja od sedam dana, 95% 10-minutnih prosjeka efektivnih vrijednosti napona trebaju biti u rasponu od Un ± 10%.

Voltage waveform

Article 64

(1) The value of the total harmonic distortion (THD) of the voltage caused by the connection of a producer and/or system user can be no higher at the delivery point than:
   1) at the voltage level of 0.4 kV: 2.5%;
   2) at the voltage levels of 10 and 20 kV: 2.0%;
   3) at the voltage level of 35 kV: 1.5%.
(2) The values from paragraph 1 of this Article are related to 95% of 10-minute effective voltage value averages for a period of seven days.
(3) The values of the intensity indexes of flicker caused by the connection of a producer and/or system user can be no higher at the delivery point than:
   1) for short-term flickers: 0.7;
   2) for long-term flickers: 0.5.

Talasni oblik napona

Član 64

(1) Vrijednost faktora ukupnog harmonijskog izobličenja (THD) napon uzrokovanog priključenjem proizvođača i/ili korisnika sistema na mjestu preuzimanja i/ili predaje može iznositi najviše:
   1) na nivou napona 0,4 kV: 2,5%;
   2) na nivou napona 10 i 20 kV: 2,0%;
   3) na nivou napona 35 kV: 1,5%.
(2) Vrijednosti iz stava 1 ovog člana odnose se na 95% 10-minutnih prosjeka efektivnih vrijednosti napona za razdoblje od sedam dana.
(3) Vrijednosti indeksa jačine flikera uzrokovanih priključenjem proizvođača i/ili korisnika sistema na mjestu preuzimanja i/ili predaje mogu iznositi najviše:
   1) za kratkotrajne flikere: 0,7;
   2) za dugotrajne flikere: 0,5.

Voltage asymmetry

Article 65

(1) The voltage asymmetry at the delivery point caused by the connection of a producer and/or system user must not exceed 3% of the rated voltage.
(2) The value from paragraph 1 of this Article is related to 95% of 10-minute effective voltage value averages for a period of seven days.

Nesimetrija napona

Član 65

(1) Nesimetrija napona na mjestu preuzimanja i/ili predaje uzrokovana priključenjem proizvođača i/ili korisnika sistema ne smije prelaziti 3% nazivnog napona.
(2) Vrijednost iz stav 1 ovog člana odnosi se na 95% 10-minutnih prosjeka efektivnih vrijednosti napona za razdoblje od sedam dana.

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Isolation level

Article 66

(1) The isolation of equipment in users' plants and installations must be dimensioned in accordance with the voltage level at which it is connected.
(2) LBEC is obliged to provide a user with data on the voltage level and the isolation coordination.

Nivo izolacije

Član 66

(1) Izolacija opreme u postrojenjima i instalacijama korisnika mora biti dimenzionisana saglasno naponskom nivou na koju se priključuje.
(2) LBEC je dužan da korisniku da podatke o naponskom nivou i koordinaciji izolacije.

Earthing

Article 67

(1) The concept of neutral point earthing in the distribution system falls within the competences of LBEC.
(2) LBEC prescribes the type and manner of neutral point earthing at the voltage levels which belong to the distribution system of LBEC and the neutral points which belong to the system of the user.
(3) The user is obliged to design and construct the earthing system with respect for the technical regulations and standards in this field, as well as the conditions connected to the manner of neutral point earthing in the part of the CDS to which he connects his facilities.
(4) LBEC is obliged to submit to the user data on the manner of neutral point earthing in the distribution network, as well as the necessary data for the design of the earthing system.

Uzemljenje

Član 67

(1) Koncept uzemljenja neutralne tačke u distributivnom sistemu je u nadležnosti LBEC.

(2) LBEC propisuje vrstu i način uzemljenja neutralne tačke na naponskim nivoima koji pripadaju distributivnom sistemu LBEC i neutralnim tačkama koji pripadaju sistemu korisnika.

(3) Korisnik je obavezan projektovati i izgraditi sistem uzemljenja uvažavajući tehničke propise i standard iz ove oblasti, te uslove vezane za način uzemljenja neutralne tačke dijela ZDS na koju priključuje svoje objekte.

(4) LBEC je obavezan dostaviti korisniku podatke o načinu uzemljenja neutralne tačke distributivne mreže, kao i neophodne podatke za projektovanje sistema uzemljenja.

Short circuit currents

Article 68

(1) The maximum allowed effective values of short circuit currents in the CDS, according to which the equipment and plants of LBEC and of the user are dimensioned, are:
   1) 0.4 kV network: 26 kA in the cable network, and 16 kA in the overhead network;
   2) 10 kV network: 14.5 kA;
   3) 20 kV network: 14.5 kA;

Struje kratkih spojeva

Član 68

(1) Maksimalno dozvoljene efektivne vrijednosti struja kratkih spojeva u ZDS, prema kojima se dimenzionišu oprema i postrojenja LBEC i korisnika su:
   1) Mreža 0.4kV: 26 kA u kablovskoj mreži, a 16kA u nadzemnoj mreži;
   2) Mreža 10kV: 14.5 kA;
   3) Mreža 20kV: 14.5 kA;

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4) 35 kV network: 12 kA.

(2) The rated values of the short circuit current of the equipment in the system user's facility must not be lower at the connection point than the designed value of the short circuit current of the CDS to which the equipment is connected. In the calculation of the short circuit current of the CDS, LBEC will take into consideration the possible impact which the system or the devices in the system user's facility can have on the calculation.

(3) Upon the user's request, LBEC is obliged to submit data on the expected values of short circuit currents at the point of connection as well as the data necessary for the adequate dimensioning of the user's equipment and devices.

(4) The distribution system user must dimension his plants and devices so that they are able to withstand all impacts of short circuit currents at the point of connection.

(5) For the purpose of the most precise possible selection and setting up of protection, when the need arises, LBEC and the system user will exchange information on the expected short circuit currents and X/R relations at the point of connection to the CDS.

Protection against defects and disturbances

Article 69

(1) Protective devices must be designed in a way which enables the swift, sensitive, safe and selective elimination of defects with the aim of protecting the equipment in the CDS and the user's facility against permanent damage, i.e. maintaining the stable operation of the CDS and minimising the consequences of defects or irregular occurrences in the CDS, in the user's power facilities or power installations in the user's facilities.

(2) All installed protective devices must have an adequate certificate which guarantees the quality of the installed device.

(3) The user's protective devices must be selected, designed, executed and set up in a way that, by

4) Mreža 35kV: 12 kA.

(2) Naznačene vrijednosti struje kratkog spoja opreme u objektu korisnika sistema u tački priključenja ne smiju biti manje od projektovane vrijednosti struje kratkog spoja ZDS na koji je oprema priključena. U proračunu struje kratkog spoja ZDS LBEC će uzeti u obzir uticaj koji na proračun može imati sistem ili uređaji u objektu korisnika sistema.

(3) Na zahtjev korisnika, LBEC je obavezan dostaviti podatke o očekivanim vrijednostima struja kratkog spoja na mjestu priključenja kao i neophodne podatke za adekvatno dimenzionisanje opreme i uređaja korisnika.

(4) Korisnik distributivnog sistema svoja postrojenja i uređaje mora dimenzionisati tako da izdrže sve uticaje struja kratkog spoja na mjestu priključenja.

(5) Radi što preciznijeg odabira i podešavanja zaštite, kada se za to ukaže potreba, LBEC i korisnik sistema će razmijeniti informacije o očekivanim strujama kratkog spoja i odnosima X/R u tački priključenja na ZDS.

Zaštita od kvarova i smetnji

Član 69

(1) Zaštitni uređaji moraju biti tako projektovani da se omogući brzo, osjetljivo, sigurno i selektivno isključenje kvarova sa ciljem da se od trajnog oštećenja sačuva oprema u ZDS i objektu korisnika, odnosno da se održi stabilan rad ZDS i da se minimalizuju posledice kvarova ili neregularnih događaja u ZDS, u elektroenergetskim objektima korisnika ili električnoj instalaciji u objektu korisnika.

(2) Svi ugrađeni zaštitni uređaji moraju imati odgovarajući atest, koji garantuje kvalitet ugrađenog uređaja.

(3) Zaštitni uređaji korisnika moraju biti odabrani, projektovani, izvedeni i podešeni tako da

turning off the switchgear at the point of separation of the connection from the power facility of the user, they prevent any adverse effect of defects in the distribution network on the user's plants and devices and vice versa.

(4) The user's protection systems must be harmonised with LBEC's requirements in regard to the maximum defect elimination time, sensitivity, selectivity and reliability of the protection.

(5) The distribution system user is obliged to respect LBEC's requirements in regard to changes in the protection system which arise from changes in the operational conditions of the network.

(6) Protective devices must be tested and set up within the legally prescribed deadlines, and LBEC has the right to be present during these tests.

(7) In case of doubt regarding the proper functioning of protective devices, LBEC has the right to request an extraordinary testing of the user's protective devices.

(8) LBEC is obliged to warn the user about the existence of automatic reconnection (ARC) devices in certain parts of the network, as well as the types of defects in the network for which LBEC has no installed protection, for the purpose of the design of the user's plants and devices.

(9) The conditions connected to the installation of the protection system are prescribed in the connection permit.

isključenjem rasklopnog uređaja na mjestu odvajanja priključka od elektroenergetskog objekta korisnika, spriječe štetno djelovanje kvarova u distributivnoj mreži na postrojenja i uređaje korisnika i obrnuto.

(4) Sistemi zaštite korisnika moraju biti usaglašeni sa zahtjevima LBEC u pogledu maksimalnog vremena eliminacije kvara, osjetljivosti, selektivnosti i pouzdanosti zaštite.

(5) Korisnik distributivnog sistema je dužan ispoštovati zahtjeve LBEC u vezi izmjena na sistemu zaštite koji mogu biti posledica promjene pogonskih uslova mreže.

(6) Zaštitni uređaji se moraju ispitivati i podešavati u zakonski predviđenim rokovima, a LBEC ima pravo pisustvovati ovim ispitivanjima.

(7) U slučaju sumnje u ispravnost djelovanja zaštitnih uređaja, LBEC ima pravo zahtijevati vanredno ispitivanje zaštitnih uređaja korisnika.

(8) LBEC je obavezan upozoriti korisnika na postojanje uređaja za automatsko ponovno uključenje (APU) na pojedinim djelovima mreže, kao i vrstu kvarova u mreži za koju LBEC nema ugrađenu zaštitu, u svrhu projektovanja postrojenja i uređaja korisnika.

(9) U saglasnosti za priključenje propisuju se uslovi vezani za ugradnju sistema zaštite.

Article 70

The user must not install and use devices and equipment whose operation might jeopardise the normal functioning of metering and other equipment of LBEC.

Član 70

Korisnik ne smije ugrađivati i koristiti uređaje i opremu čijim se radom može ugroziti normalno funkcionisanje mjerne i ostale opreme LBEC.

Capacitive and inductive effect – power factor

Kapacitivni i induktivni uticaj - faktor snage

Article 71

(1) Users requesting the connection of their facilities to the CDS must ensure a reactive energy consumption that corresponds to the value of the power factor from $\cos\varphi=0.95$ to $\cos\varphi=1$ inductively, unless the connection permit

Član 71

(1) Korisnici koji zahtijevaju priključenje svojih objekata na ZDS moraju obezbijediti potrošnju reaktivne energije koja odgovara vrijednosti faktora snage od $\cos\varphi=0.95$ do $\cos\varphi=1$ induktivno, osim ako saglasnošću za priključenje nije drugačije

stipulates otherwise. If this is not observed, the system user pays for the excessive consumption of reactive energy.

(2) Equipment and devices for the compensation of reactive power and energy, such as capacitor banks and chokes for medium voltage, can be connected by the user to the distribution system only with the consent and according to the technical conditions prescribed by LBEC. In this way, LBEC ensures limited back effects which these power elements may have on the CDS.

(3) A user who excessively consumes reactive energy in comparison to what is defined in the connection permit can be temporarily disconnected from the CDS, until he reduced the consumption to the prescribed limits.

Remote control, supervision and communication equipment

Article 72

(1) By the decision on the connection permit, in case of plants which might have an effect on the functioning of the CDS, LBEC can, after the preparation of the study on the need for the installation of remote control devices, request the installation of equipment which would enable the necessary form of remote control of the switching equipment, permanent remote supervision of the energy values significant for the management of the CDS or the installation of communication devices for the receipt of LBEC's operational orders.

(2) During the selection of remote control and supervision equipment, and the selection of the communication equipment, the user must observe LBEC's instructions for the purpose of ensuring the compatibility of the user's equipment with LBEC's equipment.

(3) The user's plants and devices must be designed and executed so that their operation does not disturb the transmission of signals and information necessary for the management of the CDS.

(4) In case the user's plants and devices prevent or disturb the transmission of management

određeno. U protivnom korisnik sistema plaća prekomjerno preuzetu reaktivnu energiju.

(2) Opremu i uređaje za kompenzaciju reaktivne snage i energije, kao što su kondezatorske baterije i prigušnice za srednji napon, korisnik može priključiti na distributivni sistem samo uz saglasnost i uz tehničke uslove koje propiše LBEC. Na ovaj način LBEC osigurava ograničen povratni uticaj na ZDS koji ovi elektroenergetski elementi mogu proizvesti.

(3) Korisnik, koji prekomjerno troši reaktivnu energiju u odnosu na definisanu preko saglasnosti za priključenje, može biti privremeno isključen sa ZDS, sve do svođenja potrošnje u propisane granice.

Daljinsko upravljanje, nadzor i komunikaciona oprema

Član 72

(1) Rješenjem o saglasnosti za priključenje, za postrojenja koje mogu imati uticaj na funkcionisanje ZDS, LBEC može, nakon izrade elaborata o potrebi ugradnje uređaja za daljinsko upravljanje zahtijevati ugradnju opreme koja će omogućiti neophodan vid daljinskog upravljanja rasklopnom opremom, stalni daljinski nadzor nad energetskim veličinama bitnim za vođenje ZDS ili ugradnju komunikacionih uređaja za primanje pogonskih naloga LBEC.

(2) Pri izboru opreme za daljinsko upravljanje i nadzor, te izboru komunikacione opreme, korisnik se mora pridržavati upustava LBEC u cilju obzbjeđenja kompatibilnosti opreme korisnika sa opremom LBEC.

(3) Postrojenja i uređaji korisnika moraju biti projektovani i izvedeni tako da svojim pogonom ne ometaju prenos signala i informacija neophodnih za upravljanje ZDS.

(4) U slučaju da postrojenja i uređaji korisnika onemogućavaju ili ometaju prenos informacija i

information and signals, LBEC gives the User a deadline for the elimination of the causes of such disturbances.

(5) In case the user does not eliminate the disturbances within the deadline from paragraph 4 of this Article, LBEC has the right to disconnect the User's facility from the CDS.

signala upravljanja, LBEC određuje Korisniku rok za otklanjanje uzroka takvih smetnji.

(5) U slučaju da korisnik ne otkloni smetnje u roku iz stava 4 ovog člana, LBEC ima pravo da objekat Korisnika isključi sa ZDS-a.

Technical conditions for the connection of the system user's facility

Article 73

(1) The connection can be executed as three-phase or single-phase, overhead or underground.

(2) The connection of a system user's facility comprises:
1) connection line;
2) switchgears and other equipment at the point of connection to the CDS and at the electricity delivery point;
3) appropriate protective devices;
4) metering equipment.

(3) The selection of lines is done according to the voltage level, necessary current load, terrain conditions for the placement, purpose and type of facility. LBEC defines the appropriate technical solution and defines all elements of the conditions for connection in accordance with the valid technical regulations and these Rules.

(4) 10 and 35 kV connection line elements which are used for the connection must be manufactured and tested according to the valid standards.

(5) The following is used for a LV (up to 1 kV) connection line:
1) for overhead connections – ABC which is manufactured and tested in accordance with the valid standards
2) for underground connections – power cables which are manufactured and tested in accordance with the valid standards

(6) The calculation of the minimum section of the connection line is done on the basis of the maximum simultaneous load of the facility for which the connection is sought, the allowed

Tehnički uslovi za priključenje objekta korisnika sistema

Član 73

(1) Priključak se izvodi kao trofazni ili jednofazni, nadzemni ili podzemni.

(2) Priključak objekta korisnika sistema se sastoji od:
1) priključnog voda;
2) rasklopnih aparata i druge opreme na mjestu priključenja na ZDS i na mjestu primopredaje električne energije;
3) odgovarajućih zaštitnih uređaja;
4) mjerne opreme.

(3) Izbor vodova se vrši prema naponskom nivou, potrebnom strujnom opterećenju, terenskim uslovima postavljanja, namjeni i vrsti objekta. LBEC definiše odgovarajuće tehničko rešenje i utvrđuje sve elemente uslova za priključenje u skladu sa važećim tehničkim propisima i ovim Pravilima.

(4) Elementi priključnog voda 10 i 35 kV koji se koriste za priključak moraju biti proizvedeni i ispitani prema važećim standardima.

(5) Za priključni vod na NN (do1 kV) koriste se:
1) za nadzemne priključke SKS, koji je proizveden i ispitan u skladu sa važećim standardima
2) za podzemne priključke energetski kablovi, koji su proizvedeni i ispitani u skladu sa važećim standardima

(6) Proračun minimalnog presjeka priključnog voda vrši se na osnovu maksimalnog jednovremenog opterećenja objekta za koji se traži priključak, dozvoljenog pada napona u skladu sa propisom

voltage drop in accordance with the regulation governing the technical norms for low-voltage power installations, conditions for protection against electric shock, protection of conductors against short circuit current and permanently allowed current.

(7) The selection of the connection line is done according to standardised sections, so that it is not smaller than the calculated minimum section. In the case of underground connections, when they are executed according to the I/O system, the section of the connection line cannot have a smaller distribution capacity than the line to which it is connected.

(8) The basic characteristics of switchgears and other equipment at the point of connection to the CDS and at the electricity delivery point in TS 110/x and 35/x kV:
   1) 10 kV and 35 kV switching station can be:
      a) air-insulated, with a metal-clad switchgear;
      b) metal-clad and SF6 gas-insulated internal assembly plant;
      c) combined, air-insulated and metal-clad plant.
   2) Switching stations are executed with four sections per cell, as follows:
      a) busbar section, with one or two busbar systems;
      b) switching section, with a vacuum switch;
      c) output (cable) section, and
      d) low-voltage equipment section.

(9) The technical characteristics of equipment in 35 kV and 10 kV plants are prescribed according to the valid standards, regulations and recommendations.

(10) The basic characteristics of switchgears and other equipment at the point of connection to the CDS and at the electricity delivery point in TS 10/0.4kV are selected, tested and checked according to the valid standards, regulations and recommendations.

kojim se uređuju tehnički normativi za električne instalacije niskog napona, uslova zaštite od električnog udara, zaštite provodnika od struje kratkog spoja i trajno dozvoljene struje.

(7) Odabir priključnog voda se vrši prema tipiziranim presjecima, tako da on nije manji od proračunatog minimalnog presjeka. Kod podzemnih priključaka, kada se oni izvode po sistemu „ulaz-izlaz", presjek priključnog voda ne može biti manjeg distributivnog kapaciteta od voda na koji se priključuje.

(8) Osnovne karakteristike rasklopnih aparata i druge opreme na mjestu priključenja na ZDS i na mjestu primopredaje električne energije u TS 35/x kV:
   1) Razvodno postrojenje 10 kV i 35 kV može biti:
      a) vazduhom izolovano, sa metalom zaštićenom rasklopnom aparaturom;
      b) metalom oklopljeno i gasom SF6 izolovano postrojenje za unutrašnju montažu;
      c) kombinovano, vazduhom izolovano i metalom oklopljeno postrojenje.
   2) Razvodno postrojenje se izvodi sa četiri odeljka po ćeliji, i to:
      a) sabirnički odeljak, sa jednim ili dva sistema sabirnica;
      b) prekidački odeljak, sa vakuumskim prekidačem;
      c) izlazni (kablovski) odeljak, i
      d) odeljak za niskonaposku opremu.

(9) Tehničke karakteristike opreme u postrojenju 35 kV i 10 kV propisuju se prema važećim standardima, propisima i preporukama.

(10) Osnovne karakteristike rasklopnih aparata i druge opreme na mjestu priključenja na ZDS i na mjestu primopredaje električne energije u TS 10/0,4kV se odabiraju, ispituju i provjeravaju prema važećim standardima, propisima i preporukama.

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Technical conditions for the connection of temporary facilities to the CDS in special cases

Article 74

(1) The technical conditions for the connection of temporary facilities in the sense of this Article of the Rules are related to the connection of smaller preassembled facilities placed on public surfaces with a specified connection deadline, except for facilities on water.

(2) The connection for temporary facilities applies to facilities such as: booths, summer gardens, mobile stands, mobile circuses, amusement parks and other entertainment facilities, OB vans, trailers, assembly stages for public events and so on.

(3) The connection of temporary facilities to the CDS is done in the same manner as for permanent connection. The connection is executed using an ABC (overhead connection) or a cable (underground connection).

(4) The facility is protected against overloading and short circuits within the scope of the facility which is connected, and this is ensured by the user, while a report (expert finding) of an authorised organisation proves the regularity.

Construction site connection

Article 75

(1) The connection of a construction site is done according to the valid standards and technical conditions prescribed by these rules.

(2) The connection of a construction site is carried out through the site MDB.

(3) The connection of a construction site is protected against overloading and short circuits in the site MDB and it is executed with the help of the CDPD, behind the metering place, with a rated value of differential current of 0.3 A, which, for an allowed contact voltage of 25V, requires an individual ground resistance of up to 80 Ω.

Tehnički uslovi priključenja privremenih objekata na ZDS u posebnim slučajevima

Član 74

(1) Tehnički uslovi priključenja privremenih objekata u smislu ovog člana Pravila odnose se na priključenje manjih montažnih objekata postavljenih na javnim površinama sa određenim rokom priključenja, osim objekata na vodi.

(2) Priključak za privremene objekte odnosi se za objekte kao što su: kiosci, ljetnje bašte, pokretne tezge, pokretni cirkusi, ringišpili i drugi objekti za zabavu, reportažna kola televizije, kamp prikolice, montažne bine za javne manifestacije i slično.

(3) Priključenje privremenih objekata na ZDS izvodi se na isti način kao i za trajni priključak. Priključak se izvodi pomoću SKS (nadzemni priključak) ili kabla (podzemni priključak).

(4) Objekat se od preopterećenja i kratkih spojeva štiti u okviru objekta koji se priključuje, i to obezbeđuje korisnik, a izveštajem(stručnim nalazom) ovlašćene organizacije dokazuje ispravnost.

Priključak gradilišta

Član 75

(1) Priključak gradilišta se izvodi prema važećim standardima i tehničkim uslovima propisanim ovim pravilima.

(2) Priključenje gradilišta se vrši preko gradilišnog MRO.

(3) Priključak gradilišta se štiti od preopterećenja i kratkih spojeva u gradilišnom MRO i izvodi se pomoću ZUDS, iza mjesta mjerenja, naznačene vrijednosti diferencijalne struje 0,3 A, što za dozvoljeni napon dodira od 25V zahtijeva otpornost rasprostiranja pojedinačnog uzemljivača od najviše 80 Ω.

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Connection of facilities on water

Article 76

(1) A facility on water is connected via cable to an LV network through CJB and MDB on land. The CJB and MDB connection is executed using a XP00-A, XP00, PP00-A or PP00 power cable. The connection of MDB to the facility on water is executed using a five-conductor mining cable of the type EpN53-A (GN53-A) or a cable of similar characteristics.

(2) The main protective conductor of the electrical installation in the facility is connected via the main connection (busbar) for earthing with the neutral conductor and this represents the only connection of these two conductors to the electric devices in the facility on water.

Priključak objekta na vodi

Član 76

(1) Objekat na vodi se priključuje kablovski na NN mrežu preko KPK i MRO na kopnu. Veza KPK i MRO izvodi se energetskim kablom tipa XP00-A, XP00, PP00-A ili PP00. Veza MRO sa objektom na vodi izvodi se petožilnim rudarskim kablom tipa EpN53-A (GN53-A) ili kablom sličnih karakteristika.

(2) Glavni zaštitni provodnik električne instalacije u objektu povezuje se preko glavnog priključka (sabirnice) za uzemljenje sa neutralnim provodnikom i to je jedina veza ova dva provodnika do električnih uređaja u objektu na vodi.

Connection of facilities in test runs

Article 77

The connection of facilities in test runs is conducted in all maters just like in the case of facilities which are permanently connected to the CDS.

Priključak objekta u probnom radu

Član 77

Priključak objekata u probnom radu izvodi se u svemu kao i za objekat koji se trajno priključuje na ZDS.

Connection of reserve supply plants

Article 78

(1) The connection of a plant for reserve supply with industry frequency voltage (diesel electric generators and similar) must be executed so as to prevent the parallel operation of the reserve supply plant with the LV and MV network, as well as the back supply of the LV or the MV network from the generator, regardless of the manner of switching from the network supply to the reserve supply.

(2) Electric devices which have the possibility of supply both from the network and from the generator must be connected to a separate terminal cabinet.

(3) Within the design of reserve supply, provisions should be made for the connection of the reserve supply terminal cabinet with MDB which is supplied only from the network, as well as the

Povezivanje postrojenja za rezervno napajanje

Član 78

(1) Priključak postrojenja za rezervno napajanje naponom industrijske frekvencije (dizelelektrični agregat i slično) mora da bude izveden tako da nije moguć paralelan rad postrojenja rezervnog napajanja sa NN i SN mrežom, niti povratno napajanje NN odnosno SN mreže iz agregata, nezavisno od načina prebacivanja sa mrežnog na rezervno napajanje.

(2) Električni uređaji koji imaju mogućnost napajanja i sa mreže i iz agregata moraju da budu priključeni na poseban priključni orman.

(3) U okviru projekta rezervnog napajanja treba da se predvidi veza priključnog ormana rezervnog napajanja sa MRO koji se napaja samo iz mreže, kao i uređaj za automatsko uključenje i isključenje rezervnog napajanja.

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device for the automatic turning on/off of reserve supply.

Metering equipment

Article 79

The metering equipment is determined and installed according to the conditions prescribed in the rules for electricity metering in the CDS.

Temporary connection

Article 80

(1) It is possible to temporarily connect to the electricity CDS temporary facilities, construction sites, as well as facilities for which test runs have been approved in accordance with:
   1) Energy Law,
   2) technical regulations, norms and standards
   3) these rules.

(2) Facilities of a temporary character and construction sites are connected on the basis of a connection agreement and a supply agreement, while facilities for which test runs and functional analyses have been approved in accordance with the law are connected on the basis of a connection permit and a supply agreement.

(3) The temporary connection of facilities for which test runs and functional analyses have been approved and the conditions and duration of the test run are determined by the technical documents, on the basis of the conditions for the preparation of technical documents or the connection permit, issued in accordance with the Law and these rules.

(4) For the duration of the test run or the functional analysis, the user is obliged to submit to LBEC a report (expert finding) of an authorised organisation that the subject installations and the connection of the system user fulfil the technical conditions which ensure the safety of people and property. Otherwise, LBEC may disconnect the facility from the network with a compensation of disconnection costs in accordance with the pricelist for nonstandard services.

Mjerna oprema

Član 79

Mjerna oprema se određuje i ugrađuje prema uslovima propisanim u pravilima za mjerenje električne energije u ZDS.

Privremeno priključenje

Član 80

(1) Privremeno se mogu priključiti na ZDS električne energije privremeni objekti, gradilišta, kao i objekti za koje je odobren probni rad u skladu sa:
   1) Zakonom o energetici,
   2) tehničkim propisima, normativima i standardima
   3) ovim pravilima.

(2) Objekti privremenog karaktera i gradilišta priključuju se na osnovu ugovora o priključenju i ugovora o snabdijevanju, a objekti iz za koje je odobren probni rad i funkcionalno ispitivanje u skladu sa zakonom, na osnovu saglasnosti za priključenje i ugovora o snabdijevanju.

(3) Privremeno priključenje za objekte za koje je odobren probni rad ili funkcionalno ispitivanje, uslovi i trajanje probnog rada utvrdjuju se tehničkom dokumentacijom, a na osnovu uslova za izradu tehničke dokumenatcije ili saglasnosti za priključenje, izdate u skladu sa Zakonom i ovim pravilima.

(4) U toku trajanja probnog rada ili funkcionalnog ispitivanja korisnik je obavezan dostaviti LBEC Izvještaj (stručni nalaz) ovlašćene organizacije da predmetne instalacije i priključak korisnika sistema ispunjavaju tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine. U protivnom LBEC može isključiti objekat sa mreže uz nadoknadu troškova za iskljucenja u skladu sa cjenovnikom za nestandardne usluge.

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(5) For the duration of the test run or the functional analysis, the user is also obliged to submit to LBEC reports on the fulfilment of the conditions for the connection to the CDS from the perspective of adverse back effects on the CDS. Otherwise, LBEC may disconnect the facility from the network with a compensation of disconnection costs.

(5) U toku trajanja probnog rada ili funkcionalnog ispitivanja korisnik je obavezan dostaviti LBEC i Izvještaje o ispunjenosti uslova za priključenje na ZDS sa aspekta negativnog povratnog djelovanje na ZDS. U protivnom LBEC može isključiti objekat sa mreže uz nadoknadu troškova za iskljucenja.

Conditions for the preparation of technical documents

Article 81

(1) At the request of the competent administration authority or local administration authority, LBEC will issue conditions for the preparation of technical documents, if the request contains the data prescribed in paragraph 2 of this Article.

(2) The request for the issuance of conditions for the preparation of technical documents must contain at least the following data:
   1) technical and technological characteristics;
   2) power and energy needs;
   3) facility location;
   4) and other data significant for the preparation of the conditions for the preparation of technical documents.

(3) If the request of the competent administration authority or local administration authority does not contain the data from paragraph 2 of this Article, LBEC demands a supplementation of the request.

(4) In case the competent authority does not act upon the supplementation request from paragraph 3 of this Article, LBEC will adopt a conclusion for the rejection of the competent authority's request.

(5) After the submission of the data from paragraph 2 of this Article, LBEC will issue the conditions for the preparation of technical documents within 15 days except for the facilities referred to in Article 176 paragraph 3 of the Law.

Uslovi za izradu tehničke dokumentacije

Član 81

(1) Na zahtjev nadležnog organa uprave ili organa lokalne uprave LBEC će izdati uslove za izradu tehničke dokumentacije, ukoliko zahtjev sadrži podatke propisane u stavu 2 ovog člana.

(2) Zahtjev za izdavanje uslova za izradu tehničke dokumentacije mora da sadrži minimum slijedećih podataka:
   1) tehničko-tehnološke karakteristike;
   2) potrebe za snagom i energijom;
   3) lokaciju objekta;
   4) i druge podatke koji su od značaja za izradu uslova za izradu tehničke dokumentacije.

(3) Ukoliko zahtjev nadležnog organa uprave ili organa lokalne uprave ne sadrži podatke iz stava 2 ovog člana LBEC traži dopunu zahtjeva.

(4) U slučaju da nadležni organ ne postupi po zahtjevu za dopunu iz stava 3 ovog člana LBEC će donijeti zaključak kojim će odbaciti zahtjev nadležnog organa.

(5) Nakon dostavljenih podataka iz stava 2 ovog člana LBEC će izdati uslove za izradu tehničke dokumentacije u roku od 15 dana osim za objekte iz člana 176 stav 3 Zakona.

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Connection permit

Article 82

(1) The connection of facilities to the CDS is done on the basis of a connection permit issued by LBEC in accordance with the Law and these rules.

(2) The procedure for the issuance of the connection permit is initiated by submitting a request for:
   1) new facility;
   2) temporary facility;
   3) facility under reconstruction;
   4) changes to the connection (changes of connection capacity, grouping several metering places into a single one, division of a metering place into several metering places);
   5) changes to the electricity consumption category;
   6) changes to the conditions for the use of electricity, if the changes to the conditions for the use are related to the connection of special consumers (induction and electric arc furnaces, high-power engines, etc.) or the connection of reserve supply devices, reactive energy compensation devices, or other similar devices which significantly change the impact of the user's facility to the distribution system or jeopardise the safety and security of property and people.

(3) LBEC is obliged to decide upon the request from paragraph 2 of this Article within 15 days, except for the connection of the facilities from Article 176 paragraph 3 of the Law, which are decided upon within four months since the day of receiving a proper request.

Article 83

(1) The request for the issuance of a connection permit is submitted on a form prescribed by LBEC.

(2) The request for new and facilities under construction must include:
   1) conceptual or main design of the facility which is the subject of connection and
   2) requested approved connection capacity.

Saglasnost za priključenje

Član 82

(1) Priključenje objekata na ZDS vrši se na osnovu saglasnosti za priključenje koju izdaje LBEC u skladu sa Zakonom i ovim pravilima.

(2) Postupak za izdavanje saglasnosti za priključenje pokreće se podnošenjem zahtjeva za:
   1) novi objekat;
   2) objekat privremenog karaktera;
   3) objekat koji se rekonstruiše;
   4) promjene na priključku (promjene priključne snage, objedinjavanje više mjernih mjesta u jedno, podjela mjernog mjesta na veći broj mjernih mjesta);
   5) promjena kategorije potrošnje električne energije;
   6) promjene uslova korišćenja električne energije, ako se izmjene uslova korišćenja odnose na priključenje specijalnih potrošača (indukcione i elektrolučne peći, motori velikih snaga i sl.) ili priključenje uređaja za rezervno napajanje, uređaja kompenzacije reaktivne energije, odnosno drugih sličnih uređaja kojima se bitno mijenja uticaj objekta korisnika na distributivni sistem ili ugrožava sigurnost i bezbijednost imovine i lica.

(3) LBEC je dužan da odluči po zahtjevu iz stava 2 ovog člana u roku od 15 dana, osim za priključenje objekata iz člana 176 stav 3 Zakona po kojem će odlučiti u roku od četiri mjeseca od dana prijema urednog zahtjeva.

