Text consolidated by Valsts valodas centrs (State Language Centre) with amending decisions of:

4 October 2018 [shall come into force from 5 April 2019].

If a whole or part of a paragraph has been amended, the date of the amending regulation appears in square brackets at the end of the paragraph. If a whole paragraph or sub-paragraph has been deleted, the date of the deletion appears in square brackets beside the deleted paragraph or sub-paragraph.

Decision No. 1/25 of the Board of the Public Utilities Commission

Adopted 14 September 2017

**Technical and Operational Regulations of an Electronic Communications Network Regarding the Bitstream Access**

*Issued pursuant to*

*Section 36, Paragraph three, Section 39, Paragraph four, Clause 1, and*

*Section 44, Paragraph two of the Electronic Communications Law and*

*Section 25, Paragraph one of the law On Regulators of Public Utilities*

**I. General Provisions**

1. Technical and operational regulations of an electronic communications network regarding the bitstream access (hereinafter – the Regulations) prescribe the technical and operational regulations of an electronic communications network for wholesale broadband access service – bitstream access which are binding on operators having the obligation to provide access, and also the information to be included in the reference offer for the bitstream access and the level of detail required therefore.

2. The following terms are used in the Regulations:

2.1. **bitstream backhaul**– the following service ensured by the owner to a lessee between the bitstream access point and backhaul access point:

2.1.1. connection established at the Ethernet OSI Layer 2 or IP OSI Layer 3;

2.1.2. access to cable ducts or poles;

2.1.3. lease of dark fibre;

2.2. **Ethernet** – a set of electronic communications network data transmission technologies and protocols;

2.3. **physical collocation** – the type of physical collocation of devices when the lessee uses the territory, premises or devices owned by the owner by placing its devices therein for bitstream access;

2.4. **owner**– electronic communications merchant with significant market power on whom the obligation to provide bitstream access and develop and publish the reference offer for the bitstream access has been imposed;

2.5. **backhaul access point**– the interface of the device of the electronic communications network of the owner where the owner ensures the lessee the bitstream backhaul;

2.6. **bitstream access point**– the interface of the device of the regional or national level of the geographical hierarchy of the electronic communications network of the owner where the owner ensures the lessee bitstream access for the provision of electronic communications services to the end-users within the relevant range of operation of the devices of the relevant geographical hierarchy level of the electronic communications network by using the access network and core network of the owner;

2.7. **lessee**– electronic communications merchant which has concluded the contract for the bitstream access with the owner (hereinafter – the contract);

2.8. **core network**1 – a part of the public electronic communications network in which the equipment (transmission, switching, routing, multiplexing or equivalent equipment) of the core network is interconnected and to which the access network is connected, and which ensures connections with the electronic communications network of another operator;

2.9. **central office**2 – the place where the access point and core network interconnects;

2.10. **access network** – the part of the public electronic communications network which connects the core network and network termination point. Subscriber line and device in which the network termination point is inserted are components of the access network;

2.11. **applicant**– the electronic communications merchant who wishes to gain bitstream access;

2.12. **distribution point** – the cable distribution device for the public electronic communications network which is provided for the distribution of metallic or optical fibre cables. The distribution point is a cable distribution cabinet, distribution box, small distribution box or cable closure;

2.13. **dark fibre** – the optical fibre in the installed or built cable which is not active, i.e., its both ends are not connected to an operating optoelectronic devices.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

3. The following abbreviations are used in the Regulations:

3.1. **ETSI**– European Telecommunications Standards Institute;

3.2. **Gbit/s** – gigabits per second;

3.3. **IGMP***–* Internet Group Multicast Protocol;

3.4. **IP** – Internet Protocol;

3.5. **ITU-T**– International Telecommunications Union, Telecommunication Standardization Sector;

3.6. **MDF**– Main Distribution Frame;

3.7. **ODF** – Optical Fibre Distribution Frame;

3.8. **OSI**– Open Systems Interconnection;

3.9. **RJ**– Registered Jack;

3.10. **NTU** – Network Termination Unit;

3.11. **VLAN**– Virtual Local Area Network.

