

# **Standard Terms and Conditions for Connecting to the Electricity Transmission System of Elering AS**

including chapters 1–4, sections 5.1 and 6.1, and the connection contract pursuant to Appendix 2 thereto, excluding Appendices 1, 2, 3 and 4 to the connection contract

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# 1. GENERAL PROVISIONS AND DEFINITIONS

- 1.1. These Elering AS (hereinafter: Transmission System Operator) standard terms and conditions for connecting to the electricity transmission system (hereinafter: Connection Terms) together with appendices thereto and guidelines set out the procedure for connecting to the electricity transmission network (hereinafter: Transmission System) of the Transmission System Operator and the procedure for approving generating units to be connected to the distribution system. In addition, the Connection Terms set out the technical parameters of the Transmission System and the rules for approvals required in the connection process as well as the rules for processing connection applications.
- 1.2. The Connection Terms form an integral part of the connection contract.
- 1.3. The connection procedure shall be subject to the Connection Terms applicable at the time of the commencement of the connection procedure. The connection procedure shall also be subject to the document "Elering AS Standard Terms and Conditions of a Network Contract". The submission of a connection application shall be considered the commencement of the connection procedure.
- 1.4. The procedural and technical requirements contained in these Connection Terms and appendices thereto and guidelines shall apply to the following clients of the Transmission System Operator:
  - 1.4.1. clients connecting to the Transmission System;
  - 1.4.2. consumers and producers connected to the Transmission System to whose electricity network type A, B, C or D generating modules are to be connected;
  - 1.4.3. producers connected to the Transmission System to whose electricity network an electricity consumer is connected which does not constitute self-consumption of the generating unit and which requires reconstruction and/or reconfiguration necessary for compliance with the terms and conditions described in section 5.5 of the guideline "Technical requirements for the client's electrical installation" of the Connection Terms;
  - 1.4.4. distribution system operators to whose electricity network type A, B, C or D generating modules are to be connected;
  - 1.4.5. producers whose type B, C or D generating units are to be connected to the electricity network of the distribution system operator (hereinafter: distribution system producer).
- 1.5. For the purposes of the Connection Terms, the terms used shall have the meaning defined in Commission Regulation (EU) No 2016/631 (hereinafter: "RfG"), Commission Regulation (EU) No 2016/1388 (hereinafter: "DCC"), the Electricity Market Act (hereinafter: "EMA"), the Connection Terms themselves, and other documents regulating connection (e.g., decisions of the Competition Authority), as well as in the legislation enacted pursuant to the EMA, unless the Connection Terms provide otherwise.

- 1.6. The transmission network, which is constructed using the connection applicant's connection charge, shall be deemed established from the moment it is completed and energized.
- 1.7. Definitions:
  - 1.7.1. **Connection** shall mean the connection of a conforming electrical installation to the Transmission System, the connection of a conforming generating unit connected to a consumer or an electricity network of a producer connected to the Transmission System, the alteration of a consumer or electrical installation of a producer connected to the Transmission System into a mixed installation, the alteration of a mixed installation connected to the Transmission System to the extent that it requires the necessary reconstruction and/or configuration for compliance with the terms and conditions described in section 5.5 of the guideline "Technical Requirements for the Client's Electrical Installation" of the Connection Terms, or the amendment of consumption or generation conditions at the existing connection point/point of consumption of a consumer, producer or distribution system operator connected to the Transmission System, excluding reduction of the existing consumption and/or generating capacity, which is considered the reconstruction of an electrical installation.
  - 1.7.2. **A mixed installation** shall mean an electrical installation intended for the consumption and generation of electricity, consisting of equipment used for the consumption of electricity (including a direct line) and generating unit(s) (including a storage device).
  - 1.7.3. **A hybrid module** shall mean a generating unit that consists of a power park module and a synchronous power-generating module, or several separate synchronous power-generating modules.
  - 1.7.4. **A prototype device** is primarily an individual device of a power park module that does not have a type certificate (type-approval) and has not undergone the tests required for obtaining such certification.
  - 1.7.5. **A power-generating facility**, for the purposes of these Connection Terms, shall mean an individual electricity generating unit (power-generating unit for the purposes of RfG) located within a power park module or synchronous power-generating module, which converts solar radiation, kinetic or thermal energy into electricity, and the aggregate of which forms a generating unit. A generating unit may consist of different or similar power-generating facilities.
- 1.8. Mixed installation, hybrid module and storage device shall be subject to the requirements set out in the RfG, which are specified in the Connection Terms.
- 1.9. All procedures related to the connection and the accompanying data exchange shall be carried out in the Transmission System Operator's e-environment for connection, unless the Connection Terms provide otherwise.