Član 83

(1) Zahtjev za izdavanje saglasnosti za priključenje podnosi se na obrascu koji propisuje LBEC.

(2) Zahtjev za nove i objekte koji se rekonstruišu, obavezno sadrži:
   1) idejni ili glavni projekat objekta koji je predmet priključenja i
   2) zahtijevanu odobrenu priključnu snagu.

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(3) The request for facilities of a temporary character, for which no building permit is required, must include:
1) single-line diagram with the power balance and installations plan certified by a licenced legal entity;
2) permit for the placement of a facility of a temporary character issued by the competent authority;
3) requested approved connection capacity.

(4) The request for a change to the connection must include:
1) proof of ownership;
2) single-line diagram with the power balance and installations plan certified by a licenced company;
3) requested approved connection capacity.

(5) The request for a change to the consumption category must include the real estate folio from which the ownership of the customer's facilities is established, and for the customers referred to in Article 53 paragraph 1 of these rules, also the real estate folio from which the ownership of the power infrastructure is established.

(6) The request for a change to the conditions for the use of electricity must include:
1) conceptual or main design;
2) requested connection capacity.

(7) The connection permit contains the elements prescribed by Article 177 of the Law.

(8) For a facility with several billable metering places, the investor of the facility is issued a connection permit for the facility as a whole with individually stated billable metering places.

(9) The validity period of the connection permit is at least one year from the date of issuance.

(10) If a building permit has been issued on the basis of the connection permit, the connection permit's validity period is equal to the validity period of the building permit.

(11) For facilities of a temporary character, the validity period of the permit is equal to the validity period of the competent authority's approval.

(3) Zahtjev za objekte privremenog karaktere, za koje se ne zahtijeva dozvola za građenje, obavezno sadrži:
1) jednopolnu šemu sa bilansom snaga i plan instalacija ovjerene od strane licenciranog pravnog lica;
2) odobrenje o postavljanju objekta privremenog karaktera izdato od strane nadležnog organa;
3) zahtijevanu odobrenu priključnu snagu.

(4) Zahtjev za promjenu na priključku obavezno sadrži:
1) dokaz o vlasništvu;
2) jednopolnu šemu sa bilansom snaga i plan instalacija ovjeren od strane licencirane kompanije;
3) zahtijevanu odobrenu priključnu snagu.

(5) Zahtjev za promjenu kategorije potrošnje obavezno sadrži list nepokretnosti iz kojeg se utvrđuje vlasništvo na objektima kupca, a za kupce iz člana 53 stav 1 ovih pravila i list nepokretnosti iz kojeg se utvrđuje vlasništvo na energetskoj infrastrukturi.

(6) Zahtjev za promjenu uslova korišćenja električne energije obavezno sadrži:
1) idejni ili glavni projekat;
2) zahtijevanu priključnu snagu.

(7) Saglasnost za priključenje sadrži elemente propisane članom 177 Zakona.

(8) Za objekat koji ima više obračunskih mjernih mjesta, investitoru objekta izdaje se saglasnost za priključenje za objekat u cjelini sa pojedinačno navedenim obračunskim mjernim mjestima.

(9) Rok važenja saglasnosti za priključenje je najmanje godinu dana od dana izdavanja.

(10) Ako je na osnovu saglasnosti za priključenje izdata dozvola za građenje rok važenja saglasnosti jednak je periodu važenja građevinske dozvole.

(11) Za objekte privremenog karaktera rok važenja saglasnosti jednak je periodu važenja odobrenja nadležnog organa.

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Infrastructure purchase

Article 84

(1) The purchase of power infrastructure owned by a system user is done in accordance with the Law.
(2) The purchase of power infrastructure can only be carried out if the infrastructure owner has ensured correct and complete ownership and technical documents, in particular:
    1) real estate folio from which ownership of the infrastructure and land or part of the land which will be purchased is established, as well as the registered right-of-way of the infrastructure or a certified statement of consent for the establishment of the right-of-way;
    2) use permit for the infrastructure and
    3) certificates of the technical regularity of the subject infrastructure.
(3) Exceptionally, LBEC may issue a connection permit to a new user for infrastructure owned by a third party on the basis of a gift agreement or a preliminary infrastructure purchase agreement.
(4) The initiative for the conclusion of the preliminary agreement referred to in paragraph 3 of this Article is initiated by LBEC.

Otkup infrastrukture

Član 84

(1) Otkup energetske infrastukture u vlasništvu korisnika sistema vrši se u skladu sa Zakonom.
(2) Otkup energetske infrastrukture može se izvršiti samo ako je vlasnik infrastrukture obezbijedio urednu i potpunu vlasničku i tehničku dokumentaciju, a naročito:
    1) list nepokretnosti iz kojeg se utvrđuje svojina na infrastrukturi i zemljištu ili dijelu zemljišta koje će se otkupiti kao i upisano pravo službenosti prilaza infrastrukturi ili ovjerenu izjavu o saglasnosti za ustanovljavanje prava službenosti;
    2) upotrebnu dozvolu za infrastrukturu i
    3) ateste o tehničkoj ispravnosti predmetne infrastrukture.
(3) Izuzetno, LBEC može izdati saglasnost za priključenje novom korisniku na infrastrukturu koja je vlasništvo trećeg lica na osnovu ugovora o poklonu ili predugovora o otkupu infrastrukture.
(4) Inicijativu za zaključivanje predugovora iz stava 3 ovog člana pokreće LBEC.

Construction of infrastructure by the system user

Article 85

The procedure for granting consent to the investor-future system user to build at his own expense the infrastructure for the connection of the facility to the CDS and the procedure for the purchase of so constructed infrastructure are conducted pursuant to Articles 184 and 185 of the Law.

Izgradnja infrastrukture od strane korisnika sistema

Član 85

Postupak izdavanja saglasnosti za priključenje investitoru, budućem korisniku sistema da o svom trošku izgradi infrastrukturu za priključenje objekta na ZDS i postrupak otkupa tako izgrađene infrastrukture sprovode se u skladu sa čl. 184 i 185 Zakona.

Connection for test runs

Article 86

(1) After the completion of the construction of the connection, metering place (except for the electricity meter), electrical installations in the facility, performed measurements and tests

Priključenje za probni rad

Član 86

(1) Nakon završetka izgradnje priključka, mjernog mjesta (osim brojila električne energije), električnih instalacija u objektu, izvršenih mjerenja i ispitivanja koja se mogu uraditi bez priključenja

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which can be done without connecting to the CDS, the system user submits a Request for the connection of the facility for the purpose of a test run and functional analyses, on a form defined by LBEC.

(2) The system user is obliged to submit the request for the connection of the facility for the purpose of a test run and functional analyses at least ten days before the expiration of the connection deadline stated in the connection permit.

(3) Along with the request for connection for the purpose of a test run and functional analyses, the system user submits the following documents:

1) building approval (building permit or permit for construction and installation, i.e. proof of construction legality);
2) statement of the authorised contractor and professional supervision for power engineering that the facility and its power connection have been constructed in accordance with the building permit and the main design;
3) statement of the authorised contractor and professional supervision that the electric installations of the system user's facility and the connection fulfil the prescribed technical conditions which ensure the safety of people and property;
4) report (expert finding) of an authorised organisation that the installations of the system user's facility fulfil the technical conditions which ensure the safety of people and property, and which can be ensured before the connection of the facility during the test run;
5) protocols on analyses of the insulation of the equipment and devices envisaged by the design documents, relay protections and other protection systems and devices;
6) decision of the competent inspection for test runs in accordance with the law governing the construction of structures;
7) harmonised programme of analyses during the test run with a study on the setting up of the relay protection and a certified single-

na ZDS, korisnik sistema podnosi Zahtjev za priključenje objekta za probni rad i funkcionalna ispitivanja, na obrascu koji utvrđuje LBEC.

(2) Korisnik sistema je dužan podnijeti zahtjev za priključenje objekta radi probnog rada i funkcionalnog ispitivanja najmanje deset dana prije isteka roka za priključenje navedenog u saglasnosti za priključenja.

(3) Uz zahtjev za priključenje radi probnog rada ili funkcionalnog ispitivanja korisnik sistema podnosi slijedeću dokumentaciju:

1) odobrenje za građenje (građevinska dozvola ili odobrenje za građenje i postavljanje, tj. dokaz o legalnosti gradnje);
2) izjava ovlašćenog izvođača radova i stručnog nadzora za elektroenergetiku da su objekat i elektroenergetski priključak za njega izgrađeni u skladu sa građevinskom dozvolom i glavnim projektom;
3) izjava ovlašćenog izvođača radova i stručnog nadzora da električne instalacije objekta korisnika sistema i priključak ispunjavaju propisane tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine;
4) izvještaj (stručni nalaz) ovlašćene organizacije da instalacije objekta korisnika sistema ispunjavaju tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine, a koji je moguće obezbijediti prije priključenja objekta u probnom radu;
5) protokoli o ispitivanjima izolacije opreme i uređaja predviđene projektnom dokumentacijom, relejnih zaštita i ostalih sistema i uređaja zaštite;
6) rješenje nadležne inspekcije za probni rad u skladu sa zakonom kojim se uređuje izgradnja objekata;
7) usaglašeni program ispitivanja u probnom radu sa elaboratom o podešenju relejne zaštite i ovjerenom jednopolnom šemom u tačkama priključenja na ZDS usklađen sa LBEC;

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line diagram at the points of connection to the CDS agreed with LBEC;

8) decision on the appointment of the responsible person for the test run period and decision on the appointment of responsible persons for manipulations of the switching equipment;

9) statement of the investor on the assumption of responsibility for the period of the connection of the facility for a test run or functional analyses.

(4) LBEC checks the submitted documentation and performs an internal technical check of the connection and the metering place which encompasses:

1) visual inspection of the connection facilities;
2) comparison of the design documents with the executed works;
3) check of accessibility to the metering place;
4) check of the regularity of the connection of the user's facility;
5) check of the protective and switching devices at the point of connection to the CDS by the investor upon the request and under the supervision of LBEC;
6) participating in the procedure for the testing of the protection, metering equipment and switchgears at the point of connection conducted by the investor.
7) protocols referred to in paragraph 4 item 6 of this Article are signed by LBEC and the investor.

(5) LBEC installs the meter after the fulfilment of all prescribed conditions from paragraphs 3 and 4 of this Article.

(6) LBEC compiles minutes of the performed checks of the metering places, also signed by the user.

Article 87

(1) No later than five days since the installation of the meter, LBEC prepares a report on the internal technical check of the connection and the metering place.

(2) Following a positive report on the internal technical check, LBEC issues an approval for the

8) rješenje o imenovanju odgovornog lica za period probnog rada i rješenje o imenovanju odgovornih lica za manipulacije rasklopnom opremom;

9) izjavu investitora o preuzimanju odgovornosti za vrijeme priključenja objekta za probni rad ili funkcionalna ispitivanja.

(4) LBEC pregleda dostavljenu dokumentaciju i vrši interni tehnički pregled priključka i mjernog mjesta koji obuhvata:

1) vizuelni pregled objekata priključka;
2) upoređenje projektne dokumentacije sa izvedenim radovima;
3) provjeru pristupačnost mjernom mjestu;
4) provjeru ispravnosti priključka objekta korisnika;

5) provjeru zaštitnih i rasklopnih aparata na mjestu priključenja na ZDS od strane investitora po zahtjevu i uz nadzor LBEC;
6) učestvovanje u postupku ispitivanja zaštite, mjerne opreme i rasklopnih aparata na mjestu priključenja koje sprovodi investitor.

7) protokole iz stava 4 tačka 6 ovog člana potpisuju LBEC i investitor.

(5) LBEC ugrađuje brojilo nakon ispunjenja svih propisanih uslova iz st. 3 i 4 ovog člana

(6) LBEC sačinjava zapisnik o izvršenim kontrolama mjernih mjesta, a koji potpisuje i korisnik.

Član 87

(1) LBEC najkasnije u roku od pet dana od dana ugradnje brojila, sačinjava izvještaj o internom tehničkom pregledu priključka i mjernog mjesta.

(2) Nakon pozitivnog izvještaja o internom tehničkom pregledu LBEC izdaje odobrenje za priključenje

connection of the facility to the CDS for the purpose of a test run and functional analyses.

(3) The connection of the facility to the CDS for a test run is conducted after the conclusion of a supply agreement between the supplier and the system user.

(4) LBEC is obliged to connect the system user's facility to the CDS within seven days since the day when the investor submits the supply agreement.

(5) The first connection of the facility to the CDS is conducted in the presence of the facility's owner – investor, authorised representative of LBEC and the main contractor.

(6) For the duration of the test run and the functional analysis, the user is obliged to submit to LBEC a report (expert finding) of an authorised organisation that the subject installations and the connection of the system user fulfil the technical conditions which ensure the safety of people and property. Otherwise, LBEC may disconnect the facility from the network with a compensation of disconnection costs.

(7) For the duration of the test run and the functional analysis, the user is also obliged to submit to LBEC reports on the fulfilment of the conditions for the connection to the CDS from the perspective of adverse back effects on the CDS. Otherwise, LBEC may disconnect the facility from the network with a compensation of disconnection costs.

(8) If, for the duration of the test run and the functional analysis, there is a problem in the functioning of the distribution system caused by the functioning of the facility in the test run, LBEC will disconnect the facility from the CDS until the elimination of the cause by the investor.

(9) For the duration of the test run and the functional analysis and after the fulfilment of all conditions defined for test runs and functional analyses, the system user submits a request for the conclusion of a connection agreement.

(10) The form of the request for the conclusion of a connection agreement is defined and ensured by LBEC.

objekta za potrebe probnog rada i funkcionalnog ispitivanja na ZDS.

(3) Priključenje objekta za probni rad na ZDS vrši se poslije zaključenja ugovora o snabdijevanju između snabdjevača i korisnika sistema.

(4) LBEC je dužan da priključi objekat korisnika sistema na ZDS u roku od sedam dana od dana kada investitor dostavi ugovor o snabdijevanju.

(5) Prvo priključenje objekta na ZDS vrši se u prisustvu vlasnika objekta - investitora, ovlašćenog predstavnika LBEC i glavnog izvođača radova.

(6) U toku trajanja probnog rada i funkcionalnog ispitivanja korisnik je dužan dostaviti LBEC izvještaj (stručni nalaz) ovlašćene organizacije da predmetne instalacije i priključak korisnika sistema ispunjavaju tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine. U protivnom LBEC može isključiti objekat sa mreže,uz nadoknadu troškova za isključenja.

(7) U toku trajanja probnog rada i funkcionalnog ispitivanja korisnik je obavezan dostaviti LBEC i izvještaje o ispunjenosti uslova za priključenje na ZDS sa aspekta negativnog povratnog djelovanje na ZDS. U protivnom LBEC može isključiti objekat sa mreže, uz nadoknadu troškova za isključenja.

(8) Ako u toku trajanju probnog rada i funkcionalnog ispitivanja dođe do problema u funkcionisanju distributivnog sistema koji su uzrokovani funkcionisanjem objekta u probnom radu, LBEC će isključiti objekat sa ZDS do otklanjanja uzroka od strane investitora.

(9) U toku trajanja probnog rada i funkcionalnog ispitivanja i nakon ispunjenja svih uslova definisanih za probni rad odnosno za funkcionalna ispitivanja, korisnik sistema podnosi zahtjev za zaključenje ugovora o priključenju.

(10) Obrazac zahtjeva za zaključenje ugovora o priključenju propisuje i obezbjeđuje LBEC.

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Article 88

(1) Along with the request for the conclusion of a connection agreement, the system user submits the following documents:
   1) notification on the fulfilment of the conditions from the connection permit;
   2) use permit for facilities for which one is issued, and for facilities for which a use permit is not issued, a statement of the authorised contractor that the facility and its power connection have been constructed in accordance with the building permit and the main design and that the electric installations of the system user and their connection fulfil the prescribed technical conditions which ensure the safety of people and property;
   3) report (expert finding) of an authorised organisation that the subject installations of the system user fulfil the technical conditions which ensure the safety of people and property;
   4) protocols on analyses of the insulation of the equipment and devices envisaged by the design documents, relay protections and other protection systems and devices, etc.;
   5) reports on the fulfilment of the conditions for the connection to the CDS from the perspective of adverse back effects on the CDS.
(2) If, for the duration of the test run and the functional analysis, the system user does not submit a request for connection and the prescribed documentation for a permanent connection in accordance with these rules, LBEC will disconnect the facility from the CDS.
(3) After the fulfilment of the conditions from paragraphs 1 and 2 of this Article, LBEC and the user will conclude an agreement on the connection of the facility to the CDS within 15 days.
(4) The agreement on the connection of the facility to the CDS is defined and ensured by LBEC.
(5) In case the user has not fulfilled the conditions from paragraphs 1 and 2 of this Article, LBEC will, within 15 days since the receipt of the request or notification from paragraph 1 of this

Član 88

(1) Uz zahtjev za zaključenje ugovora o priključenju korisnik sistema podnosi slijedeću dokumentaciju:
   1) obavještenje o ispunjenostu uslova iz saglasnosti za priključenje;
   2) upotrebnu dozvolu za objekte za koje se izdaje, a za objekte za koje se ne izdaje upotrebna dozvola izjava ovlašćenog izvođača radova da je objekat i elektroenergetski priključak za njega izgrađeni u skladu sa građevinskom dozvolom i glavnim projektom i da električne instalacije korisnika sistema i njihov priključak ispunjavaju propisane tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine;
   3) izvještaj (stručni nalaz) ovlašćene organizacije da predmetne instalacije korisnika sistema ispunjavaju tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine;
   4) protokoli o ispitivanjima izolacije opreme i uređaja predviđene projektnom dokumentaciom, relejnih zaštita i ostalih sistema i uređaja zaštite itd;
   5) izvještaje o ispunjenosti uslova za priključenje na ZDS sa aspekta negativnog povratnog djelovanje na ZDS.
(2) Ako korisnik sistema u toku trajanja probnog rada i funkcionalnog ispitivanja ne podnese zahtjev za priključenje i propisanu dokumentaciju za trajno priključenje po ovim pravilima LBEC isključuje objekat sa ZDS.
(3) Nakon ispunjenosti uslova iz st. 1 i 2 ovog člana LBEC i korisnik će zaključiti ugovor o priključenju objekta na ZDS u roku od 15 dana.
(4) Ugovor o priključenju objekta na ZDS propisuje i obezbjeđuje LBEC.
(5) U slučaju da korisnik nije ispunio uslove iz st. 1 i 2 ovog člana LBEC će u roku od 15 dana od dana prijema zahtjeva odnosno obavještenja iz stava 1 ovog člana obavijestiti korisnika o uslovima koje

Article, inform the user on the conditions he has not fulfilled, and whose fulfilment is a precondition for the conclusion of the agreement.

(6) The connection to the CDS is conducted after the conclusion of a supply agreement between the supplier and the system user.

(7) LBEC is obliged to connect the system user's facility to the CDS within seven days since the day of the conclusion of the supply agreement.

nije ispunio, a čije ispunjenje je uslov za zaključivanje ugovora.

(6) Priključenje na ZDS se vrši poslije zaključenja ugovora o snabdijevanju između snabdjevača i korisnika sistema.

(7) LBEC je dužan da priključi objekat korisnika sistema na ZDS u roku od sedam dana od dana zaključivanja ugovora o snabdijevanju.

Connection of facilities for which no test runs are envisaged

Article 89

(1) After the completion of the construction of the connection, metering place (except for the electricity meter), electrical installations in the facility, performed measurements and tests which can be done without connecting to the CDS, the system user submits a request for the conclusion of a connection agreement, on a form defined by LBEC.

(2) The system user is obliged to submit the request for the conclusion of a connection agreement at least ten days before the expiration of the connection deadline stated in the connection permit.

(3) Along with the request for the conclusion of a connection agreement, the system user submits the following documents:

1) notification on the fulfilment of the conditions from the connection permit;
2) building approval (building permit or permit for construction and installation, i.e. proof of construction legality);
3) statement of the authorised contractor and professional supervision for power engineering that the facility and its power connection have been constructed in accordance with the building permit and the main design;
4) statement of the authorised contractor and professional supervision that the electric installations of the system user and the connection fulfil the prescribed technical

Priključenje za objekte za koje nije predviđen probni rad

Član 89

(1) Nakon završetka izgradnje priključka, mjernog mjesta (osim brojila električne energije), električnih instalacija u objektu, izvršenih mjerenja i ispitivanja koja se mogu uraditi bez priključenja na ZDS, korisnik sistema podnosi zahtjev za zaključivanje ugovora o priključenju, na obrascu kojeg utvrđuje LBEC.

(2) Korisnik sistema je dužan podnijeti zahtjev za zaključivanje ugovora o priključenju deset dana prije isteka roka za priključenje navedenog u saglasnosti za priključenja.

(3) Uz zahtjev za zaključivanje ugovora o priključenju korisnik sistema podnosi slijedeću dokumentaciju:

1) obavještenje o ispunjenosti uslova iz saglasnosti za priključenje;
2) odobrenje za građenje (građevinska dozvola ili odobrenje za građenje i postavljanje, tj. dokaz o legalnosti gradnje);
3) izjava ovlašćenog izvođača radova i stručnog nadzora za elektroenergetiku da su objekat i elektroenergetski priključak za njega izgrađeni u skladu sa građevinskom dozvolom i glavnim projektom;
4) izjava ovlašćenog izvođača radova i stručnog nadzora da električne instalacije korisnika sistema i priključak ispunjavaju propisane tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine.

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conditions which ensure the safety of people and property.

(4) LBEC checks the submitted documentation and performs an internal technical check of the connection and the metering place which encompasses:
1) verification of the fulfilment of the conditions from the connection permit;
2) visual inspection of the connection facilities;
3) comparison of the design documents with the executed works;
4) accessibility to the metering place;
5) check of the regularity of the connection of the user's facility.

(5) LBEC installs the meter after the fulfilment of all prescribed conditions from paragraphs 3 and 4 of this Article.

(6) LBEC compiles minutes of the performed internal technical check of the connection and the metering place, also signed by the user.

(7) If the report on the internal technical check of the connection and the metering place is positive, LBEC and the user conclude a connection agreement.

(8) In case the user has not fulfilled the conditions from paragraphs 3 and 4 of this Article, LBEC will, within 15 days since the receipt of the request or notification from paragraph 3 of this Article, inform the user on the conditions he has not fulfilled.

(9) The connection of the facility to the CDS is conducted after the conclusion of a supply agreement between the supplier and the system user.

(10) LBEC is obliged to connect the system user's facility to the CDS within seven days since the day when the investor submits the supply agreement.

(11) The system user is obliged to submit, within seven days since the day of connection to the CDS, a report (expert finding) of an authorised organisation that the subject installations of the system user fulfil the technical conditions which ensure the safety of people and property.

(4) LBEC pregleda dostavljenu dokumentaciju i vrši interni tehnički pregled priključka i mjernog mjesta koji obuhvata:

1) provjeru ispunjenosti uslova iz saglasnosti za priključenje;
2) vizuelni pregled objekata priključka;
3) upoređenje projektne dokumentacije sa izvedenim radovima;
4) pristupačnost mjernom mjestu;
5) provjeru ispravnosti priključka objekta korisnika.

(5) LBEC ugrađuje brojilo nakon ispunjenja svih propisanih uslova iz st. 3 i 4 ovog člana.

(6) LBEC sačinjava izvještaj o internom tehničkom pregledu priključka i mjernog mjesta, koji potpisuje i korisnik.

(7) Ako je izvještaja o internom tehničkom pregledu priključka i mjernog mjesta pozitivan, LBEC i korisnik zaključuju ugovor o priključenju.

(8) U slučaju da korisnik nije ispunio uslove iz st. 3 i 4 ovog člana LBEC u roku od 15 dana od dana prijema zahtjeva, odnosno obavještenja iz stave 3 ovog člana, obavještava korisnika o uslovima koje nije ispunio.

(9) Priključenje objekta na ZDS vrši se poslije zaključenja ugovora o snabdijevanju između snabdjevača i korisnika sistema.

(10) LBEC je dužan da priključi objekat korisnika sistema na ZDS u roku od sedam dana od dana kada investitor dostavi ugovor o snabdijevanju.

(11) Korisnik sistema je dužan da u roku od sedam dana od dana priključenja na ZDS dostavi izvještaj (stručni nalaz) ovlašćene organizacije da predmetne instalacije korisnika sistema ispunjavaju tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine.

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(12)LBEC will suspend the delivery of electricity to users who fail to submit the documents from paragraph 11 of this Article.

VIII CONNECTION OF PRODUCTION FACILITIES

Basic technical data on the CDS

Article 90

(1) The nominal voltages (Un) of the CDS, to which a small power plant (SPP) can be connected, are: Un = 0.4 kV, 10 kV, 20 kV and 35 kV.

(2) 0.4 kV, 10 kV, 20 kV and 35 kV earthings of the neutral points of parts of the CDS are executed as per the technical recommendations:
1) the neutral point of 0.4 kV network is directly earthed.
2) the neutral point of 10 kV and 20 kV networks is insulated or earthed via a low-ohm impedance.
3) the neutral point of 35 kV network is earthed via a low-ohm impedance.

(3) In distribution networks, the following values of maximum allowed three-phase short circuit currents and earth-fault currents have been standardised:
1) 0.4 kV network: 26 kA in the cable network, and 16 kA in the overhead network;
2) 10 kV network: 14.5 kA;
3) 20 kV network: 14.5 kA;
4) 35 kV network: 12 kA.

(4) LBEC will provide the actual values of three-phase short circuit currents (powers) at the point of connection to the CDS before connecting the SPP. These values are relevant for the assessment of the impact of the SPP on the CDS and the fulfilment of the connection conditions (criteria).

(5) In distribution networks, the standardised value of single-phase earth-fault current in earthed 10 kV, 20 kV and 35 kV networks is 300 A. In 20 kV and 35 kV networks, single-phase earth-fault current can be higher than 300 A, up to 1000 A, under the conditions given in the technical recommendations.

(12)Korisnicima koji ne dostave dokumentaciju iz stava 11 ovog člana LBEC obustavlja isporuku električne energije.

VIII PRIKLJUČENJE PROIZVODNIH OBJEKATA

Osnovni tehnički podaci o ZDS

Član 90

(1) Nominalni naponi (Un) ZDS, na koje može da se priključi mala elektrana (ME), su: Un = 0,4 kV, 10 kV, 20 kV i 35 kV.

(2) Uzemljenja neutralnih tačaka djelova ZDS 0,4 kV, 10 kV, 20 kV i 35 kV izvode se prema tehničkim preporukama:
1) neutralna tačka mreže 0,4 kV je direktno uzemljena.
2) neutralna tačka mreže 10 kV i 20 kV je izolovana ili uzemljena preko niskoomske impedanse.
3) neutralna tačka mreže 35 kV je uzemljena preko niskoomske impedanse.

(3) U distributivnim mrežama tipizirane su sledeće vrijednosti maksimalnih dozvoljenih struja trofaznih kratkih spojeva istruja zemljospoja:
1) mreža 0,4 kV: 26 kA u kablovskoj mreži i 16 kA u nadzemnoj mreži;
2) mreža 10 kV: 14,5 kA;
3) mreža 20 kV: 14,5 kA;
4) mreža 35 kV: 12 kA.

(4) LBEC će dati stvarne vrijednosti struja (snaga) trofaznog kratkog spoja na mjestu priključenja na ZDS prije priključenja ME. Ove vrijednosti su mjerodavne za ocjenu djelovanja ME na ZDS i ispunjenja uslova (kriterijuma) za priključenje.

(5) U distributivnim mrežama tipizirana vrijednost struje jednofaznog zemljospoja u uzemljenim mrežama 10 kV, 20 kV i 35 kV je 300 A. U mreži 20 kV i 35 kV, struja jednofaznog zemljospoja može da bude i veća od 300 A, najviše do 1000 A, pod uslovima datim u tehničkim preporukama.

(6) The dead time in the case of the application of automatic reconnection (ARC) in 10 kV, 20 kV and 35 kV distribution networks amounts to at least 1 s.

Basic technical data on small power plants

Article 91

(1) These rules define the basic technical conditions that need to be met for the connection of a SPP with an installed active power of up to 10 MW to the CDS.

(2) The following types of generators are used in small power plants:
   1) synchronous generators;
   2) asynchronous generators;
   3) sources with converters of an output voltage with a nominal frequency of 50 Hz.

(3) For values of the apparent power (Sng) of the generator higher than 40kVA, it is recommended to select powers from the standard set: Sng = 40 kVA; 63 kVA; 100 kVA; 125 kVA; 160 kVA; 250 kVA; 315 kVA; 400 kVA; 630 kVA; 1000 kVA; 1250 kVA; 1600 kVA; 2500 kVA; 3150 kVA; 4000 kVA and 6300 kVA.

(4) Depending on the power of the SPP, the manner of work and the distance of the user, the nominal voltage of the generator Ung can be: Ung = 0.42 kV; 3.15 kV; 6.3 kV and 10.5 kV.

(5) If the nominal voltage of the generator differs from the value of the nominal voltage of the network referred to in Article 93 paragraph 3, the SPP owner is obliged to harmonise the voltages and phase angles of the generator with the values of the rated voltages in the CDS with the application of inter-transformation.

(6) The nominal value of the output voltage frequency is 50 Hz. The generator voltage waveform should be sinusoidal (IEC 60034-1:2010-02) with a form factor (clear factor) better than 7%.

(6) Vrijeme beznaponske pauze kod primjene automatskog ponovnog uključenja (APU) u distributivnoj mreži 10 kV, 20 kV i 35 kV iznosi najmanje 1 s.

Osnovni tehnički podaci o maloj elektrani

Član 91

(1) Ovim pravilima su utvrđeni osnovni tehnički uslovi koji treba da budu ispunjeni za priključenje ME instalisane aktivne snage do 10 MW na ZDS.

(2) U malim elektranama se koriste sledeće vrste generatora:
   1) sinhroni generatori;
   2) asinhroni generatori;
   3) izvori sa pretvaračima izlaznog napona nominalne frekvencije 50 Hz.

(3) Preporučuje se da se za vrijednosti prividne snage (Sng) generatora veće od 40kVA odaberu snage iz standardnog niza: Sng = 40 kVA; 63 kVA; 100 kVA; 125 kVA; 160 kVA; 250 kVA; 315 kVA; 400 kVA; 630 kVA; 1000 kVA; 1250 kVA; 1600 kVA; 2500 kVA; 3150 kVA; 4000 kVAi 6300 kVA.

(4) U zavisnosti od snage ME, načina rada i udaljenosti korisnika, nominalni napon generatora Ung može da bude: Ung = 0,42 kV; 3,15 kV; 6,3 kVi 10,5 kV.

(5) Kada se nominalni napon generatora razlikuje od vrijednosti nominalnog napona mreže iz člana 93 stav 3, vlasnik ME je dužan da primjenom međutransformacije uskladi napone i fazne stavove generatora sa vrijednostima nazivnih napona u ZDS.

(6) Nominalna vrijednost frekvencije izlaznog napona je 50 Hz. Oblik talasa napona generatora treba da je sinusni (IEC 60034-1:2010-02) sa faktorom oblika (klirfaktor) boljim od 7%.

LUŠTICA BAY
ELECTRICITY COMPANY

Basic technical conditions for the connection of small power plants to the closed distribution system

Article 92

(1) An SPP can be connected to the CDS if it:
   1) fulfils the prescribed technical conditions and the conditions prescribed by this Article;
   2) is equipped with protective and other devices for the protection of generators and other ME equipment against harm and damages due to CDS malfunctions;
   3) fulfils the conditions given in the connection permit.

(2) In relation to the CDS, the SPP can possess equipment for:
   1) parallel operation with the CDS, with permanent or occasional delivery of electricity to the CDS, without the possibility of off-grid operation;
   2) combined operation: parallel or off-grid.

(3) For the purpose of connection and parallel operation of the SPP with the CDS, the SPP must meet the following:
   1) criterion for permitted voltage deviation (change),
   2) criterion for short circuit power,
   3) criterion for flickers,
   4) criterion for permitted currents of higher harmonics,
   5) criterion for safe synchronisation,
   6) criterion for maximum permitted injection of DC,

(4) The short circuit power criterion is checked only for a SPP with an installed power of over 1MVA.

(5) The highest permitted voltage deviation (change) (Δum) at the point of connection to the CDS, in relation to the values of the rated voltages referred to in Article 93 paragraph 3, in the transitional regime, during the connection to the CDS or the deactivation of the generator is:

Osnovni tehnički uslovi za priključenje male elektrane na zatvoreni distributivni sistem

Član 92

(1) Na ZDS može da se priključi ME koja:
   1) ispunjava propisane tehničke uslove i uslove propisane ovim članom;
   2) je opremljena zaštitnim i drugim uređajima kojima se štite generatori i druga oprema ME od oštećenja i havarija zbog kvarova u ZDS;
   3) ispunjava uslove date u saglasnosti za priključenje.

(2) U odnosu na ZDS, ME može da posjeduje opremu za:
   1) paralelan rad sa ZDS, sa stalnom ili povremenom predajom električne energije u ZDS, bez mogućnosti ostrvskog rada;
   2) kombinovani rad: paralelan ili ostrvski.

(3) Za priključenje i bezbjedan paralelan rad ME sa ZDS, ME mora da zadovolji:
   1) kriterijum dozvoljenog odstupanja (promjene) napona,
   2) kriterijum snage kratkog spoja
   3) kriterijum flikera,
   4) kriterijum dozvoljenih struja viših harmonika,
   5) kriterijum bezbjedne sinhronizacije,
   6) kriterijum maksimalno dozvoljenog injektiranja jednosmjerne struje,

(4) Kriterijum snage kratkog spoja provjerava se samo za ME instalisane snage preko 1MVA.