**II. Technological Solutions for Bitstream Access**

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

4. The following types of bitstream access are possible:

4.1. connection established at the Ethernet OSI Layer 2;

4.2. connection established at the IP OSI Layer 3.

5. An owner shall provide bitstream access by virtually connecting the network termination points present in the access network of the owner with the bitstream access point at the location of the device of the regional or national level, geographical hierarchy of the electronic communications network of the owner indicated by the lessee in conformity with the operational range of the devices of the geographical hierarchy level of the electronic communications network of the owner, unless otherwise agreed upon by the parties.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

6. Upon a request of the lessee, the owner shall, as far as technically possible, ensure bitstream backhaul.

7. [Decision No. 1/27 of the BPUC of 4 October 2018]

8. In the reference offer for bitstream access, an owner shall include the technical requirements for the electronic interfaces for bitstream access at the following points of electronic communications network:

8.1. network termination point;

8.2. bitstream access point;

8.3. backhaul access point if it is established at the Ethernet OSI Layer 2 or IP OSI Layer 3.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

9. An owner shall fulfil the technical requirements for bitstream access laid down in the relevant European and international standards.

10. An owner shall ensure the following interfaces at the network termination point for bitstream access:

10.1. without an active NTU. At the network termination point of twisted pair cables, a physical NTU is an outlet with an appropriate RJ type socket. At the network termination point of optical fibre cables, a physical NTU is an optical plug which corresponds to the requirements laid down in the regulations regarding the unbundling of access to a subscriber line or a part thereof;

10.2. with an active NTU. An active NTU has the Ethernet electrical interface. If chosen by the applicant, an owner shall ensure an active NTU at the network termination point or the sale of an active NTU that is compatible with the access network devices.

11. In the reference offer for bitstream access, an owner shall include the technical requirements for the active NTUs used for bitstream access so that the lessee himself or herself could buy and configure an active NTU that is compatible with the access network devices of the owner, or include a list of compatible NTUs by indicating the manufacturer and the name of the device assigned by the manufacturer. The owner shall not indicate the owner’s brand or other information which identifies the owner on the NTUs provided to the lessee.

12. An owner shall provide a bitstream access point and bitstream backhaul established at the Ethernet OSI Layer 2 or IP OSI Layer 3 with the following physical interfaces and download and upload transmission speeds (hereinafter – the transmission speed) by offering the lessee the possibility to control the transmission speed of the service provided to an end-user:

12.1. RJ type socket in which the following transmission speed is ensured: 0.1\*n Gbit/s where n is a natural figure which is greater than 0 and the value of which is determined upon an agreement between the lessee and owner;

12.2. an optical fibre connector which corresponds to the requirements laid down in the regulations regarding the unbundling of access to a subscriber line or a part thereof and where the following transmission speed is ensured: 1\*n Gbit/s where n is a natural figure which is greater than 0 and the value of which is determined upon an agreement between the lessee and owner.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

13. An owner shall ensure bitstream access point and bitstream backhaul established at the Ethernet OSI Layer 2 for a voice telephony, Internet access, or television programme distribution service or bitstream backhaul established at the IP OSI Layer 3 for Internet access service with contention ratio in accordance with the agreement between the lessee and owner.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

14. An owner shall include at least the following bitstream accesses and bitstream backhaul established at the Ethernet OSI Layer 2 or IP OSI Layer 3 for the download and upload of service category in the reference offer for bitstream access:

14.1. voice telephony service category;

14.2. public Internet access service category;

14.3. television programme distribution service category.