- 1.10. The client, at their request, can connect to the Transmission System Operator in such a way that a fixed-term network contract is entered into as a result of the connection contract, provided that the connection process does not cause a deterioration in the security of supply of other clients and the fixed-term network contract is entered into on the basis of the connection contract. When connecting to a fixed-term grid connection, the Transmission System Operator shall apply the specifications set out in the guideline "Technical principles and solutions for electrical installations of the transmission system operator" of the Connection Terms and the conditions set out in the connection contract.
- 1.11. Upon increasing the agreed consumption and/or generating capacity at an existing connection point or point of consumption of less than 110 kV of rated voltage, grid connection shall be converted to the nominal voltage of 110 kV if increasing the transmission capacity requires the replacement of the power transformer owned by the Transmission System Operator which has been connected to the connection point. Upon changing the agreed consumption and/or generation conditions at an existing connection point or point of consumption that is not located at the Transmission System Operator's substation, the connection point shall be moved to the Transmission System Operator's substation if the connection requires the replacement of equipment owned by the Transmission System Operator which has been connected to the connection point.
- 1.12. Appendices to the Connection Terms:
  - 1.12.1. Appendix No. 1: Forms;
  - 1.12.2. Appendix No. 2: Standard form of a connection contract.
- 1.13. The following guidelines that specify technical requirements shall be included with the Connection Terms:
  - 1.13.1. Technical requirements for the electrical installations of clients;
  - 1.13.2. Requirements for data exchange related to the electrical installations of clients;
  - 1.13.3. Requirements for the preparation and modelling of electrical design documentation of clients;
  - 1.13.4. Requirements for the testing and preparation of a testing plan for the generating units of clients;
  - 1.13.5. Technical principles and solutions for electrical installations of the Transmission System Operator.

## **2. CONNECTION PROCEDURE**

### **2.1. Connection application**

- 2.1.1. To connect to the Transmission System, a client shall submit a conforming connection application set out in the Connection Terms to the Transmission System Operator together with the technical data of the client's electrical installation in accordance with the volume specified in section 1.1 of Appendix 1 to the Connection Terms as well as other documents and/or approvals stipulated in legislation. If the data required in the connection application has been previously submitted by the client to the transmission network operator and there have been no changes, the client may not submit the required materials by referring to the previous application or letter in which the required data was submitted. A document certifying the representation right shall be appended to the connection application, unless the representation right of the person submitting the connection application can be verified in the Commercial Register.
- 2.1.2. The Transmission System Operator shall register the connection application of the client and inform the client thereof. The Transmission System Operator shall issue an invoice for the processing fee on the basis of section 2.3.2 of the Connection Terms within three (3) working days from the submission of the application.
- 2.1.3. The verification of the connection application shall commence after the receipt of the processing fee and, in the course thereof, the Transmission System Operator shall verify the data submitted in the connection application and notify the client of deficiencies in accordance with the terms specified in sections 2.1.4 and 2.1.5. If there are no deficiencies and the processing fee has been received, the connection application shall be considered accepted by the Transmission System Operator, and the Transmission System Operator shall notify the client of the acceptance of the connection application within five (5) working days and inform the client of the term within which, at the latest, an offer of a connection contract shall be presented to the client.
- 2.1.4. If there are deficiencies in the data submitted in the connection application, the Transmission System Operator shall submit a respective notice to the client within five (5) working days from receipt of the processing fee, at the latest, indicating all the deficiencies in the connection application.
- 2.1.5. Within twenty (20) working days from receipt of the respective notice from the Transmission System Operator, the client shall bring the connection application into conformity with the requirements, including submit all the missing data.
- 2.1.6. The Transmission System Operator shall submit a notice of the conformity of the application or a list of deficiencies in the corrected application to the client within five (5) working days after submission of the corrected application by the client. The application shall be considered accepted after the submission of the notice of conformity.