(5) Najveće dozvoljeno odstupanje (promjena) napona (Δum) na mjestu priključenja na ZDS, u odnosu na vrijednosti nazivnih napona iz člana 93 stav 3, u prelaznom režimu, pri uključenju na ZDS ili isključenju generatora iznosi:

Table T.2

	Maximum voltage deviation (change):	Maximum frequency of the voltage deviation (change) once in:
Low voltage	3%	5 min
High voltage	2%	3 min

Tabela T.2

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The permitted voltage deviation (change) (Δum) can be estimated by the following formula:

$$\Delta u_m = k_{i,max} \cdot \frac{S_{ngm}}{S_{ks}}$$

$k_{i,max}= I_p/I_n$ – coefficient determined by dividing the maximum starting power Ip (connection power) by the rated power In of the generator.

S_{ks} – short circuit current at the point of connection to the CDS

S_{ngm} – rated apparent power of the generator unit which will be connected to the CDS

(6) The value of the $k_{i,max}$ coefficient at low voltage is significant in the case of the connection of wind generators and is obtained on the basis of tests conducted by the manufacturer of the generator in an authorised institution.

(7) For voltage levels 10 kV, 20 kV and 35 kV, the following approximation is applied for the factor $k_{i,max}$:
   1) k = 1 for synchronous generators;
   2) k = 1.5 for asynchronous generators with a soft regulation of the starting current up to 1.5 In;
   3) k = 4 for asynchronous generators connected to the distribution network within the limits of +/- 5% of the synchronous speed;
   4) k = 8 for asynchronous generators activated as an asynchronous engine through the network and in cases when the starting current is not given.

(8) In processes of a continuous activation of multiple generators individually, a condition may be created during which the values given in Table T.2 are exceeded. Therefore, generators must be connected individually in the time intervals from Table T.2 in the case of the utilisation of the maximum apparent power of the observed generator unit. These time intervals can also be shorter (40s for low voltage and 12s for 10 kV, 20 kV and 35 kV voltage levels) under the

Dozvoljeno odstupanje (promjena) napona (Δum) mogu biti procijenjene preko slijedeće formule:

$$\Delta u_m = k_{i,max} \cdot \frac{S_{ngm}}{S_{ks}}$$

ki,max= Ip/In - koeficijent određen količnikom maksimalne polazne struje Ip (struje uključenja) I naznačene struje In generatora.

Sks- snaga kratkog spoja u tački priključenja na ZDS

Sngm- naznačena prividna snaga generatorske jedinice koja će biti priključena na ZDS

(6) Vrijednost koeficijenta ki,max je kod niskog napona značajan kod priključenja vjetrogenaratora i dobija se na osnovu sprovedenih testova od strane proizvođača generatora u ovlašćenoj instituciji.

(7) Za naponske nivoe 10 kV, 20 kV i 35 kV, primenjuje se sledeća aproksimacija za faktor ki,max:
   1) k = 1 za sinhrone generatore;
   2) k = 1,5 za asinhrone generatore sa finom regulacijom polazne struje do 1,5 In;
   3) k = 4 za asinhrone generatore priključene na distributivnu mrežu u granicama +/-5% sinhrone brzine;
   4) k = 8 za asinhrone generatore pokrenute kao asinhroni motor preko mreže i slučajeve kada polazna struja nije data.

(8) U procesima kontinualnog uključivanja više generatora ponaosob, može se prouzrokovati stanje prilikom koga se prevazilaze vrijednosti date u Tabeli T.2. Stoga, se generatori moraju priključivati pojedinačno u vremenskim intervalima prema Tabeli T.2 za slučaj angažovanja maksimalne prividne snage posmatrane generatorske jedinice. Ovi vremenski intervali mogu biti i kraći (40s za niski napon i 12s za 10 kV, 20kV i 35 kV naponski nivo) pod uslovom da se

DA

condition that a maximum of 50% of the apparent power of the observed generator unit is utilised.

(9) If multiple SPPs are connected to the CDS, the total value of the permitted voltage deviation (change) (Δum) during the simultaneous activation/deactivation at any point in the CDS must not exceed 5%.

(10) In the case of wind generators, apart from the criterion which includes the coefficient $k_{i,max}$, it is necessary to also take into consideration the criterion which, instead of said coefficient, includes the voltage change coefficient ku(ψ) in the same formula, where ψ represents the impedance phase angle of the distribution network. It is provided by the wind generator manufacturer for 30°, 50°, 70° and 85° angles. If the calculation establishes an angle value ψ which deviates from these values, then the next step is to take the value of the coefficient ku (ψ) obtained by a linear approximation on the basis of the values of angles ψ which are the closest to the given value and the appropriate values of the coefficient ku(ψ).

(11) An SPP with an installed power of all generators Smel= ΣSng can be connected to the DS without adverse effects, if it meets the condition:

$$S_{mel} = \sum S_{ng} \leq \frac{S_{ks}}{500}$$

and in that case the manner (order) of the connection of individual generators to the CDS is not important, and it is not necessary to provide proof of the fulfilment of the criteria given in paragraph 4 of this Article.

(12) The flicker criterion is assessed using the factor of disturbances (A_{fs}) of the SPP, caused by long-term flickers (over two hours) and it is primarily important in the case of wind plants and solar plants.

(13) An SPP with n generators of the total installed power: Smel = Σ Sng can be connected to the DS, if the following condition is met:

angažuje maksimum 50% prividne snage posmatrane generatorske jedinice.

(9) Ukoliko je na ZDS priključeno više ME ukupna vrijednost dozvoljenog odstupanja (promjena) napona (Δum) prilikom simultanog uključivanja/isključivanja u bilo kojoj tački ZDS, ne smije biti veća od 5%.

(10) U slučaju vjetrogenaratora, pored kriterijuma koji uzima koeficijent ki,max, neophodno je uzeti u razmatranje i kriterijum koji umjesto pomenutog koeficijenta uistoj formuli uzima koeficijent promjene napona ku(ψ) gdje ψ predstavlja fazni ugao impedanse distributivne mreže. Njega daje proizvođač vjetrogenaratora za uglove od 30°, 50°,70° i 85°. Ukoliko se proračunom utvrdi vrijednost ugla ψ koja odstupa od ovih vrijednosti, onda se u tom slučaju uzima vrijednost koeficijent ku (ψ) dobijena linearnom aproksimacijom na osnovu vrijednosti uglova ψ koje su najpribližnije datoj vrijednostii odgovarajućim vrijednostima koeficijanta ku(ψ).

(11) ME ukupne instalisane snage svih generatora Smel= ΣSng može da se priključi na DS bez štetnog djelovanja, ako ispunjava uslov:

$$S_{mel} = \sum S_{ng} \leq \frac{S_{ks}}{500}$$

i u tom slučaju nije bitan način (redosled) priključenja pojedinih generatora na ZDS, niti je potreban dokaz da su zadovoljeni kriterijumi koji su dati u stavu 4 ovog člana.

(12) Kriterijum flikera se ocenjuje pomoću faktora smetnji (Afs) ME, izazvanih flikerom dugog trajanja (preko dva sata) i prvenstveno ima značaj kod elektrana na vjetar i solarnih elektrana.

(13) ME sa n generatora ukupne instalisane snage: Smel = Σ Sng može da se priključi na ZDS ako je ispunjen uslov:

DM

$$A_{lt} = \left(c_{fmel} \cdot \frac{S_{mel}}{S_{ks}}\right)^3 = \left(\frac{c_{f1}}{\sqrt{n}} \cdot \frac{S_{mel}}{S_{ks}}\right)^3 \leq 0.1$$

$$P_{lt} = c_{fmel} \cdot \frac{S_{mel}}{S_{ks}} \leq 0.46$$

where:

1) A_{lt} – long-term flicker disturbance factor;
2) P_{lt} – long-term flicker intensity (emission) factor;
3) S_{mel} – total installed power of the SPP, in [MVA];
4) S_{ng} – power of one generator, in [MVA];
5) S_{ks} – three-phase short circuit power (actual value) at the point of connection to the CDS, in [MVA];
6) n – number of generators in the SPP;
7) C_{fmel} – flicker coefficient of SPP with "n" generators; C_{fl} – flicker coefficient of SPP with one generator.

(14) The flicker coefficient C_f indicates the possibility of the SPP to produce flickers. The value of the flicker coefficient C_f is given by the SPP producer, or an authorised independent institution, separately for each generator and the power plant as a whole, on the basis of a type test certificate of an SPP with the same or similar characteristics as the SPP that is being built. After the construction of the SPP is complete and it is connected to the CDS, measurements must confirm that the flicker coefficients C_{fl} (individually for each generator) and C_{fmel} (for the entire SPP) do not exceed the values guaranteed by the type test certificate. The measurement is performed in real operational conditions, so transitional occurrences are not taken into consideration.

(15) The flicker criterion is fulfilled if cf ≤ 20. This condition is met by generators that run on: water, steam or gas turbines. In the case of wind power plants and solar power plants cf > 20, but it can have a value of up to 40, so it is mandatory to provide proof (certificate) that the SPP meets the

$$A_{lt} = \left(c_{fmel} \cdot \frac{S_{mel}}{S_{ks}}\right)^3 = \left(\frac{c_{f1}}{\sqrt{n}} \cdot \frac{S_{mel}}{S_{ks}}\right)^3 \leq 0.1$$

$$P_{lt} = c_{fmel} \cdot \frac{S_{mel}}{S_{ks}} \leq 0.46$$

gdje je:

1) Alt - dugotrajni faktor smetnji prouzrokovanih flikerima;
2) Plt - dugotrajni faktor brojnosti (emisije) flikera
3) Smel - ukupna instalisana snaga ME, u [MVA];
4) Sng - snaga jednog generatora, u [MVA];
5) Sks - snaga trofaznog kratkog spoja (stvarna vrijednost) na mjestu priključenja na ZDS, u [MVA];
6) n - broj generatora u ME;
7) cfmel - koeficijent flikera ME sa "n" generatora; cf1 - koeficijent flikera ME ca jednim generatorom.

(14) Koeficijent flikera cf označava osobinu ME da proizvodi flikere. Vrijednost koeficijenta flikera cf daje proizvođač ME, odnosno ovlašćena nezavisna institucija, posebno za svaki generator i elektranu kao cjelinu, na osnovu atesta o tipskom ispitivanju ME koja ima iste ili slične karakteristike kao ME koja ce gradi. Nakon završene gradnje ME i priključenja na ZDS, mora mjerenjem da se potvrdi da koeficijenti flikera cf1 (pojedinačno za svaki generator) i cfmel (za cijelu ME) ne prelaze vrijednosti koje su garantovane atestom o ispitivanju tipa. Mjerenje se vrši u realnim pogonskim uslovima, tako da se ne uzimaju u obzir prelazne pojave.

(15) Kriterijum flikera je zadovoljen ako je cf ≤ 20. Ovaj uslov ispunjavaju generatori koje pokreću: vodena, parna ili gasna turbine. Kod elektrana na vjetar i solarnih elektrana je cf > 20, a može da ima vrijednost i do 40, pa je obavezan dokaz (atest) da ME zadovoljava kriterijum flikera dugog trajanja:

long-term flicker criterion: Alt ≤ 0.1, i.e. proof that the connection of the SPP to the CDS will not cause adverse effects.

(16)In the case of wind generators, in addition to the stated formula which defines the criterion of the long-term flicker intensity (emission) factor, this criterion must also be checked according to the following formula:

$$P_{lt} = \frac{8}{S_{ks}} \cdot \left(\sum_{i=1}^{N} N_{120i} \cdot (k_f \cdot S_{ng})^{0.32} \right)^{0.31}$$

where:

1) N – number of generators within the SPP
2) N120i – maximum number of switching operations i – of the given production unit in a time interval of 120 min,
3) Kf – flicker intensity (emission) factor provided by the wind generator producer for impedance phase angles of the distribution network of 30°, 50°, 70° and 85°.

(17)The criterion of permitted currents of higher harmonics is checked with:

$$I_{vhdoz} = I_{vhs,v,\mu} \cdot S_{ks}$$

where:

1) I_{vhdoz} – permitted value of the higher harmonic current at the voltage level of the generator, in [A];
2) $I_{vhs,v,\mu}$ – value of the higher harmonic/interharmonic current reduced to the short circuit power at the point of connection to the CDS, in (A/MVA)
3) S_{ks} – three-phase short circuit power (actual value) at the point of connection to the CDS, in (MVA)

(18) Table T.3 provides the values of higher harmonic currents reduced to the short circuit power at the point of connection to the CDS.

Alt ≤ 0,1, odnosno dokaz da priključenje ME na ZDS neće proizvesti štetno djelovanje.

(16)U slučaju vjetrogeneratora, pored navedene formule koja definiše kriterijum dugotrajni faktor brojnosti (emisije) flikera mora se izvršiti i provjera ovog kriterijuma i prema sledećoj formuli:

$$P_{lt} = \frac{8}{S_{ks}} \cdot \left(\sum_{i=1}^{N} N_{120i} \cdot (k_f \cdot S_{ng})^{0.32} \right)^{0.31}$$

gdje je:

1) N – broj generatora u okviru ME
2) N120i - maksimalni broj prekidnih operacija i - te proizvodne jedinice u vremenskom intervalu od 120 min,
3) Kf- faktor brojnosti (emisije) flikera koji daje proizvođač vjetrogeneratora za fazne uglove impendanse distributivne mreže od 30°,50°,70° i 85°.

(17)Kriterijum dozvoljenih struja viših harmonika se provjerava pomoću izraza:

$$I_{vhdoz} = I_{vhs,v,\mu} \cdot S_{ks}$$

gdje je:

1) Ivhdoz- dozvoljena vrijednost struje višeg harmonika na naponskom nivou generatora, u [A];
2) Ivhs,v,μ - vrijednost struje višeg harmonika/interharmonika koja je svedena na snagu kratkog spoja na mjestu priključenja na ZDS, u (A/MVA)
3) Sks - snaga trofaznog kratkog spoja (stvarna vrijednost) na mjestu priključenja na ZDS, u (MVA)

(18)U tabeli T.3 date su vrijednosti struja viših harmonika svedenih na snagu kratkog spoja na mjestu priključenja na ZDS.

Table T.3 Permitted values of higher harmonic currents.

Tabela T.3 Dozvoljene vrijednosti struja viših harmonica.

Redni broj višeg harmonika [ν]	Niski napon [A/MVA]	10 kV [A/MVA]	20 kV [A/MVA]	35 kV [A/MVA]
2	1,5	0,058	0,029	0,0163
3	4	/	/	/
4	0,47	0,019	0,009	0,005
5	1,5	0,058	0,029	0,0163
6	0,58	0,023	0,012	0,007
7	2	0,082	0,041	0,0231
8	0,2	0,008	0,004	0,002
9	0,7	/	/	/
10	0,36	0,014	0,007	0,004
11	1,3	0,052	0,026	0,0146
12	0,27	0,011	0,005	0,002
13	1	0,038	0,019	0,0111
14	0,17	0,007	0,003	0,002
16	0,15	0,006	0,003	0,002
17	0,55	0,022	0.011	0,0600
18	0,12	0,005	0,002	0,001
19	0,45	0,018	0,009	0,0051
23	0,3	0,012	0,006	0,0034
25	0,25	0.010	0,005	0,0026
25 < ν < 40*	0,25 · 25/ν	0,01 ·	0,005 ·	0,0026 ·
ν = paran 18 < ν	1,5/ν	0.06/ν	0.03/ν	0.0171/ν
μ < 40	1,5/ν	0.06/ μ	0.03/ μ	0.0171/ μ
μ > 40**	4,5/ν	0.18/ μ	0.09/ μ	0,0514/ μ

* odd number of harmonics,
** for a modulation range at a frequency of 200 Hz. Measured in accordance with EN 61000-4-7, Annex B

* neparan broj harmonika,
** za opseg modulacije pri frekvenciji od 200 Hz. Mjereno u skladu sa EN 61000-4-7, Anex B

Table T3: Permitted currents of ν harmonic and μ interharmonic reduced to the short circuit power at the point of connection of the SPP to the CDS.

Tabela T3: Dozvoljene struje ν-tog harmonika i μ-tog interharmonika svedenog na snagu kratkog spoja u tački priključenja ME na ZDS.

(19) If several SPPs or generators are connected to the CDS at the same point of connection, the following formula applies:

(19) Ukoliko je nekoliko ME ili generatora priključeno na ZDS u istoj tački priključenja primenjuje se sledeća formula:

$$I_{vhdoz} = I_{vhs.v.\mu} \cdot S_{ks} \cdot \frac{S_i}{S_{gsum}}$$

$$I_{vhdoz} = I_{vhs.v.\mu} \cdot S_{ks} \cdot \frac{S_i}{S_{gsum}}$$

where:
Si – observed SPP/generator at the point of connection
$S_{gsum} = \sum_{i=1}^{n} Si$ – sum of all SPPs/generators at the point of connection
If an SPP has been connected at several points in a MV network, the permitted value of higher harmonic currents is calculated as per the formulas:

For v < 13:

$$I_{vhdoz} = I_{vhz.v.\mu} \cdot S_{kz} \cdot \frac{S_{gsum}}{S_{net}}$$

For v > 13:

$$I_{vhdoz} = I_{vhz.v.\mu} \cdot S_{kz} \cdot \sqrt{\frac{S_{gsum}}{S_{net}}}$$

where:

Snet – apparent power of the transformer in TS LBEC through which electricity is delivered by all SPPs/generators
The criterion for permitted values of higher harmonic voltages is checked according to the following table

(20) Table T.4 Permitted voltages of v harmonic and μ interharmonic reduced to the short circuit power at the point of connection of the SPP to the CDS

gdje je:
Si – posmatrana ME/generator na mjestu priključenja

$S_{gsum} = \sum_{i=1}^{n} Si$ - suma svih ME/generatora na mjestu priključenja
Ukoliko je na nekoliko mjesta u SN mreži došlo do priključenja ME, dozvoljena vrijednost struja viših harmonika se izračunava prema formulama:

Za v < 13:

$$I_{vhdoz} = I_{vhz.v.\mu} \cdot S_{kz} \cdot \frac{S_{gsum}}{S_{net}}$$

Za v > 13:

$$I_{vhdoz} = I_{vhz.v.\mu} \cdot S_{kz} \cdot \sqrt{\frac{S_{gsum}}{S_{net}}}$$

gdje je:

Snet - prividna snaga transformatora u TS LBEC preko koga se vrši isporuka električne energije od strane svih ME/generatora
Kriterijum dozvoljenih vrijednosti napona viših harmonika se provjerava prema sledećoj tabeli:

(20) Tabela T.4 Dozvoljeni naponi v-tog harmonika i μ-tog interharmonika svedenog na snagu kratkog spoja u tački priključenja ME na ZDS

Table T.4 Permitted harmonic and interharmonic voltages

Tabela T.4 Dozvoljeni naponi harmonika i interharmonika

Higher harmonic ordinal number [v]	Permitted values of higher harmonic voltages for 10, 20 and 35 kV networks [V/MVA]
5	0.5
7	1
11	1
13	0.85
17	0.65
19	0.6
23	0.5
25	0.4
25 < v < 40*	0.4
v = even	0.1
μ < 40	0.1
v, μ > 40**	0.3

DM

(21) If the previously stated criteria are not met, the SPP owner needs to ensure a type test certificate of another generator which meets the previously stated criteria and which has the same or similar characteristics as the generator that is going to be installed in the SPP, or to take special protection measures, such as:
   1) installation of filters for the appropriate order of higher harmonics;
   2) connection of the SPP at a point with a higher value of short circuit power (connection to a higher voltage level, etc.).

(22) In the case of SPPs with frequency converters, the adverse effect of the SPP on NTC devices should also be tested from the perspective of higher harmonics.

(21) Ukoliko nijesu ispunjeni prethodno navedeni kriterijumi, vlasnik ME treba da obezbijedi atest o tipskom ispitivanju nekog drugog generatora koji ispunjava prethodno navedene kriterijume i koji ima iste ili slične karakteristike kao generator koji će se ugradi u ME, ili da preduzme posebne zaštitne mjere, kao na primjer:
   1) ugradnja filtra za odgovarajući red višeg harmonika;
   2) priključenje ME u tački sa većom vrijednošću snage kratkog spoja (priključenje na viši naponski nivo itd.).

(22) Kod ME sa frekventnim pretvaračima treba ispitati i štetno djelovanje ME na MTK uređaje sa stanovišta viših harmonika.

Article 93

(1) If, because of the connection of the SPP, the three-phase short circuit power (current) rises above the value for which the equipment in the CDS was designed, one or more of the following measures need to be applied:
   1) limiting the short circuit current in the SPP;
   2) replacement of switchgears and/or other equipment which does not meet the requirements in regard to short circuit powers (currents);
   3) change of the point of connection to the CDS, change of the connection line parameters, etc.

(2) SPPs with an installed power of up to 1 MVA cannot significantly increase the short circuit power in the CDS, so a check of the short circuit power criterion is only necessary if the SPP's power exceeds 1 MVA.

(3) The range of permitted voltage levels in the stationary regime at the point of connection is given in the table:

Član 93

(1) Ako se zbog priključenja ME poveća snaga (struja) trofaznog kratkog spoja iznad vrijednosti za koju je dimenzionisana oprema u ZDS, treba da se primijeni jedna ili više sledećih mjera:
   1) ograničenje struja kratkog spoja u ME;
   2) zamjena rasklopnih aparata i/ili druge opreme koja ne ispunjava zahtjeve s obzirom na snage (struje) kratkog spoja;
   3) promjena mjesta priključenja na ZDS, promjena parametara priključnog voda itd.

(2) ME instalisane snage do 1 MVA ne mogu da znatnije povećaju snagu kratkog spoja u ZDS, pa je provjera kriterijuma snage kratkog spoja obavezna samo ako snaga ME prelazi 1 MVA.

(3) Opseg dozvoljenih vrijednosti napona u stacionarnom režimu na mjestu priključenja dat je u tabeli:

Table T.5 Range of permitted voltage levels in the stationary regime

Tabela T.5 Opseg dozvoljenih vrijednosti napona u stacionarnom režimu

Rated voltage of the network (kV)	Minimum voltage at normal operation (kV)	Minimum voltage at disrupted operation (kV)	Maximum voltage at normal operation (kV)
35	31.5	31.5	38
20	19	18	21.4
10	9.5	9	10.7

for the regime in which the SPP consumes reactive power from the network (cos φind):

$$\Delta u_{aV} = \frac{S_{Amax} \cdot (R_{kV} \cdot cos|\varphi| - X_{kV} \cdot sin|\varphi|)}{U^2}$$

for the regime in which the SPP injects reactive power into the network (cos φcap):

$$\Delta u_{aV} = \frac{S_{Amax} \cdot (R_{kV} \cdot cos|\varphi| + X_{kV} \cdot sin|\varphi|)}{U^2}$$

- S_{Amax} – maximum value of the apparent power of the SPP
- R_{kV}, X_{kV} – equivalent parameters of the distribution network
- φ – voltage and current phase angle of the SPP

(4) By installing appropriate protective and other technical devices into the SPP, it should be ensured that the connection of the SPP to the CDS is performed only if there is a network voltage present on all phase conductors. For connection, the connection circuit breaker in the switchgear of the SPP is used (Article 94 paragraph 11 of these rules) or exceptionally a generator circuit breaker in the case of an SPP with a single generator with a power of up to 63 kVA, provided that this solution is harmonised with LBEC during the issuance of the permit for the connection of the SPP to the CDS. For the connection of a synchronous generator to the CDS, a device which needs to satisfy the following synchronisation conditions is needed:

za režim u kojem ME troši reaktivnu snagu iz mreže (cos φind):

$$\Delta u_{aV} = \frac{S_{Amax} \cdot (R_{kV} \cdot cos|\varphi| - X_{kV} \cdot sin|\varphi|)}{U^2}$$

za režim u kojem ME injektira reaktivnu snagu u mrežu (cos φcap):

$$\Delta u_{aV} = \frac{S_{Amax} \cdot (R_{kV} \cdot cos|\varphi| + X_{kV} \cdot sin|\varphi|)}{U^2}$$

- SAmax- maksimalna vrijednost prividne snage ME
- RkV,XkV- ekvivalentni parametri distributivne mreže
- φ - fazni ugao napona i struje ME

(4) Ugradnjom odgovarajućih zaštitnih i drugih tehničkih uređaja u ME, treba obezbijediti da priključenje ME na ZDS bude izvršeno samo ako je na svim faznim provodnicima prisutan napon mreže. Za priključenje se koristi spojni prekidač u rasklopnom postrojenju ME (član 94 stav 11 ovih pravila) ili izuzetno generatorski prekidač kod ME sa jednim generatorom snage do 63 kVA, pod uslovom da je to rešenje usaglašeno sa LBEC-om pri izdavanju saglasnosti za priključenje ME na ZDS. Za priključenje sinhronog generatora na ZDS, potreban je uređaj koji treba da zadovolji sledeće uslove sinhronizacije:

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Table T.6 Synchronisation conditions

Total generator power (kVA)	frequency difference (Δ f, Hz)	voltage difference (Δ V, %)	phase angle difference (Δ Φ°)
0-500	0.3	10	20
500-1500	0.2	5	15
>1500	0.1	3	10

Tabela T.6 Uslovi sinhronizacije

The synchronisation is carried out on the generator circuit breaker.

Sinhronizacija se vrši na generatorskom prekidaču.

(5) For the connection of an asynchronous generator to the CDS, which is activated with the help of an operational generator, a device is needed which ensures that the connection is executed between 95% and 105% of the synchronous number of revolutions, without any voltage.

(6) In the case of self-excited asynchronous generators, all conditions prescribed for synchronous generators need to be met, as per paragraph 4 of this Article.

(7) In the case of SPPs that are connected to the CDS via an inverter, the DC injection component of the distribution network must not be higher than 0.5% of the rated current of the inverter.

(5) Za priključenje asinhronog generatora na ZDS, koji se pokreće pomoću pogonskog agregata, potreban je uređaj koji obezbeđuje da se priključenje izvede između 95% i 105% od sinhronog broja obrtaja, bez napona.

(6) Kod samopobudnih asinhronih generatora treba da se ispune svi uslovi koji su predviđeni za sinhrone generatore, stav 4 ovog člana.

(7) Kod ME koje se priključuju na ZDS preko invertora, jednosmjerna komponenta injektiranja u distributivnu mrežu ne smije biti veća od 0,5 % od naznačene struje invertora.

Basic technical requirements for the execution of the SPP connection

Article 94

(1) The SPP connection can be mono-phase or three-phase.

(2) The SPP can be connected monophasically to a low-voltage network with a maximum power of up to 5kW.

(3) The SPP connection is designed and executed according to the rated network voltage and the maximum simultaneous load of the SPP.

(4) The SPP connection consists of:
   1) connection line;
   2) switchgears and other equipment in the switching plant of the SPP;
   3) switchgears and other equipment at the point of connection to the CDS;

Osnovni tehnički zahtjevi za izvođenje priključka ME

Član 94

(1) Priključak ME može biti monofazni ili trofazni.

(2) ME se može priključiti monofazno na niskonaponsku mrežu sa maksimalnom snagom do 5kW.

(3) Priključak ME se dimenzioniše i izvodi prema nazivnom naponu mreže i maksimalnom jednovremenom opterećenju ME.

(4) Priključak ME sastoji se od:
   1) priključnog voda;
   2) rasklopnih aparata i druge opreme u rasklopnom postrojenju ME;
   3) rasklopnih aparata i druge opreme na mjestu priključenja na ZDS;

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4) equipment and devices for the metering place.

(5) The connection line can be cable or overhead.

(6) The choice of the type of cable, laying, connection and permitted current load of the cable line is done according to technical recommendations.

(7) The following is used for the execution of the cable connection:
   1) For low voltage, type of LV cable: PP00, PP00-ASJ or XP00-ASJ or appropriate equivalent.
   2) For medium voltage, type of MV cable: XHE 49-A or appropriate equivalent.
   3) MV cable of the type XHE 49-A is also used for the execution of the cable connection of the MV switching plant to an overhead connection line with aluminium-steel or weakly insulated conductors.

(8) The choice of the type of the overhead line, assembly, connection and permitted current load of the overhead line is done according to technical recommendations.

(9) For the execution of an overhead LV connection, LV ABCs of the type X00/OA or equivalent are exclusively used.

(10) The following can be used for the execution of the overhead MV connection:
   1) MV ABC of the type XHE 48/O-A or equivalent.
   2) MV overhead line executed with aluminium-steel conductors;
   3) MV overhead line executed with weakly insulated conductors.

(11) Switching devices, metering, protective and other equipment in the switching plant of the SPP constitute switchgear elements in the tapping field (cell) of the connection line in the SPP facility. The main elements of this part of the switchgear are:
   1) circuit breaker (connection circuit breaker);
   2) instrument transformers for the protection and metering of delivered electricity if metering is envisaged in the SPP.

4) opreme i uređaja za mjerno mjesto.

(5) Priključni vod može da bude kablovski ili nadzemni.

(6) Izbor tipa kabla, polaganje, spajanje i dozvoljeno strujno opterećenje kablovskog voda vrši se prema tehničkim preporukama.

(7) Za izvođenje kablovskog priključka koriste se:
   1) Za niski napon, tip NN kabla: PP00, PP00-ASJ ili XP00-ASJ ili odgovarajući ekvivalent.
   2) Za srednji napon, tip SN kabla: XHE 49-A ili odgovarajući ekvivalent.
   3) SN kabl tipa XHE 49-A koristi se i za izvođenje kablovskog priključka SN rasklopnog postrojenja na nadzemni priključni vod sa alučeličnim ili slabo izolovanim provodnicima.

(8) Izbor vrste (tipa) nadzemnog voda, montaža, spajanje i dozvoljeno strujno opterećenje nadzemnog voda vrši se prema tehničkim preporukama.

(9) Za izvođenje nadzemnog NN priključka koristi se isključivo NN SKS tipa X00/O-A ili odgovarajući ekvivalent.

(10) Za izvođenje nadzemnog SN priključka može da se koristi:
   1) SN SKS tipa XHE 48/O-A ili odgovarajući ekvivalent;
   2) SN nadzemni vod izveden alučeličnim provodnicima;
   3) SN nadzemni vod izveden slaboizolovanim provodnicima.

(11) Rasklopni aparati, mjerna, zaštitna i druga oprema u rasklopnom postrojenju ME su elementi rasklopne aparature u izvodnom polju (ćeliji) priključnog voda u objektu ME. Glavni elementi ovog dijela rasklopne aparature su:
   1) prekidač (spojni prekidač);
   2) mjerni transformatori za zaštitu i mjerenje predate i primljene električne energije ako je predviđeno mjerenje u ME.

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(12)Switching equipment elements must at all times be accessible to the authorised representative of LBEC.

(13)The circuit breaker (connection circuit breaker) serves for:

1) connection of the SPP to the CDS;
2) automatic disconnection of the SPP from the CDS due to defects and disruptions in the CDS (short circuit, earth-fault, voltage change and/or frequency change), by means of system protection or connection line protection;
3) disconnection of the SPP from the CDS because of the execution of works, overhauls, transition to isolated operation of the SPP, etc.

(14)Technical characteristics of the SPP circuit breaker (IEC 60056):

1) Type of circuit breaker and means of electric arc quenching: vacuum or SF6.
2) Rated current: at least 630 A.

(15)Technical characteristics of the LV circuit breaker are defined (IEC 947-2:1994):

1) Rated voltage: 400 V.
2) Rated permanent current:
   - 250 A for SPP power of up to 100 kVA;
   - 500 A for SPP power of 160 kVA or 250 kVA;
   - 800 A for SPP power of 400 kVA.

(16) Circuit breakers can be:

1) voltage: for automatic disconnection of the SPP switchgear from the CDS through the activity of the system protection in the SPP;
2) current: short circuit (electromagnetic) and thermal, as LV connection line protection;

(17)Instrument transformers (P-IEC 60185):

1) Rated transformation ratio:
2) rated primary winding current: as per SPP power;
3) rated secondary winding current: 5 A.
4) Metering winding load in accordance with the design documentation and classes
   - I metering winding: class 0.5 Fs ≤ 5;
   - II protective winding: class 5P 10.
   -

(12)Elementi rasklopne opreme moraju u svakom momentu biti dostupni ovlašćenom predstavniku LBEC.

(13)Prekidač (spojni prekidač) služi za:

1) spajanje (povezivanje) ME sa ZDS;
2) automatsko odvajanje ME od ZDS zbog kvarova i poremećaja u ZDS (kratak spoj, zemljospoj, promjena napona i/ili promjena frekvencije), djelovanjem sistemske zaštite ili zaštite priključnog voda;
3) odvajanje ME od ZDS zbog izvođenja radova, remonata, prelaska na izolovani rad ME itd.

(14)Tehničke karakteristike SN prekidača (IEC 60056):

1) Vrsta prekidača i sredstvo za gašenje električnog luka: vakuumski ili SF6.
2) Naznačena struja: najmanje 630 A.

(15)Tehničke karakteristike NN prekidača su definisane (IEC 947-2:1994):

1) Naznačeni napon: 400 V.
2) Naznačena trajna struja:
   - 250 A za snagu ME do 100 kVA;
   - 500 A za snagu ME 160 kVA ili 250 kVA;
   - 800 A za snagu ME 400 kVA

(16)Okidači mogu biti:

1) naponski: za automatsko odvajanje rasklopne aparature ME od ZDS djelovanjem sistemske zaštite u ME;
2) strujni: kratkospojni (elektromagnetni) i termički, kao zaštita NN priključnog voda;

(17)Mjerni transformatori (P-IEC 60185):

1) Naznačeni odnos transformacije:
2) naznačena struja primarnog namotaja: prema snazi ME;
3) naznačena struja sekundarnih namotaja: 5 A.
4) Opterećenje mjernih namotaja u skladu sa projektnom dokumentacijom i klasama
   - I mjerni namotaj: klasa 0,5 Fs ≤ 5;
   - II zaštitni namotaj: klasa 5P 10.