15. An owner shall include in the reference offer for bitstream access at least the following quality requirements for the bitstream access established at the Ethernet OSI Layer 2 and bitstream backhaul established at the Ethernet OSI Layer 2 for each service category which shall not be lower than those determined for the service provided by the owner in retail:

15.1. transmission priorities in electronic communications network by indicating the methods specified in the priority Ethernet frame and offering the possibility for the lessee to determine the priority for its traffic;

15.2. one-way frame delay;

15.3. inter-frame delay variation;

15.4. frame loss;

15.5. availability.

16. Upon a request of the lessee, an owner shall provide the multicast possibility for bitstream access at the Ethernet OSI Layer 2 in the following manner:

16.1. by applying the IGMP protocol;

16.2. by assigning a separate VLAN to the lessee for the television programme distributions service.

17. If requested by the lessee, an owner shall provide each end-user of the lessee with its own VLAN for bitstream access at the Ethernet OSI Layer 2, when providing voice telephony or Internet access service. The lessee shall determine security requirements for the bitstream access at the Ethernet OSI Layer 2 in its electronic communication network.

18. An owner shall provide the lessee the possibility to identify its end-users for bitstream access at the Ethernet OSI Layer 2 on the level of central office devices or VLAN.

19. An owner shall ensure the lessee the possibility to apply security measures for bitstream access at the Ethernet OSI Layer 2, the IP OSI Layer 3 and higher layers of OSI.

20. An owner shall include in the reference offer for bitstream access at least the following quality requirements for the bitstream access established at the IP OSI Layer 3 and bitstream backhaul established at the IP OSI Layer 3 for each service category which shall not be lower than those determined for the service provided by the owner in retail:

20.1. transmission speed in accordance with Clause 5.2 of ETSI EG 202 057-04;

20.2. delay in accordance with Clause 5.5 of ETSI EG 202 057-04;

20.3. delay time variation (definition in accordance with Clause 6.2.4.2 of the ITU-T Recommendation Y.1540, calculation method in accordance with Annex II to the ITU-T Recommendation Y.1541);

20.4. packet loss ratio in accordance with Clause 6.4 of the ITU-T Recommendation Y.1540;

20.5. packet error rate in accordance with Clause 6.3 of the ITU-T Recommendation Y.1540;

20.6. maximum and minimum guaranteed transmission speed.

21. Upon a request of the lessee, an owner shall provide multicast possibility for bitstream access at the IP OSI Layer 3 in the following manner:

21.1. by applying IGMP protocol at the Ethernet OSI Layer 2;

21.2. by assigning the lessee a separate VLAN for the television programme distributions service.

22. A lessee and owner shall connect such devices to the network termination point for bitstream access, bitstream access point and backhaul access point which correspond to the electrical safety and electromagnetic compatibility requirements laid down in laws and regulations.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

23. An applicant shall submit to the owner the application for bitstream access which shall indicate at least the following information:

23.1. the planned type of bitstream access in conformity with Paragraph 4 of these Regulations;

23.2. the planned number and addresses of network termination points;

23.3. the address and description of location of the planned bitstream access point;

23.4. the address and description of location of the planned access point to bitstream backhaul;

23.5. the planned service category in conformity with Paragraph 14 of these Regulations;

23.6. the planned place taken by the MDF, ODF or distribution point;

23.7. the planned area of the technical premises used by the owner which is necessary for physical collocation by indicating the necessary guaranteed electrical power, temperature and moisture norms;

23.8. switching, routing, transmission or other devices at the disposal of the applicant which will be used at the particular bitstream access point or at the backhaul access point;

23.9. the planned physical collocation requirements for other infrastructure elements;

23.10. NTU type in accordance with Paragraph 10 of these Regulations.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

24. In addition to the information submitted by the applicant, the owner is entitled to request from the applicant only such information which is necessary for the assessment of the technical capability to provide bitstream access and bitstream backhaul, conclusion of the contract or provision of bitstream access and bitstream backhaul.