- 2.1.7. If the client fails to bring the connection application into conformity with the requirements established by the Transmission System Operator or eliminate all the deficiencies specified by the Transmission System Operator within the term specified in section 2.1.5 in the third correction of the application, the connection process shall be considered terminated and the client shall be given written notice thereof. Upon termination of the connection process due to the circumstances specified in this section, the Transmission System Operator shall return 50% of the processing fee to the client.
- 2.1.8. All changes to the data submitted in the connection application requested by the client following the acceptance of the connection application shall be submitted to the Transmission System Operator digitally signed in the e-environment for connection.
- 2.1.9. If the changes requested by the client before submission of a connection offer by the Transmission System Operator are related to the location of the connection point or alteration of the transmission capacity of the grid connection, which require an increase in apparent power or a reduction in the reactive power capacity in the entire active power range, the client shall submit a new connection application, which shall terminate the previous connection process. A reduction in the requested generating capacity shall not cause the termination of an existing connection process. The new connection procedure shall be subject to the Connection Terms applicable at the time of submission of the new connection application. Upon termination of a previous connection process, the Transmission System Operator shall, due to the circumstances referred to in this section, return up to 50% of the processing fee to the client, provided that the number of procedural acts to be performed by the Transmission System Operator in the preparation of a new connection offer decreases, which shall be determined by the Transmission System Operator.
- 2.1.10. One client may not have more than one valid connection application for consumption points or connection points located in one substation, and no more than one application may be submitted for one consumption point or connection point.
- 2.1.11. The connection application and appendices thereto form an integral part of the connection contract.
- 2.1.12. The client shall have the right to terminate the processing of a connection application by a respective written declaration of intent. In such a case, the Transmission System Operator shall not be obligated to make an offer of a connection contract to the client. In the event that the procedure is terminated on the basis of the client's declaration of intent before a connection offer is made, the Transmission System Operator shall return up to 50% of the processing fee to the client according to the number of procedural acts performed by the Transmission System Operator in the preparation of a connection offer, which shall be determined by the Transmission System Operator.
- 2.2. **Offer of a connection contract and entry into a connection contract**

- 2.2.1. Within ninety (90) days after the acceptance of a connection application (unless agreed otherwise), the Transmission System Operator shall submit to the client an offer of a connection contract that corresponds to the standard format of connection contracts provided in Appendix 2 to the Connection Terms, which shall include, among other things:
  - 2.2.1.1. a schematic diagram of the location of the connection and metering point;
  - 2.2.1.2. the amounts of the fixed and estimated cost-based components of the connection charge or the fee for amendments to the Connection Terms, the terms and conditions of payment, and the calculation of the fee;
  - 2.2.1.3. the conceptual technical solution for the connection at the level of a standard schematic, including the basic electrical parameters of the connection point
  - 2.2.1.4. consumption and/or generation conditions;
  - 2.2.1.5. the conditions for establishing a new grid connection or amending the consumption or generation conditions, including the deadline and other conditions;
  - 2.2.1.6. the transmission capacity of the connection point(s) in apparent power units;
  - 2.2.1.7. the terms and conditions of amendment and termination of the connection contract;
  - 2.2.1.8. other terms and conditions of the connection contract.
- 2.2.2. When preparing an offer of a connection contract, the Transmission System Operator shall:
  - 2.2.2.1. comply with the applicable technical standards and the requirements for the construction and use of the network, adhering to the principles established in the guideline “Technical principles and solutions for electrical installations of the transmission system operator”;
  - 2.2.2.2. compare different technical solutions for connection;
  - 2.2.2.3. use an analysis carried out in cooperation with the client to find the most technically and economically preferable solution;
  - 2.2.2.4. determine the location(s) of the connection point(s);
  - 2.2.2.5. take into account the connection applications already accepted by the Transmission System Operator, valid offers of connection contracts, connection contracts and network contracts, and the condition of the electricity network as at the time of accepting a connection offer.
- 2.2.3. An offer of a connection contract shall be valid for sixty (60) days, and in the case of an offer of a connection contract submitted to a distribution system operator, one hundred (100) days, unless agreed otherwise. Upon submitting an offer of a connection contract to the client, the Transmission System Operator shall notify the client of the term for submission of their agreement. If the client fails to submit their agreement by the due date, the offer of a connection contract shall become null and void and the connection application procedure shall be terminated.