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(18) Technical characteristics of LV current transformers:
1) Rated voltage: 400 V.
2) Rated transformation ratio:
3) rated primary winding current: as per SPP power;
4) rated secondary winding current: 5 A.
5) Load: power in accordance with the design documents, class 0.5 Fs ≤ 5;

(19) Technical characteristics of MV voltage transformers:
1) Rated transmission ratio:

$$\frac{10(20,35)}{\sqrt{3}} / \frac{0.1}{\sqrt{3}} / \frac{0.1}{3} kV$$

2) Load:
a) I metering winding: power in accordance with the design documents, class 0.5;
b) II protective winding: power in accordance with the design documents, class 1/3P.

(20) Switching devices, metering, protective and other equipment which constitute the connection at the point of connection to the CDS are switchgear elements in the distribution TS in the tapping field (cell) of the connection line for the SPP or in the network of LBEC. If the connection of the SPP to the MV network of LBEC is executed through "X" kV busbars in a distribution TS 110/XkV or TS 35/X kV, or SS X kV (X = 35 kV, 20 kV, 10kV) of an existing one, as well as an SS which is formed for the needs of the connection, the contents and characteristics of the equipment in the tapping cell for the SPP (circuit breaker, protective devices, etc.) are the same as for other tapping cells in the TS, although the tapping cell for the SPP also includes a metering place, so that the metering devices are selected according to the Rules for electricity metering.

(21) If the connection of the SPP to the MV network of LBEC is executed through 10(20) kV busbars in a distribution TS 10(20)/0.4, the 10(20) kV tapping cell for the SPP is an integral part of the preassembled SF6 switchgear assembly in which a three-position switching device integrates the

(18) Tehničke karakteristike NN strujnih transformatora:
1) Naznačeni napon: 400 V.
2) Naznačeni odnos transformacije:
3) naznačena struja primarnog namotaja: prema snazi ME;
4) naznačena struja sekundarnog namotaja: 5 A.
5) Opterećenje: snaga u skladu sa projektnom dokumentacijom, klasa 0,5 Fs ≤ 5;

(19) Tehničke karakteristike SN naponskih transformatora:
1) Naznačeni prenosni odnos:

$$\frac{10(20,35)}{\sqrt{3}} / \frac{0.1}{\sqrt{3}} / \frac{0.1}{3} kV$$

2) Opterećenje:
a) I mjerni namotaj: snaga u skladu sa projektnom dokumentacijom, klasa 0,5;
b) II zaštitni namotaj: snaga u skladu sa projektnom dokumentacijom, klasa 1/3P.

(20) Rasklopni aparati, mjerna, zaštitna i druga oprema koji čine priključak na mjestu priključenja na ZDS su elementi rasklopne aparature u distributivnoj TS u izvodnom polju (ćeliji) priključnog voda za ME ili na mreži LBEC. Ako se priključak ME na SN mrežu LBEC izvodi preko sabirnica "X" kV u distributivnoj TS 35/X kV, ili RP X kV (X = 35 kV, 20 kV, 10kV), postojećeg, kao i RP koje se formira za potrebe priključenja, sadržaj i karakteristike opreme u izvodnoj ćeliji za ME (prekidač, zaštitni uređaji itd.) su isti kao i za druge izvodne ćelije u TS, s tim što se u izvodnoj ćeliji za ME nalazi i mjerno mjesto, tako da se mjerni uređaji biraju prema Pravilima za mjernje električne energije.

(21) Ako se priključak ME na SN mrežu LBEC izvodi preko sabirnica 10(20) kV u distributivnoj TS 10(20)/0,4, izvodna ćelija 10(20) kV za ME je sastavni dio prefabrikovanog SF6 rasklopnog bloka u kome tropoložajni rasklopni aparat objedinjuje funkciju sklopke-rastavljača i zemljospojnika.

function of a switch-disconnector and an earth switch.

(22) If the connection of the SPP to the LV network is executed through 0.4 kV busbars in a distribution TS 10(20)/0.4 kV, or through a distribution board in the LV network, the tapping bay for the SPP is equipped with high-performance fuses, or a switch-disconnector with high-performance fuses, or a circuit breaker.

(23) Exceptionally, LBEC may approve the direct (fixed) connection of the SPP to the MV or LV network of LBEC, as follows:
1) to 10 kV or 20 kV network: SPP with an installed power of up to 160 kVA, under the condition that the connection to the overhead 10 kV (20 kV) network is executed through the disconnector switch on the column.
2) to the LV network: SPP with an installed power of up to 63 kVA, if the length of the LV connection line does not exceed 100 m.

Technical requirements for billable metering places

Article 95

Technical requirements for billable metering places are defined by the Rules for electricity metering.

Protection of the small power plant generator and connection line

Article 96

(1) This Article prescribes the basic requirements and recommendations for the selection of devices for the protection of the generator and switchgear elements of the SPP against possible hazards and damages due to defects and disruptions in the CDS (short circuit, earth-fault, voltage change and/or frequency change), in parallel operational conditions.

(2) The following protections are included:
1) system protection;
2) connection line protection.

(3) The activity of these protections must lead to the disconnection of the connection circuit breaker, or to the automatic interruption of the parallel

(22) Ako se priključak ME na NN mrežu izvodi preko sabirnica 0,4 kV u distributivnoj TS 10(20)/0,4 kV, ili preko razvodnog ormana u NN mreži, izvodno polje za ME se oprema visokoučinskim osiguračima, ili sklopkom-rastavljačem sa visokoučinskim osiguračima, ili sa prekidačem.

(23) Izuzetno, LBEC može da odobri da se ME direktno (kruto) priključi na SN ili NN mrežu LBEC, i to:
1) na mrežu 10 kV ili 20 kV: ME instalisane snage do 160 kVA, pod uslovom da se priključak na nadzemnu mrežu 10 kV (20 kV) izvede preko sklopke rastavljača na stubu.
2) na NN mrežu: ME instalisane snage do 63 kVA, ako dužina priključnog NN voda ne prelazi 100 m.

Tehnički zahtjevi za obračunsko mjerno mjesto

Član 95

Tehnički zahtjevi za obračunsko mjerno mjesto definisani su Pravilima za mjerenje električne energije.

Zaštita generatora i priključnog voda male elektrane

Član 96

(1) Ovim članom se propisuju osnovni zahtjevi i preporuke za izbor uređaja za zaštitu generatora i elemenata rasklopne aparature ME od mogućih havarija i oštećenja uslijed kvarova i poremećaja u ZDS (kratak spoj, zemljospoj, promjena napona i/ili promjena frekvencije), u uslovima paralelnog rada.

(2) Obuhvaćene su sledeće zaštite:
1) sistemska zaštita;
2) zaštita priključnog voda.

(3) Djelovanje ovih zaštita mora da dovede do isključenja spojnog prekidača, odnosno do automatskog prekida paralelnog rada generatora sa

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operation of the generator with the CDS and the emergency stop of the generator (quick excitation and quick stop), if the automatic transition of the SPP to off-grid operation is not envisaged.

(4) These Rules do not include the following protections:
1) protection against internal defects of the generator;
2) turbine protection;
3) protection of power transformers in the SPP;
4) protection against atmospheric overvoltage in the SPP;
5) protection against defects (short circuit, earth-fault) on switchgear elements and in electrical installations of the small power plant.

(5) System protection comprises:
1) voltage protection, which reacts to disturbances of the balance between the production and consumption of reactive energy;
2) frequency protection, which reacts to disturbances of the balance between the production and consumption of active energy.

(6) Voltage protection consists of:
1) overvoltage protection (U>) comprising a three-phase voltage relay of the smallest scope of adjustment (0.9 – 1.2)·Ung, which reacts with the smallest time delay of adjustment (0.2 – 3) s;
2) undervoltage protection (U<) comprising a three-phase voltage relay of the smallest scope of adjustment (1.0 – 0.7)· Ung, which reacts with the smallest delay of adjustment (0.2 – 3) s.

(7) Frequency protection consists of:
1) overfrequency protection (f>) comprising a mono-phase frequency relay of the smallest scope of adjustment (49 – 52) Hz, which reacts with the smallest time delay of adjustment (0.2 – 3) s;
2) underfrequency protection (f<) comprising a mono-phase frequency relay of the smallest scope of adjustment (51 – 48) Hz, which

ZDS i havarijskog zaustavljanja generatora (brzo razbuđivanje i brzo zaustavljanje), ukoliko nije predviđen automatski prelazak ME u ostrvski rad.

(4) Ovim Pravilima nijesu obuhvaćene sledeće zaštite:
1) zaštita od unutrašnjih kvarova generatora;
2) zaštita turbine;
3) zaštita energetskih transformatora u ME;
4) zaštita od atmosferskih prenapona u ME;
5) zaštita od kvarova (kratak spoj, zemljospoj) na elementima rasklopne aparature i u električnim instalacijama male elektrane.

(5) Sistemska zaštita se sastoji od:
1) naponske zaštite, koja reaguje na poremećaj ravnoteže između proizvodnje i potrošnje reaktivne energije;
2) frekventne zaštite, koja reaguje na poremećaj ravnoteže između proizvodnje i potrošnje aktivne energije.

(6) Naponska zaštita se sastoji od:
1) nadnaponske zaštite (U>) koju čini trofazni naponski rele najmanjeg opsega podešavanja (0,9 - 1,2)·Ung, koja reaguje sa vremenskom zadrškom najmanjeg opsega podešavanja (0,2 - 3) s;
2) podnaponske zaštite (U<) koju čini trofazni naponski rele najmanjeg opsega podešavanja (1,0 - 0,7)· Ung, koja reaguje sa vremenskom zadrškom najmanjeg opsega podešavanja (0,2 - 3) s.

(7) Frekventna zaštita se sastoji od:
1) nadfrekventne zaštite (f>) koju čini monofazni frekventni rele najmanjeg opsega podešavanja (49 - 52) Hz, koja reaguje sa vremenskom zadrškom najmanjeg opsega podešavanja (0,2 - 3) s;
2) podfrekventne zaštite (f<) koju čini monofazni frekventni rele najmanjeg opsega podešavanja (51 - 48) Hz, koja reaguje sa vremenskom

reacts with the smallest delay of adjustment (0.2 – 3) s.

(8) The frequency relay should have a frequency change speed function in the interval of 10 mHz.

(9) Both frequency protections can be implemented through one device (relay) which meets the previous requirements (f> and f<).

(10) The frequency protection can also be implemented so that this function is integrated with some other protection or function, e.g.: with the connection line protection, within the inverter management function in case of generators connected via inverters, etc.

(11) Connection line protection:

1) The MV connection line protection is overcurrent and earth-fault protection, executed according to technical recommendations or technical conditions for design.
2) The MV connection line protection in the SPP is overcurrent protection and is executed according to technical recommendations or technical conditions for design,
3) The MV connection line protection in the SPP's switching plant is overcurrent protection (according to technical recommendations or technical conditions for design) and earth-fault protection (according to technical recommendations or technical conditions for design).

(12) Overcurrent protection is three-phase maximum current time-independent protection, which reacts:

1) with a time delay during current loads which exceed the values of permitted current loads of the connection line – overcurrent protection I >;
2) immediately during close short circuits – short-circuit protection I>>.
3) overcurrent protection relays are for a rated current of 5 A and for the smallest scope of adjustment:
   - (3-9) A for overcurrent protection I>;
   - (20-50) A for short-circuit protection I>>.

zadrškom najmanjeg opsega podešavanja (0,2 - 3) s.

(8) Frekventni rele treba da bude sa funkcijom brzine promjene frekvencije u intervalu 10 mHz.

(9) Obje frekventne zaštite mogu da budu realizovane preko jednog uređaja (relea) koji ispunjava prethodne zahtjeve (f> i f<).

(10) Frekventna zaštita može da se realizuje i tako da se ova funkcija integriše sa nekom drugom zaštitom ili funkcijom, na primjer: sa zaštitom priključnog voda, u okviru funkcije upravljanja invertora kod generatora koji su priključeni preko invertora itd.

(11) Zaštita priključnog voda:

1) Zaštita SN priključnog voda je prekostrujna i zemljospojna, izvedena prema tehničkim preporukama ili tehničkim uslovima za projektovanje.
2) 2)Zaštita SN priključnog voda u ME je prekostrujna i izvodi se prema tehničkim preporukama ili tehničkim uslovima za projektovanje,
3) Zaštita SN priključnog voda u rasklopnom postrojenju ZDS je prekostrujna (prema tehničkim preporukama ili tehničkim uslovima za projektovanje) i zemljospojna (prema tehničkim preporukama ili tehničkim uslovima za projektovanje).

(12) Prekostrujna zaštita je trofazna maksimalna strujna vremenski nezavisna zaštita, koja reaguje:

1) sa vremenskom zadrškom pri strujnim opterećenjima koja prelaze vrijednosti dozvoljenih strujnih opterećenja priključnog voda - prekostrujna zaštita I >;
2) trenutno pri bliskim kratkim spojevima - kratkospojna zaštita I>>.
3) releji prekostrujne zaštite su za naznačenu struju 5 A i za najmanji opseg podešavanja:
   - (3 - 9) A za prekostrujnu zaštitu I>;
   - (20 - 50) A za kratkospojnu zaštitu I>>.

4) the smallest scope of adjustment of the time delay of overcurrent protection I > should be (0.2 – 3) s.

(13) Earth-fault protection is a homopolar protection, whose execution depends on the manner of the MV network neutral point earthing (according to technical recommendations or technical conditions for design), as follows:

1) if the MV network neutral point is earthed through a low-ohm impedance, mono-phase maximum current time-independent protection I_0 > applies, with a relay for the rated current In = 5 A, with the smallest scope of adjustment (0.5 – 2.5) A. The protection should react with a time delay of the smallest scope of adjustment (0.2 – 3) s.
2) if the MV network neutral point is insulated, the earth-fault protection depends on the value of the capacitive earth-fault current of a galvanically connected network and is executed according to technical recommendations.

(14) Protection of LV connection line in the SPP: overcurrent, through a short circuit (electromagnetic) and thermal trigger of the LV circuit breaker.

(15) In the SPP, microprocessor (digital) protective devices are used, as independent relays or within the integrated protection and management system of the SPP. However, all protective equipment must work independently of the operation of the management system and the communication system within the SPP.

(16) The rule from paragraph 15 of this Article does not apply for SPPs with a rated power of up to 30 kW which use solar energy for the generation of electricity.

(17) For SPPs with a rated power of up to 30 kW, voltage and frequency protections can be integrated within the inverter, so the connection/disconnection of the SPP from the distribution network can be executed by the inverter. In that case, there must be a disconnecting element between the inverter and the network whose automatic connection/disconnection function must be

4) najmanji opseg podešavanja vremenske zadrške prekostrujne zaštite I > treba da bude (0,2 - 3) s.

(13) Zemljospojna zaštita je homopolarna zaštita, čije izvođenje zavisi od načina uzemljenja neutralne tačke SN mreže (prema tehničkim preporukama ili tehničkim uslovima za projektovanje) i to:

1) ako je neutralna tačka SN mreže uzemljena preko niskoomske impedanse, primenjuje se monofazna maksimalna strujna vremenski nezavisna zaštita I0 >, čiji relej je za naznačenu struju In = 5 A, najmanjeg opsega podešavanja (0,5 - 2,5) A. Zaštita treba da reaguje sa vremenskom zadrškom najmanjeg opsega podešavanja (0,2 - 3) s.
2) ako je neutralna tačka SN mreže izolovana, zemljospojna zaštita zavisi od veličine kapacitivne struje zemljospoja galvanski povezane mreže i izvodi se prema tehničkim preporukama.

(14) Zaštita NN priključnog voda u ME: prekostrujna, preko kratkospojnog (elektromagnetnog) i termičkog okidača NN prekidača.

(15) U ME se koriste mikroprocesorski (digitalni) zaštitni uređaji, kao samostalni releji ili u okviru sistema integrisane zaštite i upravljanja ME. Međutim, sva zaštitna oprema mora da radi nezavisno od rada sistema upravljanja i sistema komunikacije u okviru ME.

(16) Pravilo iz stava 15 ovog člana ne primenjuje se za ME nazivne snage do 30 kW koje koriste sunčevu energiju za proizvodnju električne energije.

(17) Za ME nazivne snage do 30 kW, naponske i frekventne zaštite mogu biti integrisane u okviru invertora, te uključenje/isključenje ME sa distributivne mreže može biti izvedeno od strane invertora. U tom slučaju, između invertora i mreže mora postojati rastavni element čija funkcija automatskog uključenja/isključenja mora biti usaglašena sa proradom integrisanih invertorskih zaštita. Pored automatske funkcije

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harmonised with the activation of integrated inverter protections. In addition to the automatic connection/disconnection function, the disconnection element must also have the option of manual connection/disconnection.

(18) The status of the disconnection element (connected/disconnected) must be clearly visible and accessible to LBEC.

(19) The inverter manufacturer must have certificates related to the adjustment of the voltage and frequency within the required voltage and frequency protection.

(20) The microprocessor protective device (relay) must:
1) be non-sensitive to transitional regimes;
2) have a high level of self-diagnostics, but a defect in the protective device must not cause protection activation;
3) have an installed function for registering and memorising at least three events (defects);
4) have the option of testing and adjustment via a keyboard and display on the device, as well as via a mobile computer and serial connection;
5) have a metal housing protected against dust and moisture IP 51 (IEC 529).

(21) In the premises where protective devices are located, the temperature must not be below -5°C or above +55°C, while the condensation of moisture must be prevented (IEC 57).

Special technical requirements for the application of automatic reconnection (ARC) in the CDS

Article 97

(1) On the taps of overhead and combined lines "X" kV (X = 35 kV, 20 kV, and 10 kV) in TS 110/X kV and TS 35/10 kV, it is customary to apply three-pole automatic reconnection (ARC) of the circuit breaker with two attempts: in the first attempt a quick ARC with a dead time of 1 s, and in the second attempt a slow ARC with a dead time of over 15 s.

(2) If the SPP is connected to the lines or plants from paragraph 1 of this Article, there can be no possibility for the connection of the SPP to the

uključenja/isključenja rastavni element mora da ima i mogućnost ručnog uključenja/isključenja.

(18) Status rastavnog elementa (uključen/isključen) mora biti jasno vidljiv i dostupan LBEC.

(19) Proizvođač invertora mora imati sertifikate i ateste koji se odnose na podešenje napona i frekvencije u okviru zahtjevane naponske i frekventne zaštite.

(20) Mikroprocesorski zaštitni uređaj (relej) mora da:
1) bude neosetljiv na prelazne režime;
2) ima visok nivo samodijagnostike, ali kvar u zaštitnom uređaju ne smije da izazove proradu zaštite;
3) ima ugrađenu funkciju registrovanja i pamćenja najmanje tri događaja (kvara);
4) ima mogućnost ispitivanja i podešavanja preko tastature i displeja na uređaju, kao i preko prenosnog računara i serijskog priključka;
5) ima metalno kućište osigurano od prodora prašine i vlage IP 51 (IEC 529).

(21) U prostorijama u kojima se nalaze uređaji zaštite, temperatura ne smije da bude ispod -5oC i iznad + 55oC, pri čemu mora da se spriječi kondenzacija vlage (IEC 57).

Posebni tehnički zahtjevi kod primjene automatskog ponovnog uključenja (APU) u ZDS

Član 97

(1) Na izvodima nadzemnih i mješovitih vodova "X" kV (X = 35 kV, 20 kV, i 10 kV) u TS 35/10 kV uobičajeno se koristi tropolno automatsko ponovno uključenja (APU) prekidača sa dva pokušaja: u prvom pokušaju brzo APU sa beznaponskom pauzom 1 s, a u drugom pokušaju sporo APU sa beznaponskom pauzom preko 15 s.

(2) Ukoliko se ME priključuje na vodove, odnosno postrojenja iz stave 1 ovog člana, mora biti isključena mogućnost priključenja ME na povratni

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back voltage from the CDS without synchronism, e.g.: blocking the ARC operation as long as there is voltage at the connection line for the SPP, using ARC with one attempt with a dead time of 10 s, etc.

(3) Protective device testing is done according to the standard IEC 255.

(4) Tests are carried out by the producer and in the facility (in the SPP).

(5) The producer performs type and command tests, for which the appropriate certificates and accompanying documents are submitted as proof of quality.

(6) In the facility (in the SPP), there is a check of the functions of complete protection, automation and management. Primary tests are conducted (together with instrument transformers) as well as secondary tests (only protective devices, with a test of the action in the case of a disconnection of a connection and/or generator circuit breaker).

(7) Primary protection testing is mandatory before the first connection of the SPP to the CDS. Primary protection testing can, if necessary, be conducted during exploitation, for example after the replacement of a current transformer.

(8) Secondary protection testing is done at least once a year.

(9) All tests referred to in this Article are conducted by the Investor.

(10) All tests performed on the small power plant facility at points of connection are conducted by the Investor, in the presence of LBEC representatives.

(11) The Investor prepares an appropriate document (protocol) on the results of the tests and the adjustments of protective devices on points of connection, which is signed by LBEC representatives as well.

Reactive energy compensation in the SPP

Article 98

(1) The power factor of the SPP in relation to the CDS should be $\cos\varphi \geq 0.95$ in the capacitive and inductive operational regime. If the maintenance of the required value of the power factor

napon iz ZDS bez sinhronizma, na primjer: blokadom rada APU-a sve dok na priključnom vodu za ME ima napona, korišćenjem APU-a sa jednim pokušajem sa beznaponskom pauzom 10 s itd.

(3) Ispitivanja zaštitnih uređaja vrše se prema standardu IEC 255.

(4) Ispitivanja se vrše kod proizvođača i na objektu (u ME).

(5) Kod proizvođača se vrše tipska i komadna ispitivanja, o čemu se prilažu odgovarajući atesti i prateća dokumentacija o dokazu kvaliteta.

(6) Na objektu (u ME) vrši se provjera funkcija kompletne zaštite, automatike i upravljanja. Vrši se primarno ispitivanje (zajedno sa mjernim transformatorima) i sekundarno ispitivanje (samo zaštitni uređaji, sa probom djelovanja na isključenje spojnog i/ili generatorskog prekidača).

(7) Primarno ispitivanje zaštite obavezno se vrši prije prvog priključenja ME na ZDS. Primarno ispitivanje zaštite može po potrebi da se vrši i u eksploataciji, na primjer poslije zamjene strujnog transformatora.

(8) Sekundarno ispitivanje zaštite vrši se najmanje jedanput godišnje.

(9) Sva ispitivanja iz ovog člana radi Investitor.

(10) Sva ispitivanja koja se vrše na objektu male elektrane na mjestima priključenja radi Investitor, uz prisustvo predstavnika LBEC.

(11) O rezultatima ispitivanja i podešavanja zaštitnih uređaja na mjestima priključenja Investitor priprema odgovarajući dokument (protokol), koji potpisuju i predstavici LBEC.

Kompenzacija reaktivne energije u ME

Član 98

(1) Faktor snage ME u odnosu na ZDS treba da iznosi $\cos\varphi \geq 0{,}95$ u kapacitivnom i induktivnom režimu rada. Ukoliko je za održavanje zahtijevane vrijednosti faktora snage potrebna ugradnja

necessitates the installation of capacitor banks, the capacity is selected so that there can be no self-excitation of the generator in any operational case.

(2) Individual, group or central reactive energy compensation will be selected for each concrete case by the appropriate design solution.

(3) During the design of the device for the compensation of reactive power (energy), the following should be taken into consideration:
   1) reactive energy necessary for the work of the generator;
   2) reactive energy necessary for SPP's consumers when the generators work and when they are out of operation;
   3) adverse effect (possibility of the occurrence of higher harmonics).

(4) In the case of an SPP with high fluctuations of the operational power (e.g. wind plant), it is mandatory to apply the automatic regulation of the power factor.

(5) In the case of the application of the automatic regulation of the power factor of the SPP, the regulation level of the automatic compensation may, in agreement with LBEC, also be set to $\cos\varphi \approx 1$, while a specific part of the capacitor can be permanently connected to the CDS, if the following conditions have been additionally met:
   1) the SPP is connected to the MV network of LBEC (10kV, 20kV, 35kV) through ET 0,42/10 (20, 35) kV, to whose low-voltage side (0.4 kV) capacitors for the compensation of reactive energy are connected;
   2) the total power of permanently connected capacitors (outside automatic compensation) does not exceed 10% of the value of the rated power of the ET (with special consent from LBEC, this value can amount to 15% as well).

(6) The reactive power necessary for the work of an asynchronous generator or SPP operating through network-led inverters, amounts to approximately 50% of the delivered apparent power, and this power must be ensured from the capacitor banks. These capacitors must not be

kondenzatorskih baterija, njen se kapacitet bira tako da ni u jednom pogonskom slučaju ne smije da dođe do samopobuđivanja generatora.

(2) Odgovarajućim projektnim rješenjem će se za svaki konkretan slučaj odabrati pojedinačna, grupna ili centralna kompenzacija reaktivne energije.

(3) Pri dimenzionisanju postrojenja za kompenzaciju reaktivne snage (energije) treba uzeti u obzir:
   1) reaktivnu energiju potrebnu za rad generatora;
   2) reaktivnu energiju potrebnu za potrošače ME kada generatori rade i kada nijesu u pogonu;
   3) štetno dejstvo (mogućnost pojave viših harmonika).

(4) Kod ME sa velikim kolebanjima pogonske snage (slučaj elektrane na vjetar), obavezna je primjena automatske regulacije faktora snage.

(5) U slučaju primjene automatske regulacije faktora snage ME, regulacioni nivo automatske kompenzacije može, u dogovoru sa LBEC, da se podesi i na $\cos\varphi \approx 1$, pri čemu određeni dio kondenzatora može trajno da bude priključen na ZDS, ako su dodatno ispunjeni slijedeći uslovi:
   1) ME je priključena na SN mrežu LBEC (10kV, 20kV, 35kV) preko ET 0,42/10 (20, kV, na čiju niženaponsku stranu (0,4 kV) su priključeni kondenzatori za kompenzaciju reaktivne snage;
   2) ukupna snaga trajno priključenih kondenzatora (izvan automatske kompenzacije) ne prelazi 10% vrijednosti naznačene snage ET-a (uz posebnu saglasnost LBEC, ova vrijednost može da iznosi i 15%).

(6) Reaktivna snaga potrebna za rad asinhronog generatora ili ME koje rade preko mrežno vođenih invertora, iznosi približno 50% predate prividne snage, i ova snaga mora da se obezbijedi iz kondenzatorskih baterija. Ovi kondenzatori ne smiju da se uključe prije nego što se asinhroni

turned on before the asynchronous generator is connected to the CDS, and they must be galvanically separated from the generator before it is deactivated, in order to avoid self-excitation.

(7) The active power necessary for the work of a synchronous generator is selected depending on the load character and the operational power value, so constant excitation is sufficient, or an automatic power factor regulator is used with the aim of maintaining the voltage in the CDS in the stationary regime.

Supervision and communication with the SPP

Article 99

(1) The SPP owner, depending on the point of connection to the CDS, must ensure that the CDSO receives the appropriate information in real time.

(2) The SPP owner must ensure the necessary equipment, software and communication services for the purpose of the delivery of the necessary data. The SPP owner bears all costs related to:
   1) investments,
   2) system expansion,
   3) system maintenance.

(3) The manner of communication of the SPP with the competent management centre is defined by the CDSO in the Permit for connection to the distribution network.

(4) Small power plants whose apparent power is less than 250 kVA must ensure the possibility of the supervision of the disconnecting device at the point of connection.

(5) For SPPs whose power is between 250 kVA and 10 MW, it is mandatory to ensure equipment which would enable the transmission of the following information to the competent management centre of the CDSO:
   1) Analog values:
      a) Active power (MW)
      b) Reactive power (Mvar)
      c) Voltages per phase
      d) Currents per phase
   2) Status of the following devices:

generator priključi na ZDS, i moraju galvanski da se odvoje od generatora prije nego što se on isključi, da bi se izbjeglo samopobuđivanje.

(7) Reaktivna snaga potrebna za rad sinhronog generatora bira se u zavisnosti od karaktera opterećenja i veličine pogonske snage, pa je dovoljna konstantna pobuda, ili se koristi automatski regulator faktora snage sa ciljem održavanja napona u ZDS u stacionarnom režimu.

Nadzor i komunikacija sa ME

Član 99

(1) Vlasnik ME, u zavisnosti od mjesta priključenja na ZDS, mora da obezbijedi da OZDS ima odgovarajuće informacije u realnom vremenu.

(2) Vlasnik ME mora da obezbijedi neophodnu opremu, softver i komunikacioni servis radi dostavljanja neophodnih podataka. Vlasnik ME snosi sve troškove koji se odnose na:
   1) investiranje,
   2) proširenje sistema
   3) održavanje sistema.

(3) Način komunikacije ME sa nadležnim centrom upravljanja definiše OZDS u Saglasnosti za priključenje na distributivnu mrežu.

(4) Male elektrane čija je prividna snaga manja od 250 kVA moraju da obezbijede mogućnost nadgledanja rastavnog uređaja u tački priključenja.

(5) Za ME čija je snaga između 250 kVA i 10 MW mora da se obezbijedi oprema koja će omogućiti prenos slijedećih informacija do nadležnog centra upravljanja OZDS:
   1) Analogne veličine:
      a) Aktivna snaga (MW)
      b) Reaktivna snaga (Mvar)
      c) Naponi po fazama
      d) Struje po fazama
   2) Statusi sledećih uređaja:

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a) All disconnecting devices (circuit breaker, disconnector),
b) Automatic voltage regulator provided that its operation affects the CDS

3) Alarms:
a) Loss of communication between the SPP and the competent management centre,
b) Loss/disruption of the protection function within the SPP.

(6) The data from paragraph 5 must be stored and kept for a period of 30 days.

Procedure for the connection of SPPs to the CDS

Article 100

(1) The procedure for the connection of small power plants to the CDS is conducted for:
1) construction of new facilities and
2) reconstruction of existing facilities (increase of connection power, changes to the connection, connection of new or power increase in the existing production units of the plant).

(2) The procedure for the connection of SPPs to the CDS encompasses:
1) opinion on the possibilities and conditions for the connection;
2) conditions for the preparation of technical documents;
3) connection permit;
4) approval for temporary connection for the purpose of test runs;
5) connection agreement;
6) approval for permanent connection.

Opinion on the possibilities and conditions for the connection to the CDS

Article 101

(1) Before the design, or before the execution of any works on the construction of the SPP for which a power permit is issued, it is necessary for the investor to obtain from LBEC an opinion on the possibilities and conditions for the connection of the planned facility to the distribution system.

a) Svih rastavnih uređaja (prekidač, rastavljač),
b) Automatskog regulatora napona pod uslovom da njegov rad ima uticaj na ZDS

3) Alarmi:
a) Gubitak komunikacije između ME i nadležnog centra upravljanja,
b) Gubitak/poremećaj funkcije zaštite u okviru ME.

(6) Podaci iz stava 5 moraju da se skladište i čuvaju u vremenskom intervalu od 30 dana.

Procedura priključenja ME na ZDS

Član 100

(1) Procedura za priključenje malih elektrana na ZDS sprovodi se za:
1) izgradnju novih objekata i
2) rekonstrukciju postojećih objekata (povećanja priključne snage, promjene na priključku, priključenja novih ili povećanja snage postojećih proizvodnih jedinica elektrane).

(2) Postupak za priključenje ME na ZDS obuhvata:

1) mišljenje o mogućnostima i uslovima priključenja;
2) uslove za izradu tehničke dokumentacije;
3) saglasnost za priključenje;
4) odobrenje za privremeno priključenje za potrebe probnog rada;
5) ugovor o priključenju;
6) odobrenje za trajno priključenje.

Mišljenje o mogućnostima i uslovima priključenja na ZDS

Član 101

(1) Prije projektovanja, odnosno prije izvođenja bilo kakvih radova na izgradnji ME za koju se izdaje energetska dozvola, potrebno je da investitor pribavi od LBEC mišljenje o mogućnostima i uslovima priključenja planiranog objekta na distributivni sistem.

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(2) The procedure for the issuance of the opinion is initiated with the submission of a written request by the interested entity.

(3) The request from paragraph 2 of this Article, in addition to general identification data, also contains data on the establishment of the SPP's spatial position, installed power, value and type of individual generators and construction schedule of the facility for which the opinion is sought.

(4) LBEC decides upon the request for the issuance of an opinion on the possibilities for connection to the CDS within 15 days since the receipt of a proper request. With the exception of more complex facilities which require the preparation of systemic analyses and/or the preparation of a connection study, the deadline for adopting a decision on the request is 120 days since the receipt of a proper request.

(5) The opinion from paragraph 1 of this Article contains:
   1) proposal of the optimal voltage level of the connection and the point of connection and
   2) preliminary assessment of the facility's impact on the work of the distribution system and possible connection points taking into consideration the existing condition of the distribution system.

(6) If there is a change of the technical parameters and planning documents before the issuance of a permit for the connection of the user to the distribution system, LBEC retains the right to define a new point of connection to the distribution system and to supplement the opinion on the possibility for connection and the preliminary assessment of the facility's impact on the work of the distribution system, while paying attention to the previously issued opinion. The final connection conditions which are obligatory for LBEC are defined within the issued connection permit.

(7) The opinion from paragraph 1 of this Article is issued with a one-year validity period.

(2) Postupak za izdavanje mišljenja pokreće se podnošenjem pisanog zahtjeva od strane zainteresovanog subjekta.

(3) Zahtjev iz stava 2 ovog člana, pored opštih identifikacionih podataka, sadrži i podatake za određivanje položaja ME u prostoru, instalisanoj snazi, veličini i vrsti pojedinih agregata i termin plan izgradnje objekta za koji se traži mišljenje.

(4) LBEC odlučuje po zahtjevu za izdavanje mišljenja o mogućnosti priključenja na ZDS u roku od 15 dana od dana prijema urednog zahtjeva. Izuzetno za složenije objekte za koje je potrebna izrada sistemskih analiza i/ili izrada elaborata o priključenju rok za rješavanje po zahtjevu je 120 dana od dana prijema urednog zahtjeva.

(5) Mišljenje iz stave 1 ovog člana sadrži:

   1) predlog optimalnog naponskog nivoa priključka i mjesto priključenja i
   2) preliminarnu procjena uticaja objekta na rad distributivnog sistema i moguće tačke priključenja uzimajući u obzir postojeće stanje distributivnog sistema.