[*Decision No. 1/27 of BPUC of 4 October 2018*]

25. An owner may agree with the applicant on the establishment of joint working group for the assessment of the devices and technical capabilities necessary to provide bitstream access and bitstream backhaul.

26. An owner or the established working group shall examine the technical capabilities to provide bitstream access and bitstream backhaul and draw up an inspection report which indicates the conformity of providing bitstream access and bitstream backhaul with the information indicated in the application for bitstream access and the date when the provision of bitstream access and bitstream backhaul is planned to be commenced.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

27. An owner shall reply to the applicant regarding the possibilities for ensuring the bitstream access and bitstream backhaul if it is planned at the Ethernet OSI Layer 2 or IP OSI Layer 3 by appending the inspection report, if such has been drawn up.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

27.1 If an owner denies bitstream access or access to bitstream backhaul, the owner shall submit a derivative of the refusal to the Public Utilities Commission within five working days after provision of the refusal to the applicant.

[*Decision No. 1/27 of the PUC of 4 October 2018*]

**III. Technical Information to be Included in the Contract**

28. [Decision No. 1/27 of the BPUC of 4 October 2018]

29. [Decision No. 1/27 of the BPUC of 4 October 2018]

30. An owner and lessee shall indicate at least the following information in the contract:

30.1. the type of bitstream access in conformity with Paragraph 4 of these Regulations;

30.2. the number and addresses of the network termination points;

30.3. the address and description of location of the bitstream access point;

30.4. the address and description of location of the access point for bitstream backhaul if the lessee uses owner’s bitstream backhaul;

30.5. the service category in conformity with Paragraph 14 of these Regulations;

30.6. the conditions for bitstream access and bitstream backhaul, including the time period during which the owner will provide bitstream access and bitstream backhaul;

30.7. period of validity of the contract;

30.8. the conditions for the reporting and elimination of faults.

[*Decision No. 1/27 of the BPUC of 4 October 2018*]

31. An owner and lessee shall append the inspection report specified in Paragraph 26 of these Regulations in annex to the contract.

32. If a physical collocation is necessary to provide bitstream access and bitstream backhaul, an owner and lessee shall additionally indicate the following information in the contract:

32.1. the conditions for physical collocation;

32.2. the characterisations of physically collocated devices and restrictions for their use, if any;

32.3. the guaranteed provided electrical power, temperature and moisture norms;

32.4. the rights and obligations of the owner and lessee in the cases of damage of physically collocated devices or premises;

32.5. the conditions for access of the staff of the lessee to premises or physically collocated devices.

33. [Decision No. 1/27 of the BPUC of 4 October 2018]

34. An owner and lessee shall include at least the following minimum requirements for the utilization of bitstream access and bitstream backhaul in the contract:

34.1. the owner’s responsibility for the utilization of the subscriber line used for bitstream access and fulfilment of quality requirements;

34.2. the owner’s responsibility for the utilization of the main core network used for bitstream access and bitstream backhaul and fulfilment of quality requirements;

34.3. the owner’s responsibility for the utilization of the devices provided by the owner that are used for bitstream access and bitstream backhaul and fulfilment of quality requirements;

34.4. the owner’s responsibility for the utilization of the infrastructure elements of the electronic communications network of the owner used for bitstream access and bitstream backhaul and fulfilment of quality requirements;

34.5. the time period for the elimination of the faults of the subscriber line, access network and core network, including faults of devices, used for bitstream access and bitstream backhaul which is shorter than the time period which the owner determines its end-users.

**IV. Closing Provisions**

35. Decision No. 1/35 of the Public Utilities Commission of 4 December 2013, Technical and Operational Regulations of an Electronic Communications Network Regarding the Bitstream Access (*Latvijas Vēstnesis*, 2013, No. 241), is repealed.

36. This Regulation shall come into force on 1 February 2018.

1 Also Backbone Network

2 Also Metropolitan Point of Presence

Chair of the Board of the Public Utilities Commission R. Irklis