- 2.2.4. The client may submit amendment proposals with regard to the offer of a connection contract within thirty (30) days after the receipt of the offer of a connection contract. Amendments related to a change in the requested location of the connection point which require a new electrical solution and/or new network calculations, or changes to the transmission capacity of the grid connection which require either an increase in apparent power or a reduction in reactive power capacity in the entire active power range are not permitted. With regard to the rest of the amendment proposals, the Transmission System Operator shall notify the client of whether the Transmission System Operator agrees to the proposals fourteen (14) days following the term of validity of the offer of a connection contract, at the latest, but no later than within thirty (30) days from the receipt of the application.
- 2.2.5. The connection process shall be considered terminated and the offer of a connection contract null and void, if:
- 2.2.5.1. the client waives the offer of a connection contract before the entry into a connection contract by informing the Transmission System Operator thereof; or
- 2.2.5.2. the amendments requested by the client in accordance with section 2.2.4 are not acceptable to the Transmission System Operator and the client and the Transmission System Operator fail to reach an agreement with regard to the amendment of the terms and conditions of the offer of a connection contract during the period of validity of the offer of a connection contract specified in section 2.2.3, with regard to which the Transmission System Operator shall send to the client a respective written notice indicating the reasons for refusal; or
- 2.2.5.3. the connection contract is not entered into within the prescribed term for any other reason.
- 2.2.6. Following the submission of the offer of a connection contract to the client, the Transmission System Operator shall have the right to amend the technical solutions for connection with the client's written consent, provided that the cost of the construction work and related work does not increase and the technical parameters specified in the offer of a connection contract are not impaired.
- 2.2.7. The connection contract shall be entered into if the Transmission System Operator receives an acceptance of the offer at the latest on the last day of validity of the offer of a connection contract and provided that the client has submitted to the Transmission System Operator all the required data and the documents together with the connection application. The signing of the connection contract is considered an acceptance of the offer of a connection contract.

## 2.3. **Connection charge**

- 2.3.1. When calculating the connection charge and determining the payment deadlines, the Transmission System Operator shall act in accordance with the Electricity Market Act (EMA), the Government of the Republic Regulation No. 10 of 14 February 2019 “The Grid Code on the Functioning of the Electricity System” (hereinafter: Grid Code) and the “Elering AS Methodology for Calculating the Connection Charge and the Charge for Amending the Consumption and Generation Conditions” (hereinafter: Methodology; available on the website of the Transmission System Operator). The detailed composition of the connection charge and the payment schedule shall be set out in the connection contract and depends on the specific circumstances of the connection, and may consist of the following components:
- 2.3.1.1. a component based on actual costs (hereinafter also: the cost-based component of the connection charge), primarily representing the cost of constructing a new transmission line of the transmission network and related works;
  - 2.3.1.2. a network hardening fee;
  - 2.3.1.3. a connection creation fee;
  - 2.3.1.4. a fee for increasing supply reliability;
  - 2.3.1.5. a project management fee;
  - 2.3.1.6. a processing fee;
  - 2.3.1.7. a transaction fee.
- 2.3.2. The processing fee is be applied as follows, depending on the type of connection application:
- 2.3.2.1. connection of a consumer or a distribution system operator at a new connection point or the amendment of consumption and/or generation conditions at an existing connection point of a distribution system operator or the amendment of consumption conditions at an existing connection point of a consumer;
  - 2.3.2.2. connection of a generating unit or a mixed installation to the transmission system or amendment of generation and/or consumption conditions thereof
- 2.3.3. The processing fee shall be paid after the submission of a connection application by the client on the basis of an invoice issued by the Transmission System Operator within fourteen (14) days, and in the case of an invoice submitted to the distribution system operator, within twenty-one (21) days from the date of issue of the invoice.
- 2.3.4. The transaction fee is applied as follows, depending on the volume of procedures associated with the connection:
- 2.3.4.1. connection of a consumer or a distribution system operator at a new connection point or the amendment of consumption and/or generation conditions at an existing connection point of a distribution system operator or the amendment of consumption conditions at an existing connection point of a consumer;
  - 2.3.4.2. connection of a generating unit or a mixed installation to the transmission system or amendment of generation and/or consumption conditions thereof