(6) Ukoliko dođe do izmjene tehničkih parametara i planskih dokumenata prije izdavanja saglasnosti za priključenje korisnika na distributivni sistem, LBEC zadržava pravo da definiše novu tačku priključenja na distributivni sistem i dopuni mišljenje o mogućnosti priključenja i preliminarnu procjenu uticaja objekta na rad distributivnog sistema, vodeći računa o prethodno izdatom mišljenju. Konačni uslovi priključenja koji su obavezujući za LBEC definišu se u okviru izdate saglasnosti za priključenje.

(7) Mišljenje iz stava 1 ovog člana izdaje se sa rokom važenja od jedne godine.

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Conditions for the preparation of technical documents

Article 102

(1) The request for the issuance of the permit for the connection of a small power plant to the CDS, with the conditions for the preparation of technical documents, on behalf of the future system user, is submitted by an administration authority, on a form defined by LBEC and published on its website.

(2) LBEC prescribes the form of the request for the issuance of conditions for the connection of a small power plant to the CDS. The form is published on the website of LBEC.

(3) The request from paragraph 1 of this Article is accompanied by:
   1) design of the facility which is the subject of the connection or
   2) conceptual design of the facility which is the subject of the connection.

(4) The documentation for the issuance of conditions for connection to the CDS must include the following data as a minimum:
   1) general concept;
   2) technical and technological characteristics;
   3) power and energy needs;
   4) facility location;
   5) single-line diagrams of the plant or block diagrams for the network that is connected with electrical characteristics of the equipment that is connection.

(5) LBEC decides upon the request for the connection conditions for the purpose of preparing design documents within 30 days since the receipt of a proper request. With the exception of more complex facilities which require the preparation of systemic analyses and/or the preparation of a connection study, the deadline for adopting a decision on the request is four months since the receipt of a proper request.

(6) The conditions for connection to the CDS for the purpose of the preparation of technical

Uslovi za izradu tehničke dokumentacije

Član 102

(1) Zahtjev za izdavanje saglasnosti za priključenje male elektrane na ZDS, sa uslovima za izradu tehničke dokumentacije, u ime budućeg korisnika sistema, podnosi organ uprave, na obrascu koji utvrđuje LBEC a koji se objavljuje na interenet stranici LBEC.

(2) LBEC propisuje obrazac zahtjeva za izdavanje uslova za priključenje male elektrane na ZDS. Obrazac se objavljuje na internet stranici LBEC.

(3) Uz zahtjev iz stava 1 ovog člana, dostavlja se:
   1) projekat objekta koji je predmet priključenja ili
   2) idejno rješenje za objekat koji je predmet priključenja.

(4) Dokumentacija za izdavanje uslova za priključenje na ZDS mora da sadrži minimum slijedećih podataka:
   1) generalnu koncepciju;
   2) tehničko-tehnološke karakteristike;
   3) potrebe za snagom i energijom;
   4) lokaciju objekta;
   5) jednopolne šeme postrojenja ili blok šeme za mrežu koja se priključuje sa električnim karakteristikama opreme koja se priključuje.

(5) LBEC odlučuje po zahtjevu za uslove za priključenje radi izrade projektne dokumentacije, u roku od 30 dana od dana prijema urednog zahtjeva. Izuzetno za složenije objekte za koje je potrebna izrada sistemskih analiza i/ili izrada elaborata o priključenju rok za rješavanje po zahtjevu je četiri mjeseca od dana prijema urednog zahtjeva.

(6) Uslovi za priključenje na ZDS radi izrade tehničke dokumentacije se daju na određeni vremenski period, a najkraće na godinu dana.

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documents are issued for a specific time period, no less than one year.

Connection permit

Article 103

(1) On behalf of the future system user, the request for the issuance of a permit for the connection of a small power plant to the CDS is submitted by an administration authority, after the preparation and review of design documents, on a form defined by LBEC and published on its website.
(2) The request for the issuance of a connection permit is submitted on a form defined by LBEC, in accordance with the need for data necessary for the processing of the request.
(3) The submission of the request for the issuance of a permit for the connection of a small power plant to the CDS is accompanied by the following documents:
    1) revised conceptual or main design of the small power plant, and
    2) energy permit for the construction of the small power plant.
(4) LBEC decides upon the request for the issuance of a permit for the connection of a small power plant to the CDS within 15 days since the receipt of a proper request.
(5) Notwithstanding paragraph 5 of this Article, for more complex facilities which require the preparation of systemic analyses and/or the preparation of a connection study, the deadline for adopting a decision on the request is four months since the receipt of a proper request.
(6) The connection permit contains technical conditions for connection which are the same as those in the issued opinion and conditions for connection, unless there has been a change of the technical parameters and planning documents.
(7) For the purpose of issuing a permit for the connection of small power plant connection facilities to the CDS, a revised main design of the facilities for the small power plant's connection to the CDS is submitted as well.
(8) Within 15 days since the receipt of a proper request, LBEC adopts a decision on the permit

Saglasnost za priključenje

Član 103

(1) Zahtjev za izdavanje saglasnosti za priključenje male elektrane na ZDS, u ime budućeg korisnika sistema podnosi organ uprave, nakon izrade i revizije projektne dokumentacije, na obrascu koji utvrđuje LBEC a koji objavljuje na svojoj internet stranici.
(2) Zahtjev za izdavanje saglasnosti za priključenje se podnosi na obrascu koji određuje LBEC, u skladu sa potrebom za podacima neophodnim za obradu zahtjeva.
(3) Uz zahtjev za izdavanje saglasnost za priključenje male elektrane na ZDS, predaje se i sljedeća dokumenta:
    1) revidovan idejni ili glavni projekat male elektrane, i
    2) energetska dozvola za izgradnju male elektrane.
(4) LBEC odlučuje po zahtjevu za izdavanje saglasnost za priključenje male elektrane na ZDS u roku od 15 dana od dana prijema urednog zahtjeva.
(5) Izuzetno od stava 5 ovog člana, za složenije objekte, za koje je potrebna izrada sistemskih analiza i/ili izrada elaborata o priključenju, rok za rješavanje po zahtjevu je četirimjeseca od dana prijema urednog zahtjeva.
(6) Saglasnost za priključenje sadrži tehničke uslove priključenja iste kao i u izdatom mišljenju i uslovima priključenja, ukoliko nije došlo do izmjena tehničkih parametara i planskih dokumenata.
(7) Radi izdavanja saglasnosti za priključenje za objekte priključka male elektrane na ZDS, uz zahtjev predaju se i revidovan glavni projekat objekata za priključke male elektrane na ZDS.
(8) LBEC u roku od 15 dana od dana prijema urednog zahtjeva izdaje rješenje o saglasnosti

for the connection of a small power plant to the CDS.

za priključenje objekata priključka male elektrane na ZDS.

Article 104

The technical conditions contained in the connection permit are, as a rule, the same as the technical conditions in the issued opinion and conditions of connection.

Član 104

Tehnički uslovi koji su sadržani u saglasnosti za priključenje po pravilu su isti sa tehničkim uslovima u izdatom mišljenju i uslovima priključenja.

Article 105

(1) If, due to technical restrictions, it is not possible to connect the facility of the small power plant investor to the system, and in case the development plan does not provide for the construction of the necessary infrastructure or it is planned for a later period, LBEC will grant consent to the investor-future system user to build at his own expense the infrastructure necessary for the connection of the facility to the system and to hand it over to the competent system operator pursuant to Articles 184 and 185 of the Law.

Član 105

(1) Ako zbog tehničkih ograničenja nije moguće priključenje objekta investitora male elektrane na sistem, a u slučaju da planom razvoja nije predviđena izgradnja potrebne infrastrukture ili je planirana za kasniji period, LBEC će dati saglasnost investitoru, budućem korisniku sistema da o svom trošku izgradi infrastrukturu potrebnu za priključenje objekta na sistem i da je preda nadležnom operatoru sistema u skladu sa čl.184 i 185 Zakona.

(2) The connection permit is given to the CDS user for a specific time period, no less than one year.

(2) Saglasnost za priključenje se daje korisniku ZDS na određeni vremenski period, a najkraće na godinu dana.

(3) If the building permit has been issued for a longer period than the connection permit, the system user is obliged to submit, within the prescribed deadline, a request for the extension of the validity of the connection permit until the end of the validity period of the issued building permit. The same applies in cases of extending the building permit.

(3) Ako je građevinska dozvola oročena na duži period od izdate saglasnosti za priključenje, korisnik sistema je, u navedenom roku, dužan podnijeti zahtjev za produženje važenja saglasnosti za priključenje do roka važenja izdate građevinske dozvole. Isto važi i u slučaju produženja građevinske dozvole.

(4) The building permit is submitted along with the request for the extension of the validity of the connection permit.

(4) Uz zahtjev za produženje važenja saglasnosti za priključenje dostavlja se i građevinska dozvola.

(5) The validity period of the connection permit is extended until the end of the validity period of the issued building permit.

(5) Rok važenja saglasnosti za priključenje se produžava do roka važenja izdate građevinske dozvole.

Permit for temporary connection for the needs of test runs

Odobrenje za privremeno priključenje za potrebe probnog rada

Article 106

(1) After the completion of the construction of the connection, metering place (except for the electricity meter), electrical installations in the

Član 106

(1) Nakon završetka izgradnje priključka, mjernog mjesta (osim brojila električne energije), električnih instalacija u objektu,

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facility, performed measurements and tests which can be done without connecting to the CDS, the system user submits a request for the connection of the facility for the purpose of a test run or functional analyses.

(2) The form of the request for the connection of the facility for the purpose of a test run or functional analyses is prescribed and defined by LBEC. The form is published on LBEC's website.

(3) The system user is obliged to submit the request for the connection of the facility for the purpose of a test run or functional analyses at least ten days before the expiration of the connection deadline stated in the connection permit.

(4) A building permit is submitted along with the request referred to in paragraph 3 of this Article.

(5) If the building permit has been issued for a longer period than the connection permit, the system user is obliged to submit a request for the extension of the validity of the connection permit until the end of the validity period of the issued building permit, where the validity period of the connection permit is extended to match the validity period of the building permit.

izvršenih mjerenja i ispitivanja koja se mogu uraditi bez priključenja na ZDS, korisnik sistema podnosi zahtjev za priključenje objekta za probni rad ili funkcionalna ispitivanja.

(2) Obrazac zahtjeva za priključenje objekta za probni rad ili funkcionalna ispitivanja propisuje i obezbjeđuje LBEC. Obrazac se objavljuju na internet stranici LBEC.

(3) Korisnik sistema je dužan podnijeti zahtjev za priključenje objekta radi probnog rada ili funkcionalnog ispitivanja najkasnije deset dana prije isteka roka za priključenje navedenog u saglasnosti za priključenja.

(4) Uz zahtjev iz stava 3 ovog člana dostavlja se i građevinska dozvola.

(5) Ako je građevinska dozvola izdata na duži period od izdate saglasnosti za priključenje, korisnik sistema je dužan podnijeti zahtjev za produženje važenja saglasnosti za priključenja do roka važenja izdate građevinske dozvole, pri čemu se rok važenja saglasnosti za priključenje produžava do roka važenja građevinske dozvole.

Article 107

(1) Along with the request for connection for the purpose of a test run or functional analysis, the system user also submits:

1) building approval (building permit or permit for construction and installation);
2) permit for the performance of activities (for power plants with a power >1 MW);
3) statement of the authorised contractor and professional supervision for power engineering that the facility and its power connection have been constructed in accordance with the building permit and the main design;
4) statement of the authorised contractor and professional supervision that the electric installations of the system user and the connection fulfil the prescribed technical conditions which ensure the safety of people and property;

Član 107

(1) Uz zahtjev za priključenje radi probnog rada ili funkcionalnog ispitivanja korisnik sistema podnosi:

1) odobrenje za građenje (građevinska dozvola ili odobrenje za građenje i postavljanje);
2) dozvolu za obavljanje djelatnosti (za elektrane snage >1 MW);
3) izjavu ovlašćenog izvođača radova i stručnog nadzora za elektroenergetiku da su objekat i elektroenergetski priključak za njega izgrađeni u skladu sa građevinskom dozvolom i glavnim projektom;
4) izjavu ovlašćenog izvođača radova i stručnog nadzora da električne instalacije korisnika sistema i njihov priključak ispunjavaju propisane tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine;

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5) report (expert finding) of an authorised organisation that the subject installations of the system user fulfil the technical conditions which ensure the safety of people and property;
6) protocols on analyses of the insulation of the equipment and devices envisaged by the design documents, relay protections and other protection systems and devices, etc.;
7) consent of the competent inspection for the test run;
8) statement on the assumption of responsibility from the investor for the duration of the facility's connection for the purpose of a test run or functional analysis;
9) programme of analyses during the test run with a study on the setting up of the relay protection and a certified single-line diagram at the points of connection to the CDS agreed with LBEC;
10) decision on the appointment of the responsible person for the test run period;
11) decision on the appointment of responsible persons for manipulations of the switching equipment;
12) electricity supply agreement and
13) agreement on the sale of electricity for the duration of the test run.

(2) After reviewing the documentation from paragraph 1 of this Article, LBEC performs an internal technical check of the connection and the metering place.

Internal technical check of the connection and the metering place

Article 108

(1) Before the connection of the SPP to the CDS for the purpose of a test run, LBEC performs an internal technical check of the connection and the metering place which encompasses:
1) comparison of the design documents with the executed works, from the perspective of the parallel operation of the SPP and the CDS;
2) inspection of SPP facilities, operational devices, generators and switching plant;

5) izvještaj (stručni nalaz) ovlašćene organizacije da predmetne instalacije korisnika sistema ispunjavaju tehničke uslove kojima se obezbjeđuje sigurnost ljudi i imovine;
6) protokole o ispitivanjima izolacije opreme i uređaja predviđene projektnom dokumentacijom, relejnih zaštita i ostalih sistema i uređaja zaštite itd;
7) saglasnost nadležne inspekcije za probni rad;
8) izjavu o preuzimanju odgovornosti za vrijeme priključenja objekta za probni rad ili funkcionalna ispitivanja od investitora;
9) program ispitivanja u probnom radu sa elaboratom o podešenju relejne zaštite i ovjerenom jednopolnom šemom u tačkama priključenja na ZDS usaglašen sa LBEC;
10) rješenje o imenovanju odgovornog lica za period probnog rada;
11) rješenje o imenovanju odgovornih lica za manipulacije rasklopnom opremom;
12) ugovor o snabdijevanju električnom energijom i
13) ugovor o prodaji električne energije za vrijeme trajanja probnog rada.

(2) Nakon provjere dokumentacije iz stava 1 ovog člana LBEC će izvršiti interni tehnički pregled priključka i mjernog mjesta.

Interni tehnički pregled priključka i mjernog mjesta

Član 108

(1) Prije priključenja ME na ZDS za potrebe probnog rada, LBEC vrši interni tehnički pregled priključka i mjernog mjesta, koji obuhvata:
1) upoređenje projektne dokumentacije sa izvedenim radovima, sa aspekta paralelenog rada ME i ZDS;
2) pregled objekta ME, pogonskih uređaja, generatora i rasklopnog postrojenja;

3) check of the accessibility to the circuit breaker and the metering place;
4) inspection and check of the regularity of the SPP's connection;
5) check of the protective and metering devices, switchgears at the point of connection to the CDS, system protection and connection line protection.

(2) No later than within five days since the performed check, the internal technical check commission submits a report and confirms that the works have been executed according to the technical conditions from the permit for the connection of the SPP to the CDS.

(3) Upon the fulfilment of the conditions from the connection permit and the report on the internal technical check, LBEC issues an approval for the connection of the facility for the purpose of a test run.

Probation period

Article 109

(1) The connection of the SPP to the CDS for the purpose of a test run is carried out in the presence of the SPP investor, the authorised institution which performs functional tests hired by the investor, the main contractor and LBEC.

(2) The testing of the operation and the protective devices for the duration of the test run is carried out in real conditions. The testing of the protective devices is carried out as a primary testing (together with instrument transformers) and a secondary testing, with a test of the effect on the disconnection of the connection circuit breaker.

(3) The following must be simulated and checked during the test run:
1) testing the SPP's entry into parallel operation with the CDS (check of the functioning of the synchronisation device) and other devices which enable the safe connection of generators to the CDS;
2) three-phase voltage failure in the CDS;
3) testing the activity of the relay protection;
4) check of the protection from the plant's off-grid operation;

3) provjeru pristupačnosti spojnom prekidaču i mjernom mjestu;
4) pregled i provjeru ispravnosti priključka ME;
5) provjeru zaštitnih i mjernih uređaja, rasklopnih aparata na mjestu priključenja na ZDS, sistemske zaštite i zaštite priključnog voda.

(2) Komisija za interni tehnički pregled najkasnije u roku od pet dana od izvršenog pregleda podnosi izvještaj i potvrđuje da su izvedeni radovi prema tehničkim uslovima iz sagalasnosti za priključenje ME na ZDS.

(3) Po ispunjenosti uslova iz saglasnosti za priključenje i izvještaja o internom tehničkom pregledu, LBEC izdaje odobrenje za priključenje objekta za potrebe probnog rada.

Probni rad

Član 109

(1) Priključenje ME na ZDS za potrebe probnog rada vrši se u prisustvu investitora ME, ovlašćene institucije koja vrši funkcionalna ispitivanja angažovane od strane investitora, glavnog izvođača radova i LBEC.

(2) Ispitivanje rada i zaštitnih uređaja u toku probnog rada vrše se u realnim uslovima. ispitivanje zaštitnih uređaja vrši se kao primarno ispitivanje (zajedno sa mjernim transformatorima) i sekundarno ispitivanje, s probom djelovanja na isključenje spojnog prekidača.

(3) Za vrijeme probnog rada obavezno se simulira i provjerava:
1) ispitivanje ulaska ME u paralelan rad sa ZDS (provjera funkcionisanja uređaja za sinhronizaciju) i drugih uređaja koji omogućuju bezbjedno priključenje generatora na ZDS;
2) ispad trofaznog napona u ZDS;
3) ispitivanje djelovanja relejne zaštite;
4) provjera zaštite od ostrvskog rada elektrane;

5) testing the plant's response to a passing short circuit in the network;
6) behaviour of protective and other devices in the small power plant in the case of the application of ARC;
7) testing the activity of the blockage of the generator circuit breaker's activation in case of a defect in the metering synchronisation circuit;
8) testing the plant's back effect on the network in case of a cessation of the auxiliary supply in the plant (by the disconnection of the plant's main supply source);
9) testing the plant's back effect on the network in case of a cessation of compensation;
10) order of the connection of generators to the network if the small power plant has multiple generators and establishment of the smallest time delay until the connection of the next generator;
11) functioning of the plant for the compensation of reactive energy depending on the type of generator and other reactive energy needs in the small power plant.

(4) The authorised institution which performed the testing during the test run compiles a document (protocol) which confirms the technical readiness of the plant for permanent connection.

Connection agreement

Article 110

(1) The request for the conclusion of a connection agreement is submitted on a form defined and provided by LBEC.
(2) Along with the request from paragraph 1 of this Article, the system user also submits:
1) notification on the fulfilment of the conditions from the connection permit;
2) use permit;
3) report (expert finding) of an authorised organisation that the subject installations of the system user fulfil the technical conditions

5) ispitivanje odziva elektrane na prolazni kratki spoj u mreži;
6) ponašanje zaštitnih i ostalih uređaja u maloj elektrani za slučaj primjene APU-a;
7) ispitivanje djelovanja blokade uključenja generatorskog prekidača u slučaju kvara u mjernom krugu sinhronizacije;
8) ispitivanje povratnog djelovanja elektrane na mrežu u slučaju nestanka pomoćnog napona u elektrani (isključenjem glavnog izvora napajanja elektrane);
9) ispitivanje povratnog djelovanja elektrane na mrežu u slučaju nestanka kompenzacije;
10) redosled uključenja generatora na mrežu ako u maloj elektrani ima više generatora i utvrđivanje najmanje vremenske zadrške do priključenja narednog generatora;
11) funkcionisanje postrojenja za kompenzaciju reaktivne energije u zavisnosti od tipa generatora i ostalih potreba za reaktivnom energijom u maloj elektrani.

(4) Ovlašćena institucija koja je vršila ispitivanjima u toku probnog rada sačinjava dokument (protokol) kojim se potvrđuje tehnička spremnost elektrane za trajno priključenje.

Ugovor o priključenju

Član 110

(1) Zahtjev za zaključenje ugovora o priključenju podnosi se na obrascu koji propisuje i obezbjeđuje LBEC.
(2) Uz Zahtjev iz stava 1 ovog člana korisnik sistema podnosi:
1) obavještenje o ispunjenosti uslova iz saglasnosti za priključenje;
2) upotrebnu dozvolu;
3) izvještaj (stručni nalaz) ovlašćene organizacije da predmetne instalacije korisnika sistema ispunjavaju tehničke

which ensure the safety of people and property;
4) protocols of tests of the insulation of equipment and devices, relay protections and other protective systems and devices;
5) reports on the fulfilment of the conditions for connection to the CDS from the perspective of a negative back effect on the CDS.

(3) Deciding upon the request for the connection of the user, after the fulfilment of the conditions from the connection permit and these rules, LBEC and the user conclude an agreement on the connection of the facility to the CDS.

(4) In case the user has not fulfilled the conditions from paragraph 2 of this Article, LBEC will, within 15 days since the receipt of the request or notification from paragraph 1 of this Article, inform the user on the conditions he has not fulfilled.

uslove kojima se obezbjeđuje sigurnost ljudi i imovine;
4) protokole o ispitivanjima izolacije opreme i uređaja, relejnih zaštita i ostalih sistema i uređaja zaštite;
5) izvještaje o ispunjenosti uslova za priključenje na ZDS sa aspekta negativnog povratnog djelovanje na ZDS.

(3) Rješavajući po zahjtevu za priključenje korisnika, nakon ispunjenosti uslova iz saglasnosti za priključenje i ovih pravila, LBEC i korisnik zaključuju ugovor o priključenju objekta na ZDS.

(4) U slučaju da korisnik nije ispunio uslove iz stava 2 ovog člana LBEC će u roku od 15 dana od dana prijema zahtjeva, odnosno obavještenja iz stava 1 ovog člana, obavijestiti korisnika o uslovima koje nije ispunio.

Article 111

LBEC issues a permanent connection permit within seven days since the day when the investor submits a supply agreement and an electricity sale agreement, and within this deadline the SPP facility is connected to the CDS.

Član 111

Odobrenje za trajno priključenje LBEC izdaje u roku od sedam dana od dana kada investitor dostavi ugovor o snabdijevanju i ugovor o prodaji električne energije, u kom roku se vrši priključenje objekta ME na ZDS.

Article 112

Off-grid supply of a part of the distribution system from the SPP is not permitted.

Član 112

Nije dozvoljeno ostrvsko napajanje dijela distributivnog sistema iz ME.

IX CONNECTING THE CLOSED DISTRIBUTION SYSTEM TO OTHER SYSTEMS

IX POVEZIVANJE ZATVORENOG DISTRIBUTIVNOG SISTEMA SA DRUGIM SISTEMIMA

Connection to the distribution system of CEDIS

Priključenje na distributivni sistem CEDIS-a

Article 113

(1) The distribution system operator defines the connection conditions of the closed electricity distribution system.

(2) The point of connection of the closed distribution system to a distribution system is, as a rule, the limit between fixed properties.

(3) The conditions for the connection of the closed distribution system to a distribution system are

Član 113

(1) Operator distributivnog sistema definiše uslove za priključenje zatvorenog distributivnog sistema električne energije.

(2) Mjesto priključenja zatvorenog distributivnog sistema na distributivni sistem je, po pravilu, granica vlasništva osnovnih sredstava.

(3) Uslovi za priključak zatvorenog distributivnog sistema na distributivni sistem su definisani u

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defined by the rules for the functioning of the distribution system and by the connection agreement.

(4) In addition to the technical conditions for connection, the connection agreement concluded by the DSO and LBEC also define the mutual relations, as well as all matters which affect the safe and quality operation of both systems.

(5) The agreement on the connection of the CDS to a DS, apart from the elements contained in the agreement on the connection to the CDS, also contains provisions which regulate matters connected to:

1) operational communication between the DSO and LBEC;
2) conducting health and safety measures;
3) manner of exchanging data on operational and calculation measurements, as well as the scope of information exchanged in real time;
4) place and structure of the metering set of a billable metering place;
5) maintenance, testing, sealing and replacement of metering devices;
6) protective devices;
7) own consumption;
8) harmonisation of operational instructions;
9) quality of delivered electricity;
10) access to data from the events recorder.

Article 114

(1) The manner of electricity metering and the characteristics of metering devices at the point of delivery between the DSO and LBEC are processed and defined in the rules for the functioning of the electricity distribution system.

(2) The DSO and LBEC are obliged to mutually harmonise the selectivity and coordination of protections with the aim of ensuring conditions for a safe and quality operation of both systems.

(3) The DSO is obliged to ensure, in accordance with the rules for the functioning of the electricity distribution system, the technical conditions for the regulation of voltage in 35/10 kV transformers, which would enable LBEC to provide the service of maintain the voltage in the

pravilima za funkcioniosanje distributivnog sistema i u ugovoru o priključenju.

(4) Ugovorom o priključenju koji zaključuju ODS i LBEC, uz tehničke uslove za priključenje, definišu se i međusobni odnosi, kao i sva pitanja koja utiču na siguran i kvalitetan rad oba sistema.

(5) Ugovor o priključenju ZDS na DS, pored elemenata koje sadrži ugovor o priključenje na ZDS, sadrži i odredbe kojima se regulišu pitanja vezana za:

1) operativnu komunikaciju između ODS i LBEC;
2) provođenje mjera zaštite na radu;
3) načine razmjene podataka o pogonskim i obračunskim mjerenjima, kao i obim informacija koje se razmjenjuju u realnom vremenu;
4) mjesto i strukturu mjernog sloga obračunskog mjernog mjesta;
5) održavanje, ispitivanje, plombiranje i zamjenu mjernih uređaja;
6) zaštitne uređaje;
7) sopstvenu potrošnju;
8) usaglašavanje pogonskih uputstava;
9) kvalitet isporučene električne energije;
10) pristup podacima sa registratora događaja.

Član 114

(1) Način mjerenja električne energije i karakteristike mjernih uređaja na mjestu preuzimanja između ODS i LBEC su obrađeni i definisani pravilima za funkcionisanje distributivnog sistema električne energije.

(2) ODS i LBEC su dužni da međusobno usklade selektivnost i koordinaciju zaštita u cilju obezbjeđenja uslova za siguran i kvalitetan rad oba sistema.

(3) ODS je dužan da, u skladu sa pravilima za funkcionisanje distributivnog sistema električne energije, obezbijedi tehničke uslove za regulaciju napona na transformatorima 35/10 kV, koji će omogućiti

closed distribution system within the prescribed limits.

LBEC pružanje usluge održavanja napona u zatvorenom distributivnom sistemu u propisanim granicama.

Connection to adjacent distribution systems

Article 115

(1) Two adjacent distribution systems can be connected if there is a mutual interest of the operators, and particularly due to:
   1) increased safety in the supply of system users with electricity;
   2) increased quality of electricity in an area;
   3) cost-effectiveness.
(2) The technical solution for the connection of two distribution systems is mutually determined by the operators of these systems, with the application of technical regulations and standards in the mutual interest of both systems.
(3) The definition of the conditions for the connection of adjacent distribution systems to the CDS is done in the same manner as for other CDS users.
(4) The connection conditions, the connection and operation of adjacent distribution systems are regulated by a system connection agreement.
(5) The system connection agreement, apart from the elements contained in the agreement on the connection of other users to the CDS, also contains provisions which regulate matters connected to:
   1) operational communication between the two DSOs;
   2) conducting health and safety measures;
   3) manner of exchanging data on operational and calculation measurements, as well as the scope of information exchanged in real time;
   4) place and structure of the metering set of a billable metering place;
   5) maintenance, testing, sealing and replacement of metering devices;
   6) protective devices;
   7) own consumption;
   8) harmonisation of operational instructions;
   9) quality of delivered electricity;
   10) access to data from the events recorder, etc.

Povezivanje sa susjednim distributivnim sistemima

Član 115

(1) Povezivanje dva susjedna distributivna sistema se može obaviti ako postoji zajednički interes operatora, a naročito zbog:
   1) povećanja sigurnosti u snabdijevanju korisnika sistema električnom energijom;
   2) povećanja kvaliteta električne energije na nekom području;
   3) razloga ekonomičnosti.
(2) Tehničko rješenje povezivanja dva distributivna sistema zajednički utvrđuju operatori ovih sistema, uz primjenu tehničkih propisa i standarda u zajedničkom interesu oba sistema.
(3) Određivanje uslova priključenja susjednih distributivnih sistema na ZDS, vrši se na isti način kao za ostale korisnike ZDS.
(4) Uslovi za priključenja, odnosno povezivanje i rad susjednih distributivnih sistema regulišu se ugovorom o priključenju sistema.
(5) Ugovor o priključenju sistema, pored elemenata koje sadrži Ugovor o priključenje za ostale korisnike ZDS, sadrži i odredbe kojima se regulišu pitanja vezana za:
   1) operativnu komunikaciju između dva ODS;
   2) provođenje mjera zaštite na radu;
   3) načine razmjene podataka o pogonskim i obračunskim mjerenjima, kao i obim informacija koje se razmjenjuju u realnom vremenu;
   4) mjesto i strukturu mjernog sloga obračunskog mjernog mjesta;
   5) održavanje, ispitivanje, plombiranje i zamjenu mjernih uređaja;
   6) zaštitne uređaje;
   7) sopstvenu potrošnju;
   8) usaglašavanje pogonskih uputstava;
   9) kvalitet isporučene električne energije;

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(6) The design of the disconnection and protective equipment at the point of connection is performed by each operator individually in his own plant as per the technical conditions from the agreement, along with the installation, its maintenance and exploitation.
(7) Distribution system operators are obliged to harmonise the work of their systems, and especially to harmonise the selectivity and coordination of protections with the aim of ensuring conditions for a safe and quality operation of both systems.
(8) At the point of separation between adjacent distribution systems, the installed protective equipment must enable the separation of systems in case of unpermitted mutual effects.
(9) The design of the disconnection and protective equipment at the point of connection is performed, as a rule, by each operator individually in his own plant as per the technical conditions from the agreement, along with the installation, its maintenance and exploitation, unless the agreement stipulates otherwise.

Technical and other conditions for the operation of the distribution system with other systems

Article 116

(1) LBEC is obliged to ensure, in cooperation with the DSO and the operators of adjacent distribution systems, a harmonised regulation of voltage at points of connection.
(2) The regulation of frequency is carried out by the DSO, in accordance with his rules.
(3) LBEC, together with the DSO and adjacent CDS operators, at the border between the CDS and the TS and adjacent distribution systems, harmonises:
   1) minimum and maximum allowed voltages at continuous operation and their short-term violations;
   2) insulation coordination and
   3) joint measures for voltage regulation.
(4) LBEC plans and harmonises the development and construction of the distribution system

10) pristup podacima registratora događaja i dr.
(6) Projektovanje rastavne i zaštitne opreme na mjestu priključenja vrši svaki operater za sebe u svom postrojenju prema tehničkim uslovima iz ugovora, kao i ugradnju, njeno održavanje i eksploataciju.
(7) Operatori distributivnih sistema su odgovorni da usklade rad svojih sistema, a naročito da usklade selektivnost i koordinaciju zaštita, u cilju obezbjeđenja uslova za siguran i kvalitetan rad oba sistema.
(8) Na mjestu razdvajanja susjednih distributivnih sistema, ugrađena zaštitna oprema mora omogućiti razdvajanje sistema u slučaju nedozvoljenih međusobnih uticaja.
(9) Projektovanje rastavne i zaštitne opreme na mjestu priključenja vrši, po pravilu, svaki operater za sebe u svom postrojenju, prema tehničkim uslovima iz ugovora, kao i ugradnju, njeno održavanje i eksploataciju, ukoliko ugovorom nije drugačije određeno.

Tehnički i drugi uslovi za rad distributivnog sistema sa drugim sistemima

Član 116

(1) LBEC je dužan da u saradnji sa ODS i operatorima susjednih distributivnih sistema osigura usklađenu regulaciju napona na priključnim mjestima.
(2) Regulaciju frekvencije vrši ODS, u skladu sa svojim pravilima.
(3) LBEC, sa ODS i operatorima susjednih ZDS, na granici ZDS sa PS i susjednim distributvnim sistemima, usklađuje:
   1) minimalne i maksimalne dopuštene napone u trajnom pogonu i njihova kratkotrajna narušavanja;
   2) koordinaciju izolacije i
   3) zajedničke mjere za regulaciju napona.
(4) Razvoj i izgradnju distributivnog sistema, LBEC planira i usaglašava sa ODS i

together with the DSO and operators of connected adjacent distribution systems.

(5) LBEC is responsible for the installation of protective systems in its network in a way which does not jeopardise the equipment in other systems.

(6) LBEC is obliged to coordinate activities on congestion management with the DSO and adjacent operators.

(7) In disrupted operational conditions, LBEC coordinates activities with the DSO and operators of adjacent distribution systems.

(8) LBEC is obliged to exchange data with the DSO and other operators which enable:
1) supervision of power transmission across the borders of the regulation areas;
2) scheduled disconnections of individual system elements, significant for the operation of connected systems;
3) data on voltage values;
4) network modelling;
5) plans of exchange across the border of the control area, and
6) real time metering of voltage, active and reactive power and control of the circuit breaker status on elements significant for the operation of connected systems.

(9) LBEC periodically performs appropriate calculation and defines conditions for the connection of systems.

X MAINTENANCE OF THE CLOSED DISTRIBUTION SYSTEM

Subject and scope of application

Article 117

(1) For the purpose of ensuring the proper functioning of the CDS and greater safety in the electricity supply of customers, LBEC prepares maintenance plans, as well as procedures and instructions for the maintenance of power facilities which serve for the distribution of electricity.

(2) Power facilities for which maintenance plans and procedures are prepared are:

operatorima poveznih susjednih distributivnih sistema.

(5) LBEC je odgovoran za ugradnju zaštitnih sistema u svojoj mreži na način da nije ugrožena oprema u drugim sistemima.

(6) LBEC je dužan da preduzima koordinaciju aktivnosti na upravljanju zagušenjima sa ODS i susjednim operatorima.

(7) LBEC vrši koordinaciju aktivnosti, u poremećenim uslovima rada, sa ODS i operatorima susjednih distributivnih sistema.

(8) LBEC je dužan da sa ODS i drugim operatorima razmjenjuje podatke koji omogućavaju:
1) nadzor prenosa energije preko granica regulacionih oblasti;
2) planirana isključenja pojedinih elemenata sistema, od značaja za rad poveznih sistema;
3) podatke o vrijednostima napona;
4) modelovanje mreže;
5) planove razmjene preko granice kontrolne oblasti, i
6) mjerenja u realnom vremenu napona, aktivne i reaktivne snage i kontrolu statusa prekidača na elementima od značaja za rad poveznih sistema.

(9) LBEC periodično vrši odgovarajuće proračune i definiše uslove radi povezivanja sistema.

X ODRŽAVANJE ZATVORENOG DISTRIBUTIVNOG SISTEMA

Predmet i područje primjene

Član 117

(1) U cilju obezbjeđenja ispravnog funkcionisanja ZDS i veće sigurnosti u snabdijevanju kupaca električnom energijom, LBEC radi planove održavanja, kao i procedure i uputstva za održavanje energetskih objekata koji služe za distribuciju električne energije.

(2) Energetski objekti za koje se rade planovi i procedure održavanja su:

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1) 10 kV plants;
2) 10 kV lines;
3) 10/x kV/kV transformers;
4) plants and lines of a lower voltage level to the point of connection of the user to the CDS;
5) other devices and equipment used for the functioning of the CDS.

Obligations and responsibilities

Article 118

(1) LBEC and the user are obliged to maintain, in accordance with the technical regulations, the lines and plants in their ownership, unless otherwise stipulated by a special agreement.
(2) For the purpose of satisfying the system user's needs, LBEC is obliged to apply the best know-how acquired in practice through the maintenance of devices and equipment, so as to ensure:
   1) safety of supply;
   2) reliability of the distribution system's operation;
   3) non-discriminatory conditions for users or groups of users of the distribution system.
(3) LBEC is responsible for maintaining:
   1) operational safety of distribution facilities;
   2) buildings and construction parts of the distribution system;
   3) primary and secondary equipment, metering systems and earthings;
   4) telecommunication and information equipment and other infrastructure necessary for the functioning of the distribution system.
(4) LBEC is obliged to undertake, in accordance with the defined programmes, periodical preventive measures for the maintenance of its equipment and to:
   1) replace and restore distribution system elements which are near the end of their lifespan or parts damaged for any reason, as per the defined maintenance plans;

1) postrojenja 10 kV;
2) vodovi 10 kV;
3) transformatori 10/x kV/kV;
4) postrojenja i vodovi nižeg naponskog nivoa do mjesta priključka korisnika ZDS;
5) ostali uređaji i oprema koji služe za funkcionisanje ZDS.

Obaveze i odgovornosti

Član 118

(1) LBEC i korisnik su dužni da u skladu sa tehničkim propisima održavaju vodove i postrojenja koja su u njihovom vlasništvu, ako to posebnim ugovorom nije drugačije predviđeno.
(2) LBEC je dužan da u cilju zadovoljenja potreba korisnika sistema primjenjuje najbolja iskustva stečena u praksi pri održavanju uređaja i opreme, a u cilju osiguranja:
   1) sigurnosti snadbijevanja;
   2) pouzdanosti rada distributivnog sistema;
   3) nediskriminatornih uslova za korisnike ili grupe korisnika distributivnog sistema.

(3) LBEC odgovoran je za održavanje:
   1) pogonske sigurnosti distributivnih objekata;
   2) građevinskih i konstrukcionih djelova distributivnog sistema;
   3) primarne i sekundarne opreme, mjerenih sistema i uzemljenja;
   4) telekomunikacione i informacione opreme i druge infrastrukture neophodne za funkcionisanje distributivnog sistema.
(4) LBEC je obavezan da, u skladu sa utvrđenim programima, preduzima preventivne periodične mjere za održavanje svoje opreme i da:
   1) zamijeni i revitalizuje elemente distributivnog sistema koji su pri kraju vijeka trajanja ili djelova koji su oštećeni iz bilo kojeg razloga a prema utvrđenim planovima održavanja;

2) observe all valid standards and criteria which define the quality of maintenance works;
3) harmonise the operations of all participants in the overhaul in an appropriate manner with the aim of keeping electricity supply interruptions as short as possible.

(5) If necessary, LBEC is also obliged to carry out unscheduled emergency works on distribution system elements for the purpose of ensuring their reliable operation.

General principles for the preparation of maintenance plans

Article 119

(1) Distribution facilities' maintenance plans define the activities and resources necessary for the maintenance of distribution facilities in a technically proper condition.
(2) The maintenance of the distribution system must be conducted as per the standards and regulations on technical norms as well as the instructions of the equipment manufacturer in accordance with the annual maintenance plans based on operational experiences and the monitoring of maintenance technology development, while paying attention to environmental protection.
(3) During the definition of the maintenance plans for the distribution system, it is necessary to apply principles and standards which ensure that the development and maintenance of the system is techno-economically justified, and the functioning safe and reliable.
(4) The maintenance plan consists of concrete plans of activities on the maintenance and restoration of the system and equipment to an acceptable technical and economic level, taking into consideration environmental standards, safety and reliability of the distribution system, so that:
   1) technical solutions are selected on the basis of a reliability analysis which encompasses the likelihood of defects, amount of damages and duration of supply interruptions, in order to ensure the necessary safety of the CDS's operation;

2) se pridržava svih važećih standarda i kriterijuma koji definišu kvalitet radova održavanja;
3) radove svih učesnika u remontu usaglasi na prikladan način sa ciljem da prekidi isporuke električne energije budu što kraći.

(5) LBEC je dužan da u slučaju potrebe vrši i neplanirane hitne radove na elementima distributivnog sistema radi obezbjeđivanja njihovog pouzdanog rada.

Opšti principi za izradu planova održavanja

Član 119

(1) Planovima održavanja distributivnih objekata utvrđuju se aktivnosti i resursi neophodni za održavanje distributivnih objekata u tehnički ispravnom stanju.
(2) Održavanje distributivnog sistema se mora sprovoditi prema standardima i propisima o tehničkim normativima kao i prema uputstvima proizvođača opreme u skladu sa godišnjim planovima održavanja zasnovanim na pogonskim iskustvima i praćenju razvoja tehnologije održavanja, vodeći računa o zaštiti životne sredine.
(3) Pri utvrđivanju planova održavanja distributivnog sistema moraju se primjenjivati principi i standardi koji obezbjeđuju da razvoj i održavanje sistema bude tehnoekonomski opravdano, a funkcionisanje bezbjedno i pouzdano.
(4) Plan održavanja se sastoji od konkretnih planova aktivnosti na održavanju i revitalizaciji sistema i opreme do prihvatljivog tehničkog i ekonomskog nivoa, uzimajući u obzir ekološke standarde, sigurnost i pouzdanost distributivnog sistema tako što se:
   1) tehnička rješenja biraju na osnovu analize pouzdanosti koja obuhvata vjerovatnoću kvarova, visinu šteta i dužinu trajanja prekida napajanja, kako bi se obezbijedila neophodna sigurnost rada ZDS;

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2) the selection of the concept and appropriate distribution system elements, on the basis of previously conducted optimisation procedures, ensures the economic viability of the investment.

(5) The CDS maintenance plan is harmonised with the plans of the DSO and distribution system users, and harmonised in such a manner, it represents the distribution system maintenance programme for the next year. In addition to annual plans, quarterly and monthly plans are prepared as well, along with weekly and daily plans if necessary.

(6) The durations of specific reconstructions which lead to partial or complete interruptions, as well as other exceptional interruptions, depend on the scope and complexity of the works and are defined separately.

(7) Annual plans are prepared for parts of the distribution system and are then integrated into a single plan.

(8) On the basis of the maintenance plan, an operational maintenance plan is prepared for each concrete facility.

(9) All maintenance activities conducted in a single distribution facility are coordinated through the operational maintenance plans, with the aim of reducing the number and duration of electricity supply interruptions due to maintenance works.

Planning of maintenance works

Article 120

(1) All maintenance activities must be conducted with the planning, prescribing, conducting and supervision of the application of appropriate health and safety measures and in accordance with environmental protection principles.

(2) LBEC is obliged to establish a system for the long-term monitoring of the reliability indicators of distribution system elements, both according to type and manufacturer and individually, in correlation with maintenance costs.

(3) Maintenance activities are conducted as scheduled (envisaged by the maintenance plan)

2) izborom koncepcije i odgovarajućih elemenata distributivnog sistema, na osnovu prethodno urađenih optimizacionih postupaka, obezbjeđuje ekonomska opravdanost ulaganja.

(5) Plan održavanja ZDS se usaglašava sa planovima ODS i korisnicima distributivnog sistema i tako usaglašen predstavlja program održavanja distributivnog sistema za narednu godinu. Pored godišnjih planova, izrađuju se kvartalni i mjesečni, a prema potrebi nedjeljni i dnevni planovi.

(6) Dužine trajanja pojedinih rekonstrukcija koje dovode do djelimičnih ili potpunih zastoja, kao i ostalih izuzetnih zastoja, zavise od obima i složenosti radova i posebno se utvrđuju.

(7) Godišnji planovi se pripremaju za djelove distributivnog sistema, a zatim objedinjuju kao jedinstven plan.

(8) Na osnovu Plana održavanja izrađuje se Operativni plan održavanja za svaki konkretan objekat.

(9) Kroz operativne planove održavanja vrši se koordinacija svih aktivnosti održavanja koje se provode na jednom distributivnom objektu, sa ciljem da se smanji broj i trajanje prekida u isporuci električne energije zbog radova na održavanju.

Planiranje radova na održavanju

Član 120

(1) Sve aktivnosti održavanja moraju se provoditi uz planiranje, propisivanje, provođenje i nadziranje primjene odgovarajućih mjera zaštite na radu i u skladu sa principima očuvanja životne sredine.

(2) LBEC je dužan uspostaviti sistem dugoročnog praćenja pokazatelja pouzdanosti elemenata distributivnog sistema, kako po tipu i proizvođaču, tako i pojedinačno, u korelaciji sa troškovima održavanja.

(3) Aktivnosti održavanja se provode kao planirane (predviđene planom održavanja) i

and as interventional due to defects and interruptions, and they must be performed urgently in order to return the distribution facility to a technically proper condition.

(4) In the organisational sense, the maintenance process can be:
   1) centralised;
   2) decentralised;

(5) Maintenance activities can be carried out:
   1) with own resources;
   2) with external contractors;
   3) in a combined manner.

(6) Costs in the maintenance process consist of:
   1) direct costs (spare parts, transport, work costs);
   2) indirect costs (failure to supply electricity, costs of interruptions in the production process);

Organisation and division of maintenance

Article 121

(1) Energy facilities are maintained as per the valid standards and regulations, technical norms and according to the manufacturer's instructions, internal technical regulations and annual plans based on operational experiences and the monitoring of maintenance technology development.

(2) The organisation of the maintenance system must encompass:
   1) development activities;
   2) maintenance planning and preparation;
   3) material insurance;
   4) introduction and implementation of an information system;
   5) executive activities;
   6) control activities;
   7) other activities.

(3) In terms of the technology, maintenance is divided into:
   1) scheduled maintenance;
   2) unscheduled maintenance.

(4) Scheduled maintenance includes:
   1) preventive maintenance;
   2) modifications.

kao interventne koje su posljedica kvarova i zastoja, a moraju se hitno obaviti da bi se distributivni objekat vratio u tehnički ispravno stanje.

(4) Proces održavanja u organizacionom smislu može biti:
   1) centralizovan;
   2) decentralizovan;

(5) Aktivnosti održavanja mogu se obavljati:
   1) vlastitim resursima;
   2) sa eksternim izvođačima;
   3) kombinovano.

(6) Troškovi u procesu održavanja sačinjeni su od:
   1) direktnih troškova (rezervni djelovi, prevoz, troškovi rada);
   2) indirektnih troškova (neisporuka električne energije, troškovi zastoja u proizvodnom procesu;

Organizacija i podjela održavanja

Član 121

(1) Energetski objekti se održavaju prema važećim standardima i propisima, tehničkim normativima i prema uputstvima proizvođača, internim tehničkim propisima i godišnjim planovima zasnovanim na pogonskom iskustvu i praćenju razvoja tehnologije održavanja.

(2) Organizacija sistema održavanja mora obuhvatiti:
   1) Razvojne aktivnosti;
   2) planiranje i pripremu održavanja;
   3) materijalno obezbjeđenje;
   4) uvođenje i implementaciju informacionog sistema;
   5) izvršne aktivnosti;
   6) kontrolne aktivnosti;
   7) ostale aktivnosti.

(3) Prema tehnologiji održavanje se dijeli na:
   1) planirano održavanje;
   2) neplanirano održavanje.

(4) U planirano održavanje svrstavaju se:
   1) preventivno održavanje;
   2) modifikacije.

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(5) Preventive maintenance is a planned process which is conducted through the maintenance strategy envisaged by these Rules.

(6) Modification is a planner process in which the technical characteristics of a facility or plant are modified and its functionality improved by means of interventions, without any change of capacity. Modifications are most often the consequence of a lack of original spare parts and equipment of certain facilities and plants.

(7) Unscheduled maintenance includes:
1) corrective maintenance;
2) interventional maintenance;
3) elimination of the consequences of natural hazards.

(8) Corrective maintenance is conducted after the establishment of a defect on a facility or plant or any of its parts, which has an impact on its functionality. The deadline for the performance of corrective maintenance is defined depending on the assessment of the degree of threat to the facility or plant.

(9) Interventional maintenance is conducted after the establishment of a defect on a facility or plant or any of its parts, which has an impact on its functionality. The elimination of the defect is initiated immediately in order to remedy the defect and put the facility back in operation.

(10) Consequences of natural hazards (strong wind, lighting, freezing rain, stormy sea, etc.) cause defects which are addressed immediately after the weather is calm again. If the defects cannot be fully remedied, the facilities are put into a technically acceptable condition, while making sure that they are restored to their original condition in an appropriate period.

(11) Preventive maintenance implies:
1) periodic inspection;
2) situation assessment;
3) regular maintenance (review);
4) overhaul.

(12) As a scheduled process, preventive maintenance is conducted in accordance with defined deadlines, valid national technical regulations and standards and operating procedures, with the

(5) Preventivno održavanje je planirani proces koji se sprovodi kroz strategiju održavanja predviđenu ovim Pravilima.

(6) Modifikacija je planirani proces pri kojem se zahvatima na objektu i postrojenju mijenjaju tehničke karakteristike i poboljšava njegova funkcionalnost, bez promjene kapaciteta. Modifikacije su u najčešćem slučaju posljedica nepostojanja originalnih rezervnih djelova i opreme pojedinih objekata i postrojenja.

(7) Neplanirano održavanje obuhvata:
1) korektivno održavanje;
2) interventno održavanje
3) otklanjanje posljedica elementarnih nepogoda.

(8) Korektivno održavanje sprovodi se nakon utvrđivanja nekog nedostatka na objektu i postrojenju ili bilo kojem njegovom dijelu koji utiče na njegovu funkcionalnost. Rok za obavljanje korektivnog održavanja utvrđuje se zavisno o procjeni stepena ugroženosti objekta ili postrojenja.

(9) Interventno održavanje sprovodi se nakon utvrđivanja nekog nedostatka na objektu i postrojenju ili bilo kojem njegovom dijelu koji utiče na njegovu funkcionalnost. Otklanjanju nedostatka pristupa se odmah kako bi se kvar otklonio i objekat stavio u svoju funkciju.

(10) Posljedice elementarnih nepogoda (jak vjetar, munje, ledena kiša, olujno more i slično) uzrokuju kvarove kojima se pristupa odmah nakon smirivanja vremenskih nepogoda. Ukoliko se kvarovi ne mogu potpuno otkloniti, objekti se dovode u tehnički prihvatljivo stanje, vodeći računa da se u primjerenom roku dovedu u svoje prvobitno stanje.

(11) Preventivno održavanje podrazumijeva:
1) periodični pregled;
2) procjenu stanja;
3) redovno održavanje (revizija);
4) remont.

(12) Preventivno održavanje se kao planski proces sprovodi u skladu sa utvrđenim vremenskim rokovima, važećim nacionalnim tehničkim propisima i standardima i

aim of reducing the likelihood of defects on a facility or the weakening of operational characteristics.

(13)The basic preventive maintenance documentation comprises:
1) plans;
2) reports.

(14)A written report must be compiled about the performed regular maintenance.

(15)Appropriate protocols, which are an integral part of a power facility's technical documentation, must be compiled in regard to performed checks.

(16)The maintenance documentation comprises:
1) maintenance log;
2) certificates;
3) test protocols;
4) registry.

(17)The control of plants, of the completeness and up-to-dateness of technical and operational documentation and documents connected to the distribution facility is carried out in accordance with the control plan.

(18)Records on the performed documentation control are kept in accordance with the quality system documents.

(19)The organisation of the maintenance system is closer defined by the following operating procedures of the quality system:
1) procedure for the maintenance of overhead lines;
2) procedure for the maintenance of switching stations and transformer stations;
3) procedure for the maintenance of relay protection;
4) procedure for the maintenance of cables;
5) procedure for the maintenance of power transformers;
6) procedure for the maintenance and check of earthing and the accompanying instructions

(20)The procedure must include clear, precise principles and deadlines for the manner of maintenance, responsibility and principal bodies for the performance of individual works.

(21)In addition to the strategy of the assessment of a plant's condition, based on tests and measurements and self-supervision data, there

operativnim procedurama, u cilju smanjenja vjerovatnoća kvara objekta ili slabljenja radnih karakteristika.

(13)Osnovnu dokumentaciju preventivnog održavanja čine:
1) planovi;
2) izvještaji.

(14)O obavljenom redovnom održavanju mora se sačiniti pisani izvještaj.

(15)O izvršenim provjerama moraju se sačiniti odgovarajući protokoli koji su sastavni dio tehničke dokumentacije energetskog objekta.

(16)Dokumentaciju o održavanju čine:
1) knjiga održavanja;
2) atesti;
3) ispitni protokoli;
4) kartoteke.

(17)U skladu sa planom kontrole, vrši se kontrola postrojenja, kompletnosti i ažurnosti tehničke i pogonske dokumentacije i dokumenata vezanih za distributivni objekat.

(18)O obavljenoj kontroli dokumentacije vodi se evidencija u skladu sa dokumentima sistema kvaliteta.

(19)Organizacija sistema održavanja bliže se uređuje sljedećim operativnim procedurama sistema kvaliteta:
1) procedura za održavanje nadzemnih vodova;
2) procedura za održavanje razvodnih postrojenja i trafostanica;
3) procedura za održavanje relejne zaštite;
4) procedura za održavanje kablova;
5) procedura za održavanje energetskih transformatora;
6) procedura za održavanje i provjeru uzemljenja i pripadajućim uputstvima

(20)Procedura mora da sadrži jasna, precizna načela i rokove za način održavanja, odgovornost i nosioce odgovornosti za izvršenje pojedinih radova.

(21)Pored strategije procjene stanja postrojenja, zasnovanih na ispitivanjima i mjerenjima i podacima sastava samonadzora postoje i druge naprednije strategije. One su

are also other more advanced strategies. They are based on the likelihood (set of analysis, simulation and optimisation methods based on the reliability index) or risk-based.

(22) An important segment in the maintenance process is the IT monitoring of the maintenance process, issuance of work orders, preparation of reports and other documents connected to safe operation. The application of IT monitoring of the maintenance process is a system intended for the planning and preparation, monitoring, as well as the analysis of the efficiency and success of all maintenance activities.

X WORK AND OPERATION OF THE CLOSED DISTRIBUTION SYSTEM

Article 122

(1) This chapter defines the rules and procedures for the CDS management in normal, disrupted and extraordinary circumstances, as well as the manner of conducting procedures for the preparation of load estimates and operation interruption plans of the CDS.

(2) Distribution system management is a set of activities which ensure the technical conditions and organisational measures and activities necessary for:
   1) safe and reliable operation of the distribution network;
   2) optimal operational condition of the distribution network;
   3) normal operation of the CDS, or return to normal operation if the system or some of its parts are at disrupted operation or out of operation;
   4) ensuring the quality of electricity that is delivered to CDS users, i.e. final customers;
   5) ensuring priorities for the taking of electricity generated by producers connected to the CDS.

(3) CDS users to which these rules apply must employ operational staff qualified for working with and accessing high-voltage power plants. The users' operational staff must be available to the LBEC management centre at any moment.

zasnovane na vjerovatnoći (skup metoda analize, simulacije i optimizacije utemeljenih na indeksu pouzdanosti) ili zasnovane na rizicima.

(22) Važan segment u procesu održavanja je informatičko praćenje procesa održavanja, izdavanje radnih naloga, izrada izvještaja i ostalih dokumenata vezanih uz rad na siguran način. Aplikacija informatičkog praćenja procesa održavanja je sistem namijenjen planiranju i pripremi, praćenju, kao i analizi efikasnosti i uspješnosti svih aktivnosti održavanja.

X RAD I FUNKCIONISANJE ZATVORENOG DISTRIBUTIVNOG SISTEMA

Član 122

(1) Ovim poglavljem utvrđuju se pravila i procedure upravljanja ZDS u normalnim, poremećenim i vanrednim okolnostima, kao i način sprovođenja postupaka i procedura za izradu prognoza opterećenja i planova prekida pogona ZDS.

(2) Upravljanje distributivnim sistemom je skup aktivnosti kojima se obezbjeđuju tehnički uslovi i organizacione mjere i aktivnosti koje su neophodne za:
   1) bezbjedan i pouzdan rad distributivne mreže;
   2) optimalno uklopno stanje distributivne mreže;
   3) normalan pogon ZDS, odnosno povratak u normalan pogon ako je sistem ili neki njegov dio u poremećenom pogonu ili van pogona;
   4) osiguravanje kvaliteta električne energije koja se isporučuje korisnicima ZDS, odnosno krajnjim kupcima;
   5) obezbjeđivanje prioriteta za preuzimanje električne energije proizvedene od strane proizvođača prikjučenih na ZDS.

(3) Korisnici ZDS na koje se odnose ova pravila, moraju imati operativno osoblje kvalifikovano za rad i pristup električnim postrojenjima visokog napona. Operativno osoblje korisnika mora biti dostupno centru upravljanja LBEC u svakom trenutku.

(4) The responsible parties for the application of rules connected to the operation and functioning of the CDS are:
1) LBEC;
2) DSO;
3) CDS users (suppliers, producers connected to the CDS, customers – self-suppliers);
4) operators of adjacent DSs.

(5) By the agreement on connection to the distribution system, the user assumes the obligation to apply CDS management procedures in normal and disrupted operational regimes as defined by these rules, along with the obligation to respect provisions related to:
1) appointment of authorised persons responsible for management and operational manipulations (of the switching equipment), who must be available to LBEC at any time;
2) harmonisation of LBEC's authorisation to issue orders on the operational regime of the user's plant and operational manipulations of the switching equipment;
3) detailed description of responsibilities for the management of the CDS between the CDS user and LBEC;
4) performance of operational manipulations in normal and disrupted operational regimes, and
5) application of legal measures and security measures.

(6) Plants and facilities of the distribution system and the system of a user connected to CDS must be constructed in such a way that all defects are automatically and as soon as possible isolated from the rest of the CDS through the operation of the protective devices, thus preventing any further spread of the defect.

LBEC management competences

Article 123

LBEC is competent for managing:
1) power facilities which are an integral part of the distribution system in accordance with Article 115 paragraph 2 of the Law;

(4) Odgovorne strane za primjenu pravila vezanih za rad i funkcionisanje ZDS su:
1) LBEC;
2) ODS;
3) 3) Korisnici ZDS (snabdjevači, proizvođači priključeni na ZDS, kupci - samosnabdjevači);
4) Operatori susjednih DS.

(5) Ugovorom o priključenju na distributivni sistem korisnik se obavezuje na primjenu procedura i postupaka upravljanja ZDS u normalnom i poremećenom režimu rada koja se uređuju ovim pravilima, kao i na poštovanje odredbi koje se odnose na:
1) imenovanje ovlašćenih lica odgovornih za upravljanje i operativne manipulacije (rasklopnom opremom), koja moraju biti stalno dostupna LBEC;
2) usaglašavanje ovlašćenja LBEC da izdaje naloge o radnom režimu postrojenja korisnika i operativnim manipulacijama rasklopnom opremom;
3) detaljan opis odgovornosti za upravljanje ZDS između korisnika ZDS i LBEC-a;
4) obavljanje operativnih manipulacija u normalnim i poremećenim radnim režimima,
5) primjenu zakonskih mjera i mjera bezbjednosti.

(6) Postrojenja i objekti distributivnog i sistema korisnika priključenog na ZDS moraju biti tako izgrađena da se svi kvarovi automatski i u najkraćem mogućem vremenu izoluju od ostatka ZDS djelovanjem zaštitnih uređaja i na taj način sprječi dalje širenje kvara.

Nadležnosti upravljanja LBEC

Član 123

LBEC je nadležan za upravljanje:
1) elektroenergetskim objektima koji su sastavni dio distributivnog sistema u skladu sa članom 115. stav 2. Zakona;

2) parts of power plants which are located in power facilities owned by CDS users, which serve for the further distribution of electricity and the supply of the distribution area.

Load/consumption estimate

Article 124

(1) For the purpose of ensuring efficient exploitation, stable and safe operation of the system and quality electricity supply, CDS users (suppliers, producers connected to the CDS, customers – self-suppliers, operators of adjacent DSs) are obliged to regularly and timely submit to LBEC information on the consumption and production power (hourly average power values). LBEC collects these data also for the needs of the DSO with the aim of balancing production and consumption at the level of the power system.

(2) The aim of estimating loads/consumption is to establish procedures for the timely provision of data necessary for maintaining the integrity of the CDS and support in the maintenance of the integrity of the entire power system.

(3) The following parties are responsible for the application of the provision of paragraph 1 of this Article:
1) LBEC;
2) Suppliers
3) Producers connected to the CDS
4) Customers – self-suppliers
5) Operators of adjacent CDSs

(4) The entities from paragraph 3 of this Article are obliged to define the obligation of exchanging necessary information by an agreement on the connection to the CDS or an agreement on the use of the CDS with LBEC.

(5) Producers are obliged to submit to LBEC information which includes:
1) production estimate;
2) available power at the generator threshold;
3) estimate of own electricity consumption;
4) estimate of consumption structure (active power – P and reactive power – Q) and

2) djelovima elektroenergetskih postrojenja koja se nalaze u elektroenergetskim objektima koji su u vlasništvu korisnika ZDS, a koji su u funkciji dalje distribucije električne energije i napajanja distributivnog konzuma.

Prognoza opterećenja/potrošnje

Član 124

(1) U cilju obezbjeđenja efikasne eksploatacije, stabilnog i sigurnog rada sistema i kvalitetnog snabdijevanja električnom energijom, korisnici ZDS (snabdjevači, proizvođači priključeni na ZDS, kupci - samosnabdjevači, operatori susjednih DS) su dužni da LBEC redovno i blagovremeno dostavljaju informacije o snazi potrošnje i proizvodnje (satne srednje vrijednosti snage). Ove podatke LBEC prikuplja i za potrebe ODS u cilju uravnoteženja proizvodnje i potrošnje na nivou lektroenergetskog sistema.

(2) Cilj prognoziranja opterećenja/potrošnje je da se uspostave procedure blagovremenog obezbjeđenja podataka potrebnih za održavanja integriteta ZDS i podrške u održavanju integriteta čitavog elektroenergetskog sistema.

(3) Za primjenu odredbi iz stava 1 ovog člana, odgovorni su:
1) LBEC;
2) Snabdjevači
3) Proizvođači priključeni na ZDS
4) Kupci samosnabdjevači
5) Operatori susjednih ZDS

(4) Subjekti iz stava 3 ovog člana dužni su da ugovorom o priključenju na ZDS, odnosno ugovorom o korišcenju ZDS sa LBEC utvrde obavezu razmjene potrebnih informacija.

(5) Proizvođači su dužni da LBEC dostavljaju informacije koje sadrže:
1) prognozu proizvodnje;
2) raspoloživu snagu na pragu generatora;
3) prognozu sopstvene potrošnje električne energije;
4) prognozu strukture potrošnje (aktivna snaga - P i reaktivna snaga - Q) i

5) estimate of the maximum and minimum consumption power.

(6) Suppliers, customers – self-suppliers and operators of adjacent CDSs are obliged to submit to LBEC information which includes:
1) estimate of electricity consumption;
2) estimate of consumption structure (active power – P and reactive power – Q);
3) estimate of the maximum and minimum consumption power.

(7) The data from paragraphs 5 and 6 of this Article represent for LBEC the basis for the preparation of:
1) annual;
2) monthly;
3) weekly and
4) daily load/consumption estimate.

(8) For the preparation of the annual load/consumption estimate, the information includes data at the monthly level, whereas for monthly estimates, the information includes weekly and daily data.

(9) LBEC is obliged to inform the users in an appropriate manner about possible technical limitations of the CDS (e.g. lack of capacity) for the harmonisation of estimates. An estimate harmonised in such a manner represents the basis for the production/consumption estimate in the CDS.

(10) LBEC checks whether the data delivered by the users are within the expected ranges and, where necessary, performs checks at the facilities of the entity who submitted the data.

(11) LBEC also uses own data on the monitoring of the load of CDS elements. On that basis and on the basis of data received from CDS users, it prepares estimates with a level of detail in accordance with the needs of specific types of estimates (annual, monthly, weekly, etc.), while paying attention to the integrity and sustainability of the CDS.

(12) CDS users submit their production/consumption estimates to LBEC in the following deadlines:
1) annual estimates are delivered no later than by 1 June for the next year;

5) prognozu maksimalne i minimalne snage potrošnje.

(6) Snabdjevači, Kupci samosnabdjevači i Operatori susjednih ZDS su dužni da LBEC dostavljaju informacije koje sadrže:
1) prognozu potrošnje električne energije;
2) prognozu strukture potrošnje (aktivna snaga - P i reaktivna snaga - Q);
3) prognozu maksimalne i minimalne snage potrošnje.

(7) Podaci iz st. 5 i 6 ovog člana za LBEC predstavljaju osnov za izradu:
1) godišnje;
2) mjesečne;
3) sedmične i
4) dnevne prognoze opterećenja/potrošnje.

(8) Za izradu godišnje prognoze opterećenja/potrošnje, informacije sadrže podatke na mjesečnom nivou, dok za mjesečne prognoze informacije sadrže sedmične i dnevne podatke.

(9) LBEC je dužan da na odgovarajući način upozna korisnike o eventualnim tehničkim ograničenjima ZDS (kao npr. nedostatak kapaciteta) radi usaglašavanja prognoza. Tako usaglašena prognoza predstavlja osnovu za prognozu prizvodnje/potrošnje u ZDS.

(10) LBEC provjerava da li su podaci koje su dostavili korisnici u očekivanim opsezima i, kada je to potrebno, vrši provjeru kod subjekta koji je podatke dostavio.

(11) LBEC koristi i sopstvene podatke o praćenju opterećenja elemenata ZDS. Na osnovu njih i podataka dobijenih od korisnika ZDS, izrađuje prognoze sa stepenom detaljnosti prema potrebama pojedinih vrsta prognoza (godišnje, mjesečne, sedmične...), vodeći pri tome računa o integritetu i održivosti ZDS.

(12) Svoje prognoze proizvodnje/potrošnje korisnici ZDS dostavljaju LBEC u sledećim rokovima:
1) godišnje prognoze dostavljaju se najkasnije do 01.06. za narednu godinu;

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2) monthly estimates are delivered no later than the 5th day of the month for the next month;
3) weekly estimates are delivered no later than by Tuesday for the next week;
4) daily estimates are delivered no later than 12:00 for the next day.

(13) The deadlines for the delivery of estimates to LBEC must be in compliance with the Rules for the functioning of the transmission system.

(14) LBEC is obliged to prepare and update weekly and daily estimates, taking into consideration the weather forecast, realised consumption and the statistics of operational events in the previous period, current operational readiness and unscheduled activities in the distribution system.

(15) LBEC is obliged to continuously analyse the realisation of the annual, monthly and weekly load/consumption estimates, by using the daily realised and recorded data.

Operational planning

Article 125

(1) Operational planning establishes the obligation of the coordination of information exchange and the issuance of permits to users by LBEC, for works on the construction, maintenance and repair of their facilities, which have an effect on the work of the distribution system, including the effect of the operational planning from the rules for the functioning of the transmission system.

(2) The obligations from paragraph 1 of this Article are related to LBEC, producers connected to the CDS, medium-voltage customers and operators of adjacent CDSs.

(3) For the needs of planning the works on the maintenance and construction of the CDS, data are exchanged by the DSO, LBEC and CDS users, as follows:
1) DSO submits the operational plans for the maintenance and construction of the transmission network which have or might have an effect on the functioning and safety of operation of the CDS;
2) CDS users submit information on planned works on the construction, reconstruction

2) mjesečne prognoze dostavljaju se najkasnije do 5-og u mjesecu za naredi mjesec;
3) nedeljne prognoze dostavljaju se najkasnije do utorka za narednu nedjelju;
4) Dnevne prognoze dostavljaju se najkasnije do 12 sati za naredni dan.

(13) Rokovi sa dostavljanje prognoza LBEC-u moraju biti usaglašeni sa Pravilima za funkcionisanje prenosnog Sistema.