- 2.3.5. In the event of a failure of a fault-ride-through (FRT) test due to the client, the Transmission System Operator shall apply a transaction fee for each subsequent test, which shall be equal to the cost of measuring, assessment and other necessary justified procedures related to the new test by an independent party.
- 2.3.6. The connection charge shall be subject to value added tax in accordance with legislation.
- 2.3.7. In a connection contract concluded with a cost-based connection charge prior to the entry into force of the first connection charge tariff of the Transmission System Operator, the agreed amount of the connection charge shall be adjusted in accordance with the principles set out below:
  - 2.3.7.1. The Transmission System Operator shall adjust the connection fee agreed in the connection contract before issuing the third installment invoice if it exceeds the total cost of the fixed and cost-based components of the connection fee according to the Transmission System Operator's tariff;
  - 2.3.7.2. The client shall be obliged to conclude an agreement with the Transmission System Operator amending the connection contract in order to effect any change to the connection fee;
  - 2.3.7.3. Prior to the determination of the final costs of the cost-based connection fee, it shall be permitted to switch from the cost-based connection fee to a tariff-based connection fee under the connection contract, provided that the client submits a corresponding declaration of intent and the parties conclude an agreement amending the connection contract for this purpose;
  - 2.3.7.4. In the event that the adjusted connection charge exceeds the connection charge already paid by the client to the Transmission System Operator, the client shall be obliged to pay the additional connection charge to the Transmission System Operator within 45 days from the date of issuance of the invoice.

## 2.4. **Establishment of grid connection**

- 2.4.1. The Transmission System Operator shall organize tenders for the design and construction works related to the cost-based component of the connection charge specified in the connection contract, or shall make use of framework agreements conducted prior to the conclusion of the connection contract. The Transmission System Operator shall coordinate with the client only the results of the tenders for the design and construction works of the electrical installations related to the cost-based component of the connection charge, except where the Transmission System Operator and the client agree that the client shall carry out the design and construction of the cost-based electrical installation under the conditions set by the Transmission System Operator, taking into account the assumptions for applying the exception referred to in section 2.4.6. If the design and construction of the cost-based component of the connection charge is carried out by the client, the Transmission System Operator shall have the right to derogate from the conditions set out in the standard connection contract, provided that the principle of equal treatment is observed and the safety and security of the system are ensured.
- 2.4.2. Performance of the connection contract shall commence upon obtaining the ownership or usage rights to the land necessary for the construction of the electrical installation to be built in exchange for the connection charge, in accordance with the conditions set out in the connection contract.
- 2.4.2.1. The Transmission System Operator may commence the tendering process for the construction of the electrical installation to be built in exchange for the connection creation fee prior to obtaining the ownership or usage rights necessary for the construction of the cost-based component of the connection charge, provided that the client has submitted a corresponding declaration of intent. This shall not alter the commencement of performance of the connection contract as set out in clause 2.4.2.
- 2.4.3. In addition to the procurements to be organised for the performance of the connection contract, the Transmission System Operator shall have the right, in order to perform the connection contract, to use procurement contracts awarded as a result of the Transmission System Operator's procurement procedure carried out before the entry into the connection contract. IF permitted under the Public Procurement Act, the Transmission System Operator may, with the consent of the client, order the work necessary for connection as additional work under a procurement contract entered into previously in order to perform the connection contract.
- 2.4.4. If a procurement is carried out following the entry into the connection contract, the client shall be notified of when the procurement has been published in the Public Procurement Register. The client shall have the right to submit comments concerning procurement documents up to seven (7) days before the deadline for submission of tenders. Upon failure to submit comments by the due date, the client shall be considered to have no comments concerning procurement documents.