(14) LBEC je dužan da izrađuje i ažurira sedmične i dnevne prognoze, uzimajući u obzir vremensku prognozu, ostvarenja potrošnje i statistiku pogonskih događaja u prethodnom periodu, trenutnu pogonsku spremnost i neplanirane aktivnosti u distributivnom sistemu.

(15) LBEC je dužan da kontinuirano vrši analize ostvarivanja godišnjih, mjesečnih i sedmičnih prognoza opterećenja/potrošnje, korišćenjem dnevno ostvarenih i registrovanih podataka.

Operativno planiranje

Član 125

(1) Operativnim planiranjem utvrđuje se obaveza koordinacije razmjene informacija i izdavanja odobrenja od strane LBEC korisnicima, za radove na izgradnji, održavanju i opravci njihovih objekata, koji imaju odraza na rad distributivnog sistema, uključujući i uticaj operativnog planiranja iz pravila za funkcionisanje prenosnog sistema.

(2) Obaveze iz stava 1 ovog člana odnose se na LBEC, proizvodače priključene na ZDS, kupce na srednjem naponu i operatore susjednih ZDS.

(3) Za potrebe planiranja radova na održavanju i izgradnji ZDS, podatke razmjenjuju ODS, LBEC i korisnici ZDS i to:

1) ODS dostavlja operativne planove za održavanje i izgradnju prenosne mreže koji imaju ili mogu imati uticaj na funkcionisanje i sigurnost rada ZDS;
2) korisnici ZDS dostavljaju informacije o planiranim radovima na izgradnji, rekonstrukciji i održavanju objekata koji utiču

and maintenance of facilities which have an effect on the work of the CDS and which LBEC will use for the preparation of specific planning phases;

3) LBEC submits to the DSO and the CDS users its plans for the maintenance and construction of the CDS which can have an effect on the functioning and safety of the operation of the TS and/or the user's system.

(4) LBEC harmonises its plans with the DSO's plans, and the CDS users harmonise their plans with LBEC's plans, with full mutual respect for needs and possibilities.

(5) LBEC is obliged each year to prepare the annual programme of interruptions in the operation of CDS elements for the purpose of performing the works planned for the next year. All changes in the CDS, recorded during the year, which have an effect on the work of the CDS, will also be reflected in a change of the annual programme.

(6) Detailed programmes of planned interruptions in the operation of CDS parts are harmonised between LBEC and the users within the deadlines arising from the Rules for the functioning of the distribution system.

(7) The planning of interruptions in the operation of parts of the distribution system is done in three phases:

1) **Planning phase** in which annual and monthly interruption plans are prepared
   - annual plan of interruptions is prepared per each month;
   - monthly plan of interruptions is prepared on the basis of the annual plan of interruptions and the harmonised amendments to the annual plan.

2) **Programming phase** in which the weekly interruption plan is prepared
   - Weekly disconnection plans are prepared per day and hour. Weekly disconnection plans are defined by the monthly disconnection plan for the week for which the weekly plan is adopted, and they are corrected in accordance with approved requests for the extension of the deadline for the execution of

na rad ZDS i koje će LBEC koristiti za izradu pojedinih faza planiranja;

3) LBEC dostavlja ODS i korisnicima ZDS svoje planove za održavanje i izgradnju ZDS koji mogu imati uticaja na funkcionisanje i sigurnost rada PS i/ili sistema korisnika.

(4) LBEC usklađuje svoje planove sa planovima ODS, a korisnici ZDS usklađuju svoje planove sa planovima LBEC, uz puno međusobno uvažavanje potreba i mogućnosti.

(5) LBEC je dužan da svake godine priprema godišnji program prekida rada elemenata ZDS radi obavljanja planiranih radova za narednu godinu. Sve promjene na ZDS, evidentirane u toku godine, a koje utiču na rad ZDS, odraziće se i na promjenu godišnjeg programa.

(6) Detaljni programi planiranih prekida rada djelova ZDS usaglašavaju se izmedu LBEC i korisnika u vremenskim rokovima koji proizilaze iz Pravila za funkcionisanje distributivnog Sistema.

(7) Planiranje prekida rada djelova distributivnog sistema vrši se u tri faze:

1) **Faza planiranja** u kojoj se rade godišnji i mjesečni planovi prekida
   - godišnji plan isključenja radi se po mjesecima;
   - mjesečni plan isključenja priprema se na osnovu godišnjeg plana isključenja i usaglašenih izmjena godišnjeg plana.

2) **Faza programiranja** u kojoj se radi sedmični plan prekida
   - Sedmični planovi isključenja se izrađuju po danima i satima. Sedmični planovi isključenja utvrđeni mjesečnim planom isključenja za sedmicu za koju se donosi sedmični plan, koriguju se u skladu sa odobrenim zahtjevima za produženje roka izvođenja radova koji su već otpočeti, zahtjevima za izvođenje radova koji su

already commenced works, requests for the performance of works delayed on the basis of an order from the LBEC management centre and requests for disconnections due to the occurrence or establishment of a potential defect or request for interventional works, as well as specific new disconnection schedules for delayed or extended works.

3) **Control phase** in which the daily disconnection plan is prepared on the basis of the weekly plan supplemented with approved requests which are a consequence of unplanned events and ongoing problems in the exploitation of the distribution system.

(8) The submission and approval of disconnection requests implies:

1) LBEC's obligation to define the procedure for the submission and approval of disconnection requests, with the appropriate forms;

2) regular exchange of lists of authorised persons who can fill in the form, among LBEC, DSO and CDS users. The list exchange should be performed no later than 1 December of the year preceding the year to which the lists refer.

(9) Emergency disconnections are a consequence of the need to prevent possible failures which pose a danger to people and property or in any way threaten the safety of the operation of CDS elements, user's system, transmission system and adjacent CDSs.

(10) The request for the emergency disconnection of a CDS element or facility is submitted immediately after the detection of a problem which could lead to the above stated consequences. LBEC responds to the request as soon as possible.

(11) The request for the emergency disconnection of a transmission network element or facility is submitted by LBEC immediately after the detection of a problem which could lead to adverse consequences, to which the DSO is obliged to respond as soon as possible.

(12) The request for the emergency disconnection of an element or facility of the users or adjacent

odloženi na osnovu naloga centara upravljanja LBEC i zahtjevima za isključenja zbog nastalog ili utvrđenog potencijalnog kvara ili zahtjeva za interventne radove, kao i određenim novim terminima isključenja za odložene ili produžene radove.

3) **Kontrolna faza** u kojoj se radi dnevni plan isključenja na osnovu sedmičnog plana dopunjenog odobrenim zahtjevima koji su posljedica neplaniranih događaja i tekućih problema u eksploataciji distributivnog sistema.

(8) Podnošenje i odobravanje zahtjeva za isključenje podrazumijeva:

1) Obavezu LBEC da definiše proceduru podnošenja i odobravanja zahtjeva za isključenje, sa odgovarajućim obrascima;

2) redovnu razmjenu spiskova ovlašcenih lica, koja mogu popunjavati obrazac između LBEC, ODS i korisnika ZDS. Razmjenu spiskova potrebno je obaviti najkasnije do prvog decembra godine koja prethodi godini na koju se spiskovi odnose.

(9) Hitna isključenja su posledica potrebe da se spriječi moguća havarijska situacija koja predstavlja opasnost za lica i imovinu ili na bilo koji način ugrožava sigurnost rada elementa ZDS, sistema korisnika, prenosnog sistema i susjednih ZDS.

(10) Zahtjev za hitno isključenje elementa ili objekta ZDS podnosi se odmah po uočavanju problema koji može da izazove navedene posljedice. LBEC odgovara na zahtjev u najkraćem mogućem roku.

(11) Zahtjev za hitno isključenje elementa ili objekta prenosne mreže podnosi LBEC odmah po uočavanju problema koji može da izazove neželjene posledice, na koji je ODS dužan odgovoriti u najkraćem mogucem roku.

(12) Zahtjev za hitno isključenje elementa ili objekta korisnika i susjednih ZDS podnosi LBEC odmah

CDSs is submitted by LBEC immediately after the detection of a problem which could lead to adverse consequences, to which the users or adjacent CDS operators are obliged to respond as soon as possible.

Testing, monitoring and supervision

Article 126

(1) For the purpose of an efficient exploitation of the CDS, LBEC is obliged to organise and conduct the testing, monitoring and supervision of the quality of the supply of users as well as the effects of the users on the operation of the CDS.

(2) Procedures for the testing, monitoring and supervision of the quality of the supply of users as well as the effects of the users on the operation of the CDS are adopted by LBEC.

(3) The testing, monitoring and supervision procedures are related especially to the technical conditions for the connection to the CDS and the data submitted by the users in accordance with these rules.

(4) Paragraph 1 of this Article does not include any wider system testing.

(5) LBEC will carry out occasional tests as referred to in paragraph 1 of this Article for its own needs, at a user's request, as well as at the request of the electrical inspection. When LBEC carries out analyses and tests for its own needs, it is not obliged to provide any information in that regard, and when the analyses and tests are done at the request of a user or upon the order of an electricity inspector, as well as in cases of establishing whether a user completed the ordered corrections, the results must be delivered to the stakeholders in an appropriate manner.

(6) If the results of supply quality tests show that there are unpermitted deviations, LBEC will set out to establish the reason for that condition and on that basis take measures as soon as possible to eliminate the defects.

(7) If the test results show that LBEC is responsible for the identified problem, LBEC is obliged to eliminate the problem as soon as possible, and

po uočavanju problema koji može da izazove neželjene posledice, na koji je su korisnici odnosno operatori susjednih ZDS dužni odgovoriti u najkraćem mogućem roku.

Ispitivanje, praćenje i nadgledanje

Član 126

(1) LBEC je obavezan da, radi efikasne eksploatacije ZDS, organizuje i vrši ispitivanje, praćenje i nadgledanje kvaliteta snabdijevanja korisnika kao i uticaja korisnika na rad ZDS.

(2) Procedure ispitivanja, praćenja i nadgledanja kvaliteta snabdijevanja korisnika kao i uticaja korisnika na rad ZDS donosi LBEC.

(3) Procedure ispitivanja, praćenja i nadgledanja odnose se posebno na tehničke uslove za priključenje na ZDS i na podatke koje korisnici dostavljaju u skladu sa ovim pravilima.

(4) Stavom 1 ovog člana nijesu obuhvacena šira sistemska ispitivanja.

(5) LBEC će povremena ispitivanja iz stava 1 ovog člana vršiti za sopstvene potrebe, na zahtjev korisnika, kao i na zahtjev elektroenergetske Inspekcije. Kada LBEC vrši ispitivanja i testiranja za sopstvene potrebe, nije dužan o tome davati informaciju, a kada ispitivanja i testiranja vrši na zahtjev korisnika, ili naloga elektroenergetskog inspektora, kao i u slučaju utvrđivanja da li je korisnik izvršio naložene korekcije, rezultate mora dostaviti zainteresovanim stranama na odgovarajući način.

(6) Ukoliko rezultati ispitivanja i testiranja kvaliteta snabdijevanja pokažu da postoje nedozvoljena odstupanja , LBEC će pristupiti utvrđivanju razloga takvog stanja i na osnovu toga preduzeti u najkraćem roku mjere za otklanjanje nedostataka.

(7) Ukoliko rezultati ispitivanja i testiranja pokažu da je za identifikovani problem odgovoran LBEC, on je dužan da u najkraćem mogućem roku otkloni

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also to inform the electrical inspector about the findings and undertaken measures.

(8) If the unpermitted deviations were caused by the operation of the user's devices and equipment, LBEC accordingly informs the electrical inspector and the user, and orders the user to bring the operation of his devices and equipment in compliance within the set deadline.

(9) If the user does not bring the operation of his devices and equipment in compliance within the set deadline, LBEC will disconnect him from the network, with a prior written notification.

(10) If the irregularity of the user's devices and equipment jeopardises the safety of the operation of the CDS, property, people and the environment, LBEC will disconnect the CDS user from the network without a prior notification.

problem, kao i da o nalazu i preduzetim mjerama obavijesti energetskog inspektora.

(8) Ako su nedozvoljena odstupanja prouzrokovana radom aparata i opreme korisnika, LBEC o tome obavještava energetskog inspektora i korisnika i obavezuje korisnika da rad svojih aparata i opreme uskladi u ostavljenom roku.

(9) Ako korisnik ne uskladi rad svojih aparata i opreme u ostavljenom roku, LBEC će ga, uz prethodno pisano obavještenje, isključiti sa mreže.

(10) Ukoliko je zbog neispravnosti aparata i opreme korisnika ugrožena bezbjednost rada ZDS, imovine, lica i životne sredine LBEC će bez prethodnog obavještenja isključiti korisnika ZDS sa mreže.

Consumption power management

Article 127

(1) At the request of the DSO, and for the purpose of avoiding greater disruptions in the operation, preventing partial or complete system failure and possible greater disconnections of consumers, LBEC applies consumption power reduction measures in accordance with the Rules on the functioning of the electricity transmission system.

(2) When the DSO or LBEC establish that an urgent consumption reduction is necessary due to expected or ongoing problems in the functioning of the transmission system or the CDS, which require swift actions in order to maintain or re-establish the necessary, prescribed stability of the system, LBEC is obliged to take appropriate urgent measures.

(3) The application of consumption power reduction measures can be:

1) initiated by the DSO: LBEC conducts this measure in accordance with its detailed CDS relief plan, which is prepared on the basis of the plan of urgent failure reductions (hereinafter: UFR plan), adopted by the DSO. LBEC adopts a relief plan each year

Upravljanje snagom potrošnje

Član 127

(1) Na zahtjev ODS, a radi izbjegavanja većih poremećaja u radu, sprečavanja djelimičnog ili potpunog raspada sistema i mogućih većih isključenja potrošača LBEC primjenjuje mjere redukcije snage potrošnje u skladu sa Pravilima o funkcionisanju prenosnog sistema električne energije.

(2) Kada ODS ili LBEC utvrdi da je potrebna hitna redukcija potrošnje zbog očekivanih ili trenutnih problema u funkcionisanju prenosnog ili ZDS, koji zahtijevaju brzu akciju kako bi se održala ili ponovo uspostavila neophodna, propisana stabilnost sistema, LBEC je dužan da preduzme odgovarajuće hitne mjere.

(3) Primjena mjera za redukciju snage potrošnje može biti:

1) inicirana od stane ODS: ovu mjeru LBEC sprovodi u skladu sa svojim detaljnim planom rasterećenja ZDS, koji izraduje na osnovu plana hitnih havarijskih redukcija (u daljem tekstu: Plan HHR), a koji donosi ODS. Plan za rasterećenje LBEC donosi svake godine za

for the next calendar year in accordance with the current UFR plan.

2) initiated by LBEC: LBEC applies this measures in the case of a need for the prevention of failures in the CDS, protection of people and property and operational problems (voltage drop, overloading and other reasons which might affect the safety of the CDS's functioning).

(4) LBEC will inform all users as soon as possible about the undertaken activities on the reduction of power, consumption and voltage.

(5) Users are obliged to follow LBEC's instructions and must not attempt to reconnect on their own, and instead they wait until LBEC approves their reconnection.

(6) LBEC is obliged to cooperate in the preparation of plans with the DSO, to develop and realise its plans on the basis of plans adopted by the DSO and to apply them at his request.

(7) In the case of failures and disrupted operational regimes of the CDS, LBEC will take all necessary measures, to the greatest possible extent, for the purpose of enabling the priority of privileged producers connected to the CDS.

Operational coordination

Article 128

(1) LBEC must have precisely agreed information exchange procedures with the DSO and each user to whom these operational rules apply, in order to enable timely mutual informing in connection to the subject events and necessary operational manipulations. Information is exchanged among the DSO, LBEC and the user on the basis of the obligations defined by these rules.

(2) All manipulations in the distribution network are carried out by authorised persons upon the order of the authorised person of LBEC.

(3) In exceptional circumstances, when it comes to the protection of people and property, the person who performs the manipulations may refuse the execution of an order for the performance of manipulations or perform a manipulation without

narednu kalendarsku godinu u skladu sa aktuelnim Planom HHR.

2) inicirana od strane LBEC:LBEC primjenjuje ovu mjeru u slučaju potrebe sprečavanja havarija u ZDS, zaštite lica i imovine i operativnih problema (pad napona, preopterećenja i drugih razloga koji mogu uticati na sigurnost funkcionisanja ZDS).

(4) O preduzetim aktivnostima na redukciji snage, potrošnje i napona, LBEC ce obavijestiti korisnike u najkraćem mogućem roku.

(5) Korisnici su dužni da slijede upustva LBEC i ne smiju pokušavati samovoljno ponovo ukljucenje sve dok LBEC ne odobri njihovo ponovno uključenje.

(6) LBEC je dužan da sarađuje na izradi planova sa ODS, razvija i aktuelizuje svoje planove na osnovu planova koje ODS donosi i primjenjuje ih na njegov zahtjev.

(7) LBEC će u slučaju nastanka havarijskih stanja i poremećenih režima rada ZDS preduzeti sve neophodne mjere, u mjeri mogućeg, u cilju omogućavanja prava prvenstva povlašćenim proizvođačima priključenim na ZDS.

Operativna koordinacija

Član 128

(1) LBEC sa ODS i svakim korisnikom na kojeg se ova operativna pravila odnose, mora imati precizno dogovorene načine razmjene informacija, kako bi se omogućilo blagovremeno međusobno obavještavanje u vezi sa predmetnim događajima i potrebnim operativnim manipulacijama. Informacije izmedu ODS, LBEC i korisnika razmjenjuju se na osnovu obaveza utvrđenih ovim pravilima.

(2) Sve manipulacije u distributivnoj mreži obavljaju ovlašćena lica po nalogu ovlašćenog lica LBEC.

(3) U izuzetnim okolnostima, kada je u pitanju zaštita lica i imovine, lice koje obavlja manipulacije može odbiti izvršenje naloga za obavljenje manipulacije ili obaviti manipulaciju bez prethodno dobijenog

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a prior order, which needs to be subsequently explained in detail.

(4) The notification on planned manipulations must be issued timely if these manipulations have or can have an effect on the transmission system, distribution system or the user, as follows:
   1) in the case of manipulations performed by the DSO, the latter is obliged to submit the notification to LBEC. If this manipulation has or could have an effect on users, LBEC will inform them timely about that;
   2) in the case of manipulations performed by LBEC, the latter is obliged to submit the notification to the users and/or the DSO, if these manipulations could have an effect on the DS and/or the users; and
   3) in the case of manipulations on the user's system, which have or could have an effect on the operation of the CDS, the user is obliged to inform LBEC.

(5) The notification from paragraph 4 of this Article is submitted before the performance of the manipulation and it must:
   1) Include appropriate particulars which describe the manipulation with the reason for its performance, in order to enable the recipient of the notification to gain the most complete possible insight into the potential consequences that could arise. For the purpose of clarification, at the recipient's request, the send will also provide additional information;
   2) state the date, time, name of the recipient and of the person who delivered the notification.

(6) The notification on manipulations must be delivered as soon as possible, i.e. within deadlines which are sufficient for the recipient to be able to conduct a risk assessment and act in accordance with that.

(7) LBEC, DSO and users also exchange information on all changes in their systems which might have an effect on other systems. These notifications must be detailed and must be provided timely in order to be able to prevent or minimise the effect of these changes/events.

naloga, o čemu je potrebno naknadno sačiniti detaljno obrazloženje.

(4) Obavještenje o planiranim manipulacijama se mora blagovremeno izdati ako te manipulacije imaju ili mogu imati uticaj na prenosni sistem, distributivni sistem ili korisnika, i to:
   1) u slučaju manipulacija koje vrši ODS, isti je dužan da obavještenje dostavi LBEC. Ukoliko ova manipulacija ima, ili bi mogla imati uticaja na korisnike, LBEC će ih blagovremeno obavijestiti o tome;
   2) u slučaju manipulacija koje vrši LBEC, isti je dužan da obavještenje dostavi korisnicima i/ili ODS ako te manipulacije mogu imati uticaj na DS i/ili korisnika;i
   3) u slučaju manipulacija na sistemu korisnika, koje imaju ili mogu imati uticaj na rad ZDS, korisnik je u obavezi da obavijesti LBEC.

(5) Obavještenja iz stava 4 ovog člana dostavljaju se prije izvršenja manipulacije i moraju:
   1) Obuhvatati odgovarajuće pojedinosti kojima se opisuje manipulacija sa razlogom za njeno izvršavanje, kako bi se primaocu tog obavještenja omogućilo da stekne što potpuniji uvid u moguće posljedice koje mogu iz njih nastati. U cilju pojašnjenja, na zahtev primaoca, pošiljalac ce pružiti i dodatne informacije;
   2) da sadrže datum, vrijeme, ime primaoca i lica koje je predalo obavještenje.

(6) Obavještavanje o manipulacijama mora se dostaviti što je moguće prije, odnosno u rokovima koji su dovoljni da primalac može da izvrši procjenu rizika i postupi u skladu sa tim.

(7) LBEC, ODS i Korisnici razmjenjuju i informacije o svim promjenama na svojim sistemima koje mogu imati uticaja na druge sisteme. Ova obavještenja moraju biti detaljna i moraju se dati blagovremeno kako bi se uticaj ovih promjena/događaja mogao preduprijediti ili svesti na najmanju mjeru.

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(8) The procedure for the delivery and registration of notifications is conducted in accordance with the communication protocol defined in the agreements on the connection to the transmission/distribution system.

(9) If an event which occurred in the DS or the user's system had or could have had a significant effect on the stability of the operation of the CDS, a written report must be submitted in that regard.

(10) If the user believes that an event had a significant effect on his system, he can request LBEC to submit a written report.

(11) In case of unplanned, sudden emergency manipulations for which it was not possible to deliver a notification before their performance, the entity that performed the manipulations will deliver to the stakeholders a notification with the necessary clarification as soon as possible.

(8) Postupak dostavljanja i registrovanja obavještenja obavlja se u skladu sa protokolom za komunikaciju utvrđenim u ugovorima o priključenju na prenosni, odnosno na distributivni sistem.

(9) Ukoliko je dođadaj koji se desio na DS ili sistemu korisnika imao, ili je mogao imati značajan uticaj na stabilnost rada ZDS, o tome se obavezno podnosi izvještaj u pisanoj formi.

(10) Ukoliko korisnik smatra da je neki događaj imao značajan uticaj na njegov sistem, može zahtjevati od LBEC izvještaj u pisanoj formi.

(11) Ukoliko se radi o neplaniranim, iznenadnim hitnim manipulacijama za koje obavještenje nije bilo moguće dostaviti prije njihovog izvršenja, subjekat koji je obavio manipulacije dostaviće zainteresovanim stranama obavještenje sa potrebnim obrazloženjem u najkraćem roku.

Article 129

(1) A user is obliged to perform manipulations upon LBEC's order in accordance with these rules and within the deadlines defined by the connection agreement.

(2) The user is liable for any possible damages suffered by LBEC due to a failure to meet the obligations from paragraph 1 of this Article on the part of the user.

Član 129

(1) Korisnik je obavezan da izvršava manipulacije po nalogu LBEC u skladu sa ovim pravilima a u rokovima definisanim ugovorom o priključenju.

(2) Eventualne štete koje trpi LBEC nastale neispunjavanjem obaveze iz stave 1 ovog člana od strane korisnika padaju na teret korisnika.

Health and safety coordination

Koordinacija zaštite na radu

Article 130

(1) LBEC can apply, on the basis of the user's justified request and for the purpose of ensuring safe conditions for the performance of works and/or tests, measures for the disconnection of CDS elements in the following cases:

1) When, due to the performance of works and/or tests in the user's system, transmission system or adjacent CDS, there is a need for H&S measures in LBEC's facilities, and vice versa;

2) When other entities (user, DSO, adjacent DS operator) perform works and/or tests on plants and/or devices located in LBEC's facilities;

Član 130

(1) LBEC može na osnovu opravdanog zahtjeva korisnika a radi obezbjeđivanja bezbjednih uslova za izvođenje radova i/ili ispitivanja primijeniti mjere isključenja elemenata ZDS u slučajevima:

1) Kada zbog izvođenja radova i/ili ispitivanja na sistemu Korisnika, prenosnom sistemu i susjednom ZDS postoji potreba za mjerama ZNR na objektima LBEC-a, i obratno;

2) Kada drugi subjekti (Korisnik, ODS, Operator susjednog DS) izvode radove i/ili ispitivanja na postrojenjima i/ili aparatima koji sunsmješteni u objektima LBEC-a;

3) When there is a need for conducting H&S measures in LBEC's facilities due to the performance of works, which are not connected to the performance of energy-related activities, by another entity.

(2) The issues of health and safety in cases when LBEC, the user or any other entity, at their own discretion, enter, move in and perform works in own plants, while this is in no way connected to the application of protective measures and does not affect the safety of other systems, are not a subject of these Rules and are regulated by internal regulations.

(3) These H&S measures ensure the protection of the life and health of the people who perform works, the prevention of accidents at work and damages of the facilities in the case of performing works in the CDS or the user's system, and when there is a need for health and safety measures in the facilities of other systems.

(4) The health and safety coordination measures prescribed by this Article apply to LBEC, producers connected to the CDS, final customers at a medium or high voltage and adjacent CDS operators.

(5) The parties referred to in paragraph 4 of this Article are obliged to prepare, harmonise, officially accept and apply appropriate instructions on safety measures which need to be implemented during work in a power facility in their ownership.

(6) The instructions define the health and safety measures which need to be conducted in the case of the performance of works on parts of the CDS or other parties' systems at the point of connection, in the immediate vicinity of the point of connection or at some other place where these works could affect the safety in the other party's system.

3) Kada je zbog izvođenja radova , koji nisu vezani za obavljanje energetske djelatnosti, od stane drugog subjekta potrebno sprovesti mjere ZNR na objektima LBEC-a.

(2) Pitanja zaštite na radu i obezbjeđenja mjesta rada u slučaju kada LBEC, korisnik ili bilo ko drugi, po sopstvenom nalogu, ulazi, kreće se i obavlja radove u sopstvenim postrojenjima, a to ni na koji način nije vezano za primjenu mjera zaštite i ne utiče na bezbjednost u drugim sistemima, nijesu predmet ovih Pravila, već se regulišu internim propisima.

(3) Ovim mjerama ZNR se obezbjeđuje zaštita života i zdravlja ljudi koji izvode radove, spriječavanje nezgoda pri radu i oštećenja objekata u slučaju izvođenja radova u ZDS ili sistemu korisnika i kada postoji potreba za mjerama zaštite na radu na objektima drugih sistema.

(4) Mjere koordinacije zaštite na radu, propisane ovim članom, primjenjuju se na LBEC, proizvođače priključene na ZDS, krajnje kupce na srednjem i visokom naponu i operatore susjednih ZDS.

(5) Strane iz stava 4 ovog člana obavezne su da pripreme, usaglase, službeno prihvate i primjenjuju odgovarajuća uputstva o mjerama sigurnosti koje je neophodno sprovesti pri radu na elektro energetskom objektu u njihovom vlasništvu.

(6) Uputstvima se definišu mjere zaštite na radu koje je neophodno sprovesti u slučaju izvođenja radova na djelovima ZDS ili sistema drugih strana na mjestu priključenja, neposredno uz mjesto priključenja ili na drugom mjestu kada bi ti radovi mogli uticati na sigurnost u sistemu onog drugog.

LUŠTICA BAY
ELECTRICITY COMPANY

Procedure for the submission and approval of requests for the disconnection of a part of the CDS or the user's system

Article 131

(1) The procedure for the submission and approval of requests for disconnection due to the performance of works on power facilities is adopted by LBEC and is applied by LBEC, CDS users, DSO, adjacent DS operators.

(2) The disconnection request is submitted to LBEC by the party that wishes to perform works in the following cases:
   1) when it is necessary to ensure the disconnection of facilities or their parts in the ownership of LBEC;
   2) when it is necessary to ensure the disconnection of facilities or their parts in the ownership of the CDS user which might affect the operation of the CDS;
   3) when it is necessary to ensure the disconnection of facilities or their parts in the ownership of the DSO which might affect the operation of the CDS;
   4) when it is necessary to ensure the disconnection of facilities or their parts in the ownership of adjacent distribution system operators which might affect the operation of the CDS.

(3) Works which are performed in facilities owned by LBEC are conducted in accordance with the rules for the safe work in power facilities, adopted by LBEC.

(4) Disconnections of facilities or their parts are carried out in accordance with the defined disconnection plans referred to in Article 128 of these rules.

(5) The request referred to in paragraph 2 of this Article in particular includes the following data:
   1) name of the facility or its part on which the works are going to be performed;
   2) brief description of the works;
   3) schedule and time needed for the performance of these works;
   4) necessary disconnections of facilities and/or parts of facilities;

Procedura za podnošenje i odobravanje zahtjeva za isključenje dijela ZDS ili sistema korisnika

Član 131

(1) Proceduru za podnošenje i odobravanje zahtjeva za isključenje povodom izvođenja radova na elektroenergetskim objektima donosi LBEC, a primjenjuju je LBEC, korisnici ZDS, ODS, Operatori susjednih DS.

(2) Zahtjev za isključenje LBEC podnosi strana koji želi da izvede radove u sljedećim sličajevima:
   1) kada je potrebno obezbijediti isključenje objekata ili njihovih djelova koji su u vlasništvu LBEC;
   2) kada je potrebno obezbijediti isključenje objekata ili njihovih djelova koji su u vlasništvu korisnika ZDS koje može uticati na rad ZDS;
   3) kada je potrebno obezbijediti isključenje objekata ili njihovih djelova koji su u vlasništvu ODS koje može uticati na rad ZDS;
   4) kada je potrebno obezbijediti isključenje objekata ili njihovih djelova koji su u vlasništvu operatora susjednih distributivnih sistema koje može uticati na rad ZDS.

(3) Radovi koji se izvode na i u objektima koji su vlasništvu LBEC sprovode se u skladu sa pravilima za bezbjedan rad u elektroenergetskim postrojenjima, koja donosi LBEC.

(4) Isključenja objekata ili njihovih djelova sprovode se u skladu sa utvrđenim planovima isključenja iz člana 128 ovih pravila.

(5) Zahtjev iz stava 2 ovog člana naročito sadrži sljedeće podatke:
   1) naziv objekta i njegovog dijela na kojem će se obavljati radovi;
   2) kratak opis radova;
   3) termin i vrijeme potrebno za obavljanje ovih radova;
   4) potrebna isključenja objekata i/ili djelova objekata;

5) name of the works administrator;
6) manner of communication with the works administrator.

(6) The request referred to in paragraph 2 of this Article is submitted to LBEC no later than 72 hours before the planned start of the works, or before 15:00 on Wednesday in the current week for the next week.

(7) After assessing the situation in the distribution system and possibly after consultations with other users and/or the DSO (if the works could have or have an effect on the operation of the transmission system), LBEC decides upon the request and informs the application before 12:00 on the day preceding the day for which the disconnection and performance of works is requested, or before 12:00 on Friday in the current week for disconnections planned for the next week.

(8) In exceptional cases, with a special explanation, the request can be submitted no later than 24 hours before the planned start of the works, which is operationally agreed between the applicant and LBEC.

(9) During the approval of disconnection requests, LBEC must pay attention to the defined deadlines for informing users about interruptions of the electricity delivery.

(10) The applicant is obliged to provide an expert team which would perform the works from the request and issue a work order to the works administrator.

(11) LBEC coordinates the application of health and safety measures (ensuring there is no voltage and ensuring the safety of the workplace in all aspects according to the adopted recommendations) through the administrator in the energy facility of the distribution system or the energy facility of the user, or through an authorised expert directly present during the performance of works.

(12) After receiving a confirmation about the performed measures for the protection of the workplace, LBEC issues a work permit to the works administrator in which it confirms that the measures for the protection of the workplace have been conducted and by which the works

5) ime rukovodioca radova;
6) način komunikacije sa rukovodiocem radova.

(6) Zahtjev iz stava 2 ovog člana podnosi se LBEC najkasnije 72 sata prije planiranog početka radova, odnosno do srijede u 15:00 časova tekuće sedmice za narednu sedmicu.

(7) LBEC nakon sagledavanja situacije u distributivnom sistemu i eventualno, nakon konsultacija sa ostalim korisnicima i/ili ODS (ukoliko radovi mogu imati ili imaju uticaj na rad prenosnog sistema), odlučuje po zahtjevu i obavještava podnosioca zahtjeva do 12 sati u danu koji prethodi danu u kojem je zahtijevano isključenje odnosno izvođenje radova, odnosno do petka u 12 sati tekuće sedmice za isključenja koja su planirana za narednu sedmicu.

(8) U izuzetnim slučajevima, uz posebno obrazloženje, zahtjev se može podnijeti najkasnije 24 sata prije planiranog početka radova, o čemu će se podnosilac zahtjeva i LBEC operativno dogovoriti.

(9) Prilikom odobravanja zahtjevi za isključenje LBEC mora voditi računa o utvrđenim rokovima za obavještavanje korisnika o prekidu isporuke električne energije.

(10) Podnosilac zahtjeva je dužan da obezbijedi stručnu ekipu koja će obaviti radove iz zahtjeva i rukovodiocu radova izdati nalog za rad.

(11) LBEC koordinira primjenu mjera zaštite na radu (obezbjeđenje beznaponskog stanja i osiguranje mjesta rada u svemu prema usvojenim uputstvima) preko rukovaoca u energetskom objektu distributivnog sistema ili energetskom objektu korisnika, ili preko ovlašćenog stručnog lica neposredno na mjestu izvođenja radova.

(12) Nakon dobijanja potvrde o izvršenim mjerama za obezbjeđenje mjesta rada, LBEC rukovodiocu radova izdaje dozvolu za rad u kojoj potvrđuje da su izvršene mjere za obezbjeđenje mjesta rada i kojom se rukovodilac radova obavezuje da će provjeriti beznaponsko stanje i sprovesti dalje

administrator is obliged to verify the absence of voltage and to conduct further measures for safe work. The work permit is issued in writing on a form or via telecommunication links, along with the entry of data in the form and adjustment of the text.

mjere za siguran rad. Dozvola za rad se izdaje pisano preko obrasca ili putem telekomunikacionih veza, uz upisivanje podataka u obrascu i sravnavanje teksta.