- 2.4.5. In order to expedite the connection project procedure, the client shall have the right to order geological and geodesic surveys of the Transmission System Operator's substation necessary for the preparation of procurement documents in accordance with the conditions established by the Transmission System Operator.
- 2.4.6. The client may, by agreement with the Transmission System Operator and in accordance with section 2.4.1, construct the 110 kV and 330 kV high-voltage transmission network required for the connection, which shall remain the property of the Transmission System Operator, based on the cost-based component of the connection charge. In such a case, the client shall, in constructing the electrical installation to be transferred to the property of the Transmission System Operator, comply with the procurement obligations arising from the Public Procurement Act (hereinafter: PPA) and the provisions set out in the connection contract. When applying the exception provided in this section, the client shall, in addition to other components of the connection charge, pay the Transmission System Operator a project management fee for the electrical installation constructed by the client.
- 2.4.7. In the case of generation-oriented connection, a client who is a producer shall start generation in accordance with the conditions and deadlines set out in the Electricity Market Act. The start of generation is considered to be a situation where the client has installed a generating unit in accordance with the connection contract and the generating unit has been synchronised with the electricity network and the transmission of electricity has been detected by the measuring devices installed by the Transmission System Operator.
- 2.4.8. An application for deferral of the capacity fee for unused generation-oriented grid connection shall be submitted to the Transmission System Operator in writing at the earliest opportunity once a cause beyond the control of the producer occurs, which causes the postponement of the scheduled start of generation.
- 2.4.9. The Transmission System Operator shall ensure for the client the transmission network capacity corresponding to the connection capacity stipulated in the connection contract within the timeframe specified in the connection contract. When determining the timeframe, the Transmission System Operator shall take into account the following:
- 2.4.9.1. the analysis of the transmission network capacity with the new parameters and the scope of works required for establishing the grid connection;
- 2.4.9.2. based on the results of the analysis, the timeframe for fulfilling the connection contract, taking into account the construction time required for the additional electrical installations.

## 2.5. **Amendment of the connection contract**

- 2.5.1. The client can submit an application to the Transmission System Operator for the amendment of a valid connection contract. The application for the amendment of the connection contract shall be digitally signed.

- 2.5.2. The application for the amendment of the connection contract and appendices thereto form an integral part of the connection contract.
- 2.5.3. The Transmission System Operator shall submit an offer to amend the connection contract to the client within ninety (90) days from the receipt of the application specified in section 2.5.1, which shall be signed by the client within the period of validity thereof and which shall enter into force under the terms and conditions determined in the agreement to amend the connection contract.
- 2.5.4. The amendment of the connection contract shall be subject to the Connection Terms applicable at the time of commencement of the connection procedure, including the processing and procedural fees and the principles of application thereof set out in the Connection Terms.
- 2.5.5. If the changes requested by the client are related to changes in the location of the connection point agreed in the connection contract or changes in the transmission capacity of the grid connection, which require an increase in the apparent power or a reduction of the reactive power capacity in the entire active power range, an application for amendment of the connection contract together with all the appendices required in the connection application shall be submitted to the Transmission System Operator. In such a case, the client shall also pay the processing fee.
- 2.5.6. The Transmission System Operator shall carry out an analysis of the transmission network capacity with the new parameters requested by the client and determine the scope of network construction works required to ensure such capacity. If the analysis reveals the need to reconstruct the electricity network, an agreement to amend the connection contract shall be entered into and the client shall pay the additional connection charge arising from said amendment.
- 2.5.7. In other cases of amendment of the connection contract, including upon the reduction of the consumption and/or generating capacity of the connection point, the client shall bear all the costs arising from said amendment of the connection contract.
- 2.5.8. Upon an agreement to amend the connection contract, the connection charge shall include the transaction fee if the Transmission System Operator, after signing the agreement to amend the connection contract, approves the client's technical design, organises the energisation of the connection point and, if necessary, the synchronising of the generating unit and verifies the conformity of the generating unit with the requirements of the RfG.
- 2.5.9. One client may not have more than one valid connection contract for consumption points or connection points in one substation, and no more than one network contract can be entered into for one consumption point or connection point.
- 2.6. **Termination of the connection contract due to performance**
- 2.6.1. The connection contract shall expire upon the performance of the obligations set out in the connection contract and the applicable legislation.

2.6.2. The Transmission System Operator confirms the performance of the obligations of the connection contract in writing. Once the Transmission System Operator has performed all the obligations set out in the connection contract, the client shall be obligated to enter into a network contract with the Transmission System Operator if they wish to use the grid connection.

### **3. ENERGISATION OF NEW GRID CONNECTIONS BETWEEN CONSUMERS AND DISTRIBUTION SYSTEM OPERATORS, INTRODUCTION OF NEW CONSUMPTION AND/OR GENERATION-ORIENTED CAPACITIES OF DISTRIBUTION SYSTEM OPERATORS, OR INTRODUCTION OF NEW CONSUMPTION-ORIENTED CAPACITIES OF CONSUMERS**

- 3.1. The requirements and procedures set out in this chapter apply to consumers and distribution system operators upon the energisation of a new or existing reconstructed grid connection, to distribution system operators upon the introduction of new consumption and/or generation-oriented capacities of grid connection, or to consumers upon the introduction of new consumption-oriented capacity.
- 3.2. The client shall establish its electrical installation in accordance with the guidelines “Requirements for data exchange related to the electrical installations of clients” and “Technical requirements for the electrical installations of clients” of the Connection Terms.
- 3.3. The client shall submit a written notice for the introduction (energisation) of new consumption and/or generation-oriented capacity of a grid connection in accordance with the connection contract to the Transmission System Operator at the earliest opportunity, but no later than forty (40) days before the introduction of new consumption and/or generation-oriented capacity of the grid connection. In the notice, the client shall, at a minimum, indicate the time of introduction of new consumption and/or generation-oriented capacity of the grid connection.
- 3.4. In order to introduce new consumption and/or generation-oriented capacity of the grid connection, including to energise the grid connection, the following requirements shall be previously met, the more detailed scope of the application of which shall be agreed in the connection contract to be entered into with the client:
  - 3.4.1. the grid connection to be ensured by the Transmission System Operator and the consumption point are ready to be taken into use;
  - 3.4.2. the client’s electrical installation is ready to be taken into use;
  - 3.4.3. the client has made all the payments required by the date of energisation to the Transmission System Operator and properly performed all other obligations provided for in legislation and the contract entered into between the client and the Transmission System Operator;