(13)After the completion of works, the works administrator submits to LBEC a notification on the completion of works, by which he confirms that the workers have withdrawn from the workplace, that the tools and materials have been removed, along with additional devices for the protection of the workplace, and that the power facility of the CDS or CDS element on which the works had been performed can be put into operation. The notification on the completion of works is delivered in the same manner as the work permit.

(13)Nakon završetka radova, rukovodilac radova predaje LBEC obavještenje o završetku radova, kojim potvrđuje da su se radnici povukli sa mjesta rada, da je uklonjen alat i materijal, kao i dodatne naprave za obezbjeđenje mjesta rada i da se elektroenergetski objekat ZDS ili element ZDS na kome su vršeni radovi, može uključiti u pogon. Obavještenje o završetku radova predaje se na isti način kao i dozvola za rad.

(14)After the receipt of the notification on the completion of works, LBEC gives to the administrators in the power facility or to the work administrator an order for the performance of manipulations which will enable the facility or its part on which the works had been performed to be put into operation.

(14)Nakon prijema obavješenja o završetku radova, LBEC rukovaocima u elektroenergetskom objektu ili rukovodiocu radova daje nalog za izvršenje manipulacija kojima će se omogućiti da se objekat ili njegov dio na kome su vršeni radovi uključi u pogon.

(15)The control of works is carried out by the works administrator.

(15)Kontrolu radova obavlja rukovodilac radova.

(16)The works administrator can adopt a decision on the interruption of works. Reasons for such a decision, in addition to the violation of health and safety measures, can include the impossibility to complete the planned works for other reasons. The works administrator informs LBEC about the interruption of works. The works are continued after the cessation of the reason for which they were interrupted, and the appropriate decision is adopted by the works administrator and LBEC.

(16)Rukovodilac radova može donijeti odluku o prekidu radova. Razlog za ovakvu odluku, pored narušavanja mjera zaštite na radu, može biti i nemogućnost izvršenja planiranih radova iz drugih razloga. O prekidu radova rukovodilac radova obavještava LBEC. Radovi se nastavljaju nakon prestanka razloga zbog koga su prekinuti, a odluku o tome donose rukovodilac radova i LBEC.

(17)If, for any reason, the safety of the people who perform the works is threatened (weather conditions, impossibility to apply certain health and safety measures, etc.), the works are interrupted. The decision on the interruption of works is adopted by the works administrator, about which he informs LBEC. The works are continued after the elimination or cessation of the

(17)Ako je, iz bilo kojeg razloga, ugrožena sigurnost ljudi koji izvode radove (atmosferske prilike, nemogućnost primjene određenih mjera zaštite na radu i dr.) radovi se prekidaju. Odluku o prekidu izvođenja radova donosi rukovodilac radova o čemu obavještava LBEC. Radovi se nastavljaju nakon otklanjanja ili prestanka uzroka prekida

cause of the interruption of works, and the appropriate decision is adopted by the works administration, about which he informs LBEC.

(18) The decision on the interruption of works can also be adopted by LBEC in the case of the occurrence of unpredicted circumstances, which have an impact on the work and operation of the CDS and the safety of the performance of works during their execution.

(19) If LBEC does not approve the request for the performance of works and provision of conditions for work on the requested facility, it informs the applicant about that, as well as about the reasons for not giving its approval.

(20) If the conditions are met, the applicant and LBEC agree on a new date for the performance of works which is confirmed by an exchange of dispatches or in some other manner.

(21) For the purpose of ensuring the preservation of data on the implemented health and safety measures, both involved parties keep appropriate logs. The log of health and safety measures is a document which can be found in the log books of operational events, which are filled in on a daily basis by the operational staff in LBEC's facilities, as well as the staff in users' facilities, where all procedures conducted for the purpose of ensuring the safety of the workplace before the issuance of the work permit are recorded, as well as the procedures conducted in relation to the establishment of a regular operational condition following the completion of works.

(22) The keeping of documents in connection to health and safety measures will be conducted by LBEC and the user, and if necessary, LBEC and the user exchange copies of health and safety procedures for each operational action.

(23) LBEC and the user are obliged to keep documents with the aim of recording all important operational events occurring in the CDS or the user's system in connection to the coordination of health and safety measures.

(24) The complete documentation related to manipulations and health and safety measures referred to in this Article is kept by LBEC and the

radova, a odluku o tome donosi rukovodilac radova o čemu obavještava LBEC.

(18) Odluku o prekidu radova može donijeti i LBEC u slučaju nastanka nepredviđenih okolnosti, koje imaju uticaja na rad i funkcionisanje ZDS i bezbjednost izvođenja radova u toku izvođenja radova.

(19) Ako LBEC ne odobri zahtjev za obavljanje radova i obezbjeđenje uslova za rad na zahtijevanom objektu o tome, kao i o razlozima zbog kojih nije dao odobrenje, obavještava podnosioca zahtjeva.

(20) Ako za to postoje uslovi, podnosilac zahtjeva i LBEC dogovaraju novi termin za izvođenje radova što se potvrđuje razmjenom depeša ili na drugi način.

(21) U cilju obezbjeđenja čuvanja podataka o sprovedenim mjerama zaštite na radu kod obje uključene strane vode se odgovarajući dnevnici. Dnevnik mjera zaštite na radu je dokument koji se nalazi u knjigama - dnevnicima pogonskih događaja, koje svakodnevno popunjava pogonsko osoblje u postrojenjima LBEC, kao i osoblje postrojenja korisnika, gdje se upisuju svi postupci koji su sprovedeni radi obezbjeđenja mjesta rada prije izdavanja dozvole za rad, kao i postupci koji su sprovedeni na uspostavljanju redovnog pogonskog stanja nakon završetka radova.

(22) Vođenje dokumentacije vezano za mjere zaštite na radu biće sprovedeno od strane LBEC i korisnika, a kada je neophodno, LBEC i korisnik za svaku operativnu radnju razmjenjuju kopije procedura zaštite na radu.

(23) LBEC i korisnik su dužni da vode dokumentaciju u cilju evidentiranja svih bitnih operativnih događaja koji se dešavaju u ZDS ili sistemu korisnika vezano za koordinaciju mjera zaštite na radu.

(24) Kompletna dokumentacija koja se tiče manipulacija i mjera zaštite na radu iz ovog člana čuva se od strane LBEC i korisnika najmanje šest mjeseci poslije završetka radova.

user for at least six months after the completion of works.

Planning activities in disrupted operational regimes of the CDS

Article 132

(1) Disrupted operational regimes of the CDS imply:
1) total or partial failure of the EES;
2) defect or overload of a part of the DS;
3) operational failure of the production capacities of the EES of Montenegro;
4) disconnection of a part of the CDS, planned disconnection in accordance with the disconnection plan or urgent disconnection due to the prevention of possible failures which significantly disrupt the operation of the part of the CDS;
5) defect or overload of a part of the CDS resulting in longer supply interruptions;
6) defect on the facilities of a CDS user.

(2) In addition to the disrupted operational regimes of the CDS from paragraph 1 of this Article, disrupted operational regimes of the CDS also include any extraordinary event that occurs within the system, which had or could have serious and far-reaching consequences on the system according to the opinion of the DSO and LBEC.

(3) The goal of planning activities in disrupted operational regimes of the CDS is to enable the establishment of normal supply in case of system disruptions and emergencies, and to minimise the consequences of the occurrence of a disrupted operational regime of the CDS.

(4) The provisions of this Article apply to LBEC, producers connected to the CDS, CDS users and adjacent CDS operators.

(5) LBEC is responsible, together with the DSO, for the preparation and updating of the plan for the establishment of the EES after a total or partial failure which represents the general strategy for the restoration of the EES in periods of partial or total failure.

(6) In the case of a general voltage failure, management centres, operational centres,

Planiranje aktivnosti u poremećenim režimima rada ZDS

Član 132

(1) Pod poremećenim režimima rada ZDS podrazumjeva se:
1) potpuni ili djelimični raspad EES;
2) kvar ili preopterećenje dijela DS;
3) ispad iz pogona proizvodnih kapaciteta EES Crne Gore;
4) isključenje dijela ZDS, planirano isključenje u skladu sa planom isključenja ili hitno isključenje zbog sprečavanja mogućih havarijskih stanja, kojim se značajno narušava rad dijela ZDS;
5) kvar ili preopterećenje dijela ZDS koji za posljedicu ima duže prekide u snabdijevanju;
6) kvarom na objektima korisnika ZDS.

(2) Osim poremećenih režima rada ZDS iz stava 1 ovog člana pod poremećenim režimom rada ZDS smatra se i bilo koji vanredni događaj koji se javlja u sistemu, a koji je po mišljenju ODS i LBEC imao ili može imati ozbiljne i široko rasprostranjene posljedice na sistem.

(3) Cilj planiranja aktivnosti u poremećenim uslovima rada ZDS je da se omogući uspostavljanje normalnog snabdijevanja u slučaju sistemskih poremećaja i vanrednih situacija i da se posljedice nastanka poremećenog režima rada ZDS smanje na najmanju moguću mjeru.

(4) Odredbe ovog člana primjenjuju se na LBEC, proizvođače priključene na ZDS, korisnike ZDS i operatore susjednih ZDS.

(5) LBEC je, zajedno sa ODS, odgovoran za izradu i ažuriranje plana uspostavljanja EES nakon potpunog ili djelimičnog raspada koji predstavlja opštu strategiju za obnovu EES u periodima nakon djelimičnog ili potpunog raspada.

(6) U slučaju opšteg nestanka napona, centri upravljanja, operativni centri, trafostanice, telekomunikacioni sistemi i sistemi daljinske

transformer stations, telecommunication systems and remote control systems must remain operational, so that the re-establishment of the network could be possible.

(7) In the case of disrupted operational regimes referred to in paragraph 1 items 1, 2 and 3 of this Article, LBEC conducts the following activities:
1) LBEC receives from the DSO a notification on the disruptions in the network and the necessary activities (measures) for the swift establishment of the system's stable operation;
2) LBEC receives from the DSO orders for operational actions (switching equipment manipulations) for the purpose of the re-establishment of the system and the quickest possible overcoming of the disrupted operational regime;
3) LBEC receives from the DSO orders for the implementation of active and reactive power consumption reduction measures;
4) LBEC informs the DSO about the execution of the received orders;
5) LBEC requests from the DSO additional clarifications and a written explanation in connection to the occurred disruption;
6) LBEC gives orders to CDS users for the performance of necessary manipulations;
7) LBEC gives orders to CDS users for the reduction of active and reactive power production/consumption;
8) LBEC informs CDS users about disruptions in the CDS.

(8) In the case of disrupted operational regimes referred to in paragraph 1 items 4 and 5 of this Article, LBEC conducts the following activities:
1) LBEC registers the disruption and collects information on the disruption;
2) LBEC issues orders for modifications of the network's operational condition;
3) LBEC cancels planned works and suspends ongoing works on the part of the CDS which is in a disrupted operational regime, until the establishment of the CDS's regular operational condition;

kontrole, moraju ostati u operativnom stanju, kako bi ponovno uspostavljanje mreže bilo moguće.

(7) U slučaju poremećenog režima rada iz stava 1 tač. 1, 2 i 3 ovog člana LBEC sprovodi sljedeće aktivnosti:
1) LBEC prima od ODS obavještenje o poremećajima na mreži i neophodnim aktivnostima (mjerama) radi brzog uspostavljanja stabilnog rada sistema;
2) LBEC prima od ODS naloge za operativno postupanje (manipulacije rasklopnom opremom) radi ponovnog uspostavljanja sistema i što bržeg prevazilaženja poremećenog režima rada;
3) LBEC od ODS prima naloge za sprovođenje mjera redukcije aktivne i reaktivne snage potrošnje;
4) LBEC obavještava ODS o izvršenju primljenih naloga;
5) LBEC od ODS traži dodatna pojašnjenja i pisano obrazloženje u vezi nastalog poremećaja;
6) LBEC daje naloge korisnicima ZDS za izvršavanje neophodnih manipulacija;
7) LBEC izdaje naloge korisnicima ZDS za redukciju aktivne i reaktivne snage proizvodnje/potrošnje;
8) LBEC obavještava korisnike ZDS o poremećajima u ZDS.

(8) U slučaju poremećenog režima rada iz stava 1 tač. 4 i 5 ovog člana LBEC sprovodi sljedeće aktivnosti:

1) LBEC registruje poremećaj i prikuplja informacije o poremećaju;
2) LBEC izdaje naloge za izmjenu uklopnog stanja mreže;
3) LBEC otkazuje planirane i obustavlja radove u toku na dijelu ZDS koji je u poremećenom režimu rada, sve do uspostavljanja redovnog pogonskog stanja ZDS;

4) LBEC implements power consumption reduction measures, directly and by issuing orders to users;
5) LBEC coordinates all of the stated activities until the establishment of the CDS's regular operational condition;
6) informs users about the disrupted operational regime.

(9) In the case of disrupted operational regime referred to in paragraph 1 item 6 of this Article, LBEC conducts the following activities:
1) LBEC registers the disruption and collects information on the disruption;
2) LBEC issues orders for modifications of the network's operational condition;
3) LBEC cancels planned works and suspends ongoing works on the part of the CDS which is in a disrupted operational regime, until the establishment of the CDS's regular operational condition;
4) LBEC coordinates all of the stated activities until the establishment of the CDS's regular operational condition;
5) informs CDS users about the disrupted operational regime;
6) LBEC requests additional information from the user and a written explanation in regard to the occurred disruption.

(10) For the duration of the disrupted operational regime, LBEC is allowed to order a temporary resetting of the protection, in which case no values may be reached which could harm CDS elements, elements in the CDS user's facility and jeopardise the safety of property and people.

(11) LBEC is responsible, together with the DSO, for the preparation and updating of the plan for the establishment of the electrical energy system after a failure.

(12) Users are obliged to follow all instructions and execute LBEC's orders for the duration of disrupted operational regimes of the CDS, or otherwise LBEC will disconnect them from the CDS.

(13) Users do not have the right to a compensation from LBEC for the damages incurred due to the disrupted operational regimes of the CDS

4) LBEC sprovodi mjere redukcije snage potrošnje, neposredno i izdavanjem naloga korisnicima;
5) LBEC vrši koordinaciju svih navedenih aktivnosti sve do uspostavljanja redovog pogonskog stanja ZDS;
6) obavještava korisnike o poremećenom režimu rada.

(9) U slučaju poremećenog režima rada iz stava 1 tačka 6 ovog člana LBEC sprovodi sljedeće aktivnosti:
1) LBEC registruje poremećaj i prikuplja informacije o poremećaju;
2) LBEC izdaje naloge za izmjenu uklopnog stanja mreže;
3) LBEC otkazuje planirane i obustavlja radova u toku na dijelu ZDS koji je u poremećenom režimu rada, sve do uspostavljanja redovnog pogonskog stanja ZDS;
4) LBEC vrši koordinaciju svih navedenih aktivnosti sve do uspostavljanja redovog pogonskog stanja ZDS;
5) obavještava korisnike ZDS o poremećenom režimu rada;
6) LBEC traži dodatne informacije od korisnika i pisano obrazloženje u vezi nastalog poremećaja.

(10) Za vreme poremećenog režima dozvoljeno je da LBEC naloži privremeno prepodešenje zaštite, pri čemu se ne smiju dostići vrednosti koje mogu oštetiti elemente ZDS, elemente u objektu korisnika ZDS i ugroziti bezbijednost imovine i ljudi.

(11) LBEC je zajedno sa ODS odgovoran za izradu i ažuriranje plana uspostavljanja elektroenergetskog sistema nakon raspada.

(12) Korisnici su dužni da slijede sva upustva i izvršavaju naloge LBEC za vrijeme trajanja poremećenog rada ZDS, u protivnom LBEC će ih isključiti sa ZDS.

(13) Korisnici nemaju pravo na naknadu od LBEC za štete nastale zbog poremećenog režima rada ZDS iz tač. 1, 2, 3 i 5 stav 1 ovog člana,

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referred to in paragraph 1 items 1, 2, 3 and 5 of this Article.

(14) During the performance of the activities referred to in paragraph 7 item 7 of this Article, producers of electricity from renewable sources or high-efficient cogeneration will have priority in accessing and delivering produced electricity into the distribution system in relation to producers who do not generate electricity from renewable sources.

Reporting and provision of information on operational events

Article 133

(1) LBEC and the CDS user are obliged to determine the manner of exchanging information on operational events which have significantly affected the safety of the operation of the CDS or the user's system.

(2) Reports on operational events are exchanged at the request of any party from these rules.

(3) In the case of an event in the user's system which had an impact on the stability of CDS's operation, at the request of LBEC, the user is obliged to submit a written report about that. This report is not submitted to other users, but they may use the information contained therein for the preparation of own reports on that event, if they suffered consequences.

(4) In the case of an event in the CDS, deemed by the user as significant, LBEC submits a written report to the user. The user does not submit this report to other electricity subjects or users, but he may use the information contained therein for the preparation of his own report on the significant event for other subjects.

(5) A stakeholder submits a written request for the preparation and submission of a report on the significant event.

(6) The report of any party must include the confirmation of the receipt of the request, as well as all details related to the event.

(7) The recipient may ask additional questions in connection to the report, to which the reporting

(14) prilikom sprovođenja aktivnosti iz stava 7 tačka 7 ovog člana, proizvođači električne energije iz obnovljivih izvora i visokoefikasne kogeneracije će imati prioritet u pristupu i predavanju proizvedene električne energije u distributivni sistem u odnosu na proizvođače koji ne proizvode električnu energiju iz obnovljivih izvora.

Izvještavanje i pružanje informacija o operativnim događajima

Član 133

(1) LBEC i korisnik ZDS su dužni da urede način razmjene informacija o operativnim događajima koji su u značajnoj mjeri uticali na sigurnost rada ZDS ili sistema korisnika.

(2) Izvještaji o operativnim događajima se razmjenjuju na zahtjev bilo koje strane iz ovih pravila.

(3) U slučaju događaja u sistemu korisnika koji je imao uticaj na stabilnost rada ZDS, na zahtjev LBEC dužan je da dostavi pisani izvještaj o tome. Navedeni izvjštaj se ne dostavlja ostalim korisnicima, ali mogu koristiti informacije koje su u njemu sadržane za pripremu svog izveštaja o tom događaju, ako su imali posljedice.

(4) U slučaju događaja u ZDS, koji je od strane korisnika ocijenjen kao značajan, LBEC podnosi pisani izvještaj korisniku. Korisnik ovaj izveštaj ne dostavlja drugim elektroenergetskim subjektima ili korisnicima, ali može koristiti informacije koje su u njemu sadržane, prilikom pripremanja svog izveštaja o značajnom događaju za druge subjekte

(5) Zainteresovana strana podnosi pisani zahtjev za izradu i dostavljanje izvještaja o značajnom događaju.

(6) Izvještaj bilo koje strane mora sadržati potvrdu o prijemu zahtjeva, kao i sve detalje koji se tiču događaja.

entity must respond to the highest possible degree.

(8) The written report which is submitted should be prepared as soon as objectively possible after the initial request, and in any case, the preliminary report is delivered within 24 hours since the receipt of the request.

(9) If an operational event has been pronounced significant and a report has been submitted in accordance with these rules, any stakeholder may request in writing the implementation of further joint additional establishment of facts.

(10) For the implementation of the additional fact-checking in connection to the significant event, a joint commission can be formed and its task must be harmonised between the involved parties.

(7) Primalac može postaviti dodatna pitanja u vezi izvještaja na koja podnosilac izvještaja mora odgovoriti u mjeri u kojoj je to moguće.

(8) Pisani izvještaj koji se podnosi treba uraditi što je prije objektivno moguće nakon inicijalnog zahtjeva, a u svakom slučaju preliminarni izveštaj se dostavlja u roku od 24 sata od prijema zahtjeva.

(9) Kada je operativni događaj proglašen značajnim i izveštaj podnijet prema ovim pravilima, bilo koja zainteresovana strana može u pisanoj formi zahtjevati sprovođenje daljeg zajedničkog dodatnog utvrđivanja činjenica.

(10) Za sprovođenje dodatnog ispitivanja činjenica u vezi sa značajnim događajem, može se formirati zajednička komisija čiji zadatak mora biti usaglašen između uključenih strana.

Labelling electricity system elements on property demarcation locations

Article 134

(1) The DSO, LBEC and the users are obliged to define the manner and perform the numeration and/or nomenclature of electrical equipment on property borders, which means that medium-voltage devices of LBEC, which are located in CDS plants, as well as medium-voltage and low-voltage devices of the users, located in LBEC's plants, must bear labels in accordance with the system used by LBEC and harmonised with the DSO.

(2) The goal of the labelling (numeration and/or nomenclature) is to ensure that, on every location on property borders, each part of the equipment is labelled in a unique manner, in order to reduce the risk of error and to ensure the best possible and most reliable implementation of operational operations (manipulations). The labelling must be adopted and recorded jointly by the interested owners.

(3) Plant and/or device labels must be clearly indicated on devices and plants, as per the technical documentation, with clearly indicated management competences for each network

Označavanje elemenata elektroenergetskog sistema na lokacijama razgraničenja vlasništva

Član 134

(1) ODS, LBEC i korisnici su dužni da utvrde način i izvrše numerisanje i/ili nomenklaturu električne opreme na granicama vlasništva, što znači da srednjenaponski aparati LBEC, koji su smješteni u postrojenjima ODS, kao i srednjenaponski i niskonaponski aparati korisnika smješteni u postrojenjima LBEC, moraju nositi oznake u skladu sa sistemom koji koristi LBEC i koji je usaglašen sa ODS.

(2) Cilj označavanja (numerisanja i/ili nomenklature) je da se obezbijedi da na svakoj lokaciji na granici vlasništva, svaki dio opreme bude označen na jedinstven način, kako bi se smanjio rizik za pojavu greške i da bi se obezbijedilo što bolje i pouzdanije sprovođenje operativnih operacija (manipulacija). Označavanje mora biti usvojeno i evidentirano zajednički od strane zainteresovanih vlasnika.

(3) Oznake postrojenja i/ili uređaja moraju biti jasno naznačeni na uređajima i aparatima, prema tehničkoj dokumentaciji, sa jasno naznačenom nadležnošcu za upravljanje za svaki mrežni čvor,

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node, i.e. for each facility (transformer station or switching station) in which there is a point of connection of the distribution system to the transmission system or of the user to the distribution system.

(4) In the case a new network hub is planned, the labelling of all relevant accompanying elements will be defined by the connection agreement.

(5) The provisions of this Article apply to LBEC and the DSO, producers connected to the CDS and consumers at a medium and high voltage.

(6) The system operator and/or each user will forward to another operator and/or every other user information on the numeration and/or nomenclature of the existing equipment for each location on property borders.

(7) Operators and each user will be responsible for the preparation and placement of clear and unambiguous labels which indicate the numeration and/or nomenclature.

(8) If the operators or the user wish to change the existing numeration and/or nomenclature of any part of the equipment on any location on property borders, they shall apply the measures prescribed for new equipment, although it must be clearly stated that there has only been a numeration and/or nomenclature change and not an equipment change.

(9) If the user changes the numeration and/or nomenclature of his equipment, he will be responsible for the preparation and placement of clear and unambiguous labels.

(10) If the operator changes the numeration and/or nomenclature of his equipment, he will be responsible for the preparation and placement of clear and unambiguous labels.

(11) If operators or the user intend to install new equipment (or some part of equipment) on a property border, they must inform other owners about the proposed numeration and nomenclature.

(12) The notification referred to in paragraph 11 of this Article must be in written form and must contain the proposed numeration and/or nomenclature for the new equipment as per the technical documents. The notification must be

odnosno za svaki objekat (trafostanica ili razvodno postrojenje) u kojem postoji mjesto priključenja distributivnog sistema na prenosni sistem ili korisnika na distributivni sistem.

(4) U slučaju da se planira novo mrežno čvorište, označavanje svih relevantnih pripadajućih elemenata biće utvrđeno ugovorom o priključenju.

(5) Odredbe ovog člana primjenjuju se na LBEC i ODS, proizvođače priključene na ZDS i potrošače na srednjem i visokom naponu.

(6) Operator sistema i/ili svaki korisnik će proslijediti drugom operatoru i/ili svakom drugom korisniku informacije o numeraciji i/ili nomenklaturi postojeće opreme za svaku lokaciju na granici vlasništva.

(7) Operatori i svaki korisnik biće odgovorni za pripremu i postavljanje jasnih i nedvosmislenih oznaka kojima se prikazuje numeracija i/ili nomenklatura.

(8) Ukoliko operatori ili korisnik žele da promijene postojeću numeraciju i/ili nomenklaturu bilo kojeg dijela opreme na bilo kojoj lokaciji na granici vlasništva, primijeniće se mjere predviđenje kao za novu opremu, s tim da se jasno naglasi da je jedino došlo do promjene numeracije i/ili nomenklature ali ne i opreme.

(9) Ukoliko korisnik vrši promjenu numeracije i/ili nomenklature svoje opreme, isti će biti odgovoran za pripremu i postavljanje jasnih i nedvosmislenih oznaka.

(10) Ukoliko operatori vrše promjenu numeracije i/ili nomenklature svoje opreme, isti će biti odgovorni za pripremu i postavljanje jasnih i nedvosmislenih oznaka.

(11) Ukoliko operatori ili korisnik namjeravaju da ugrade (instaliraju) novu opremu (ili neki dio opreme) na granici vlasništva, moraju obavijestiti druge vlasnike o predloženom numerisanju i nomenklaturi.

(12) Obavještenje iz stava 11 ovog člana mora biti u pisanoj formi i sadržati predloženu numeraciju i/ili nomenklaturu za novu opremu prema tehničkoj dokumentaciji. Obavještenje mora biti

delivered to the other owners at least three months before the proposed installation of new equipment.

(13) The other owner will respond within one month with a confirmation of the notification's receipt, and his consent for the proposed numeration and/or nomenclature. If he does not agree, he proposes a new numeration and/or nomenclature (acceptable for him).

(14) If LBEC and a CDS user do not reach an agreement, LBEC has the right to perform the numeration and/or nomenclature for the given location.

dostavljeno drugim vlasnicima najmanje tri mjeseca prije predložene ugradnje nove opreme.

(13) Drugi vlasnik će odgovoriti u roku od jednog mjeseca o potvrdi prijema obavještenja, i o saglasanosti sa predloženom numeracijom i/ili nomenklaturom. Ukoliko nije saglasan on će predložiti novu numeraciju i/ili nomenklaturu (koja je za njega prihvatljiva).

(14) Ako LBEC i korisnik ZDS ne postignu dogovor , LBEC ima pravo da izvrši numeraciju i/ili nomenklaturu za datu lokaciju.

Operation of the distribution system in crises

Article 135

(1) Crises imply natural and other circumstances which can cause significant disruptions on the electricity market and immediate danger to the normal functioning of the CDS and the supply of the citizens and of the economy with electricity. Crises are established and declared in accordance with Article 213 of the Law.

(2) Crises which can particularly affect the work of the CDS and threaten the safety and quality of supply are:
   1) natural hazards (adverse weather, fires, floods, earthquakes, etc.) and
   2) electricity deficit in Montenegro.

(3) For the duration of crises, the operation of the CDS must be subjected to the requests of the competent authorities, with priority given to activities on the protection of the health and life of people and environmental protection.

(4) LBEC prepares plans of the CDS's operation in crises, which include the planning of activities and the hiring of manpower and equipment. These operational plans must be in compliance with the plans of competent authorities adopted for crises.

(5) For the duration of crises, the contractual obligations of LBEC in terms of the quality and continuity of electricity supply are suspended and these are implemented in accordance with the technical possibilities.

Rad distributivnog sistema u kriznim situacijama

Član 135

(1) Krizne situacije podrazumijevaju prirodne i druge okolnosti koje mogu izazvati značajan poremećaj na tržištu električne energije i neposrednu ugroženost normalnog funkcionisanja ZDS i snabdijevanja električnom energijom građana i privrede. Krizne situacije utvrđene su i proglašavaju se u skladu sa članom 213 Zakona.

(2) Krizne situacije koje naročito mogu da utiču na rad ZDS i ugroze sigurnost i kvalitet snabdijevanja su:
   1) prirodne nepogode (vremenske nepogode, požari, poplave, zemljotresi i dr.) i
   2) nestašica električne energije u Crnoj Gori.

(3) Za vrijeme kriznih situacija rad ZDS mora biti podređen zahtjevima nadležnih organa, pri čemu prioritet predstavljaju aktivnosti na zaštiti zdravlja i života ljudi, te zaštiti životne sredine.

(4) LBEC izrađuje planove rada ZDS u kriznim situacijama, koji sadrže planiranje aktivnosti i angažovanju ljudstva i opreme. Ovi planovi rada moraju biti usklađeni sa planovima nadležnih organa koji se donose za krizne situacije.

(5) Za vrijeme kriznih situacija, ugovorene obaveze LBEC u pogledu kvaliteta i kontinuiteta isporuke električne energije su van snage i ostvaruju se u skladu sa tehničkim mogućnostima.

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(6) In case of an electricity deficit, the Government of Montenegro prescribes measures in accordance with Article 213 of the Law.
(7) In cooperation with the DSO, LBEC adopts plans for the selective limiting of supply which must be in accordance with the decisions of the Government of Montenegro and the provisions of Article 213 of the Law.
(8) During work in crises, CDS users are obliged to use electricity in accordance with LBEC's instructions.
(9) LBEC is obliged to disconnect all facilities of users who do not act in accordance with the instructions during crises.
(10) The user has no right to a compensation from LBEC for the damages incurred due to LBEC's actions during crises.

(6) U slučaju nestašice električne energije Vlada Crne Gore, propisuje mjere u skladu sa članom 213 Zakona.
(7) U saradnji sa ODS, LBEC donosi planove selektivnog ograničenja isporuke koji moraju biti u skladu sa odlukama Vlade Crne Gore, te sa odredbama iz člana 213 Zakona.
(8) Za vrijeme rada u kriznim situacijama korisnici ZDS su obavezni koristiti električnu energiju u skladu sa uputstvima LBEC.
(9) LBEC je obavezan isključiti sve objekte korisnika koji se za vrijeme krizne situacije ne ponašaju u skladu sa uputstvima.
(10) Korisnik nema pravo na naknadu od LBEC za štete nastale zbog postupaka LBEC u vrijeme kriznih situacija.

XII MATERIAL LIABILITY AND DISPUTE RESOLUTION

Article 136

Liability for the compensation of damages by LBEC or a system user, for damages incurred due to a failure to observe their obligations from these rules, is limited to the directly incurred material damage, with the exclusion of the possibility of indirect damage or loss of profit, unless otherwise prescribed in a mutual agreement.

Dispute resolution

Article 137

(1) In case of a dispute between LBEC and a user, they shall attempt to resolve in good faith any dispute arising between them in connection to the issues regulated by these rules.
(2) LBEC and the system user may delegate to the Agency the resolution of disputes in accordance with the Law.

XII MATERIJALNA ODGOVORNOST I RJEŠAVANJE SPOROVA

Član 136

Odgovornost za naknadu štete od strane LBEC ili korisnika sistema koja je nastala zbog nepoštovanja njihovih obaveza, iz ovih pravila, ograničena je na direktno pričinjenu materijalnu štetu, pri čemu se, isključuje odgovornost za indirektne štete ili izgubljenu dobit, osim ako ovo nije u međusobnom ugovoru predviđeno.

Rješavanje sporova

Član 137

(1) U slučaju spora između LBEC i korisnika, isti će nastojati da, uz dobru volju, riješe bilo koji spor koji nastane među njima u vezi sa pitanjima koja su regulisana ovim pravilima.
(2) LBEC i korisnik sistema mogu povjeriti Agenciji rješavanje sporova u skladu sa Zakonom.

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Contingencies and reporting

Article 138

In case of the emergence of circumstances not envisaged by the provisions of these rules, whose occurrence could not have been prevented, and whereas the activity of these circumstances might cause altered technical conditions for the use of the distribution system and result in consequences for the CDS and the users, LBEC has the right and obligation to take measures for the quickest possible elimination of the adverse consequences for the CDS and the users.

Nepredviđene okolnosti i izvještavanje

Član 138

Ako nastanu okolnosti koje odredbama ovih pravila nijesu predviđene, odnosno čije se nastupanje nije moglo spriječiti, a djelovanje tih okolnosti može prouzrokovati izmjenjene tehničke uslove korišćenja distributivnog sistema i izazvati posljedice po ZDS i korisnike, LBEC ima pravo i obavezu da preduzme mjere kojima će najbrže otkloniti štetne posljedice za ZDS i korisnike.

Confidentiality of information and data

Article 139

In the application of these rules, LBEC and the users are obliged to apply regulations which govern the confidentiality of data and information.

Povjerljivost informacija i podataka

Član 139

Kod primjene ovih pravila LBEC i korisnici dužni su da primjenjuju propise kojima se uređuje tajnost podataka i informacija. .

Amendments to and interpretations of the Rules

Article 140

(1) Any amendments to the rules are made in the manner and in the procedure prescribed for their adoption.
(2) Energy subjects or users may request from LBEC an interpretation of the provisions of these rules.

Izmjene i tumačenja Pravila

Član 140

(1) Izmjene ovih pravila vrše se na način i po postupku kao za njihovo donošenje.
(2) Energetski subjekti ili korisnici mogu od LBEC zahtijevati tumačenje odredbi ovih pravila.

In Tivat, January 2021.

U Tivtu, januar 2021.

Luštica Bay Electricity Company DOO Tivat

Slobodan Sekulić, Executive Director / Izvršni direktor

DRUŠTVO SA OGRANIČENOM ODGOVORNOŠĆU LUŠTICA BAY ELECTRICITY COMPANY TIVAT