- 3.4.4. the client has submitted the electrical design documentation of the electrical installation to the Transmission System Operator for approval in accordance with the guideline “Requirements for the preparation and modelling of electrical design documentation of clients” at least fifty (50) days before the requested date of energisation to the necessary extent and has obtained approval thereof at least seven (7) days before the requested energisation. The Transmission System Operator shall review the electrical design documentation within the term specified in section 3.7 from the submission of the design documentation;
- 3.4.5. the client has submitted a written notice for energisation and has obtained approval thereof from the Transmission System Operator at least seven (7) days before the requested date of energisation. The Transmission System Operator shall provide written feedback to the notice submitted by the client within seven (7) days from the submission thereof;
- 3.4.6. the client has submitted an energisation plan at least fourteen (14) days before the requested date of energisation and the Transmission System Operator has approved thereof at least seven (7) days before the requested date of energisation. The Transmission System Operator shall review the energisation plan within seven (7) days from the submission thereof;
- 3.4.7. the client has submitted the details of its electrical installation to the Transmission System Operator to the extent required in the connection contract at least seven (7) days before the requested date of energisation;
- 3.4.8. the client has checked the functioning of signals and controls with the Transmission System Operator in accordance with the principles set out in the guideline “Requirements for data exchange related to the electrical installations of clients” and the information volume table form provided in appendices of section 7 of the guideline at least seven (7) days before the requested date of energisation;
- 3.4.9. the client has submitted an audit report of in accordance with the Equipment Safety Act and, if the client’s electrical installation, including the ground loop, is connected directly to the Transmission System Operator’s electrical installation, a contact voltage report to the Transmission System Operator at least seven (7) days before the requested date of energisation;
- 3.4.10. all pre-synchronising approval conditions established in chapter 5 have been met with regard to the generating unit that requires the generation-oriented grid connection;
- 3.4.11. the client has entered into a network contract with the Transmission System Operator for the use of the consumption and/or generating capacity of the grid connection agreed in the connection contract.

- 3.5. The Transmission System Operator shall issue an energisation operational notification which allows the introduction of new consumption and/or generation-oriented capacity of the grid connection, including the energisation of the new grid connection, within seven (7) days following proper performance of the requirements set out in sections 3.4.1 to 3.4.11.
- 3.6. The Transmission System Operator has the right to verify the conformity of the client's electrical installation with the technical design documentation and the provisions of the connection contract and/or network contract. If the client's electrical installations do not comply with the requirements, the Transmission System Operator has the right to request the elimination of deficiencies, refuse to energise or interrupt the grid connection on the grounds established in the Electricity Market Act or the Standard Terms and Conditions for the Provision of Network Service.
- 3.7. The Transmission System Operator shall review the electrical design documentation submitted for approval within up to thirty (30) days, approving the design documentation or returning it with comments for the elimination of deficiencies.
- 3.8. The energisation plan referred to in section 3.4.6 cannot be submitted to the Transmission System Operator before approval of the electrical design documentation.
- 3.9. The client shall check and ensure the correct functioning of all the signals, measurements and controls specified in the technical design documentation with the energy system control centre of the Transmission System within fourteen (14) days following energisation.

## **4. PROCEDURE FOR CONNECTING GENERATING UNITS OR MIXED INSTALLATIONS TO THE TRANSMISSION SYSTEM OR FOR THE AMENDMENT OF GENERATION AND/OR CONSUMPTION CONDITIONS THEREOF**

### **4.1 General requirements**

- 4.1.1 The requirements and procedures set out in this chapter apply upon the connection of a generating unit or a mixed installation to the Transmission System and upon the amendment of the generation and/or consumption conditions thereof.
- 4.1.2 The client shall establish its electrical installation in accordance with the guidelines “Technical requirements for the electrical installations of clients” and “Requirements for data exchange related to the electrical installations of clients” of the Connection Terms. Upon the connection of a mixed installation, the requirements set out in the Connection Terms shall be applied to the client’s electrical equipment and/or installation that is built or modified and renovated in the course of the connection.
- 4.1.3 The client shall submit a respective connection application to modify the technology of generating units or mixed installations or to add generating units or mixed installations.

### **4.2 Energisation of grid connections**

- 4.2.1 The energization of the client’s network shall mean the initial commissioning of a new or reconstructed existing electrical installation established under the connection contract solely for the purpose of transferring the consumption capacity to the client’s electrical installation, for which the Transmission System Operator issues an energization notice.
- 4.2.2 The client shall submit to the Transmission System Operator a written notice for the energization of a new or existing reconstructed electrical installation under the connection contract at the earliest possible time, but no later than forty (40) days prior to the desired consumption-directed energization of the grid connection. The client shall, at a minimum, indicate the requested date of energisation in the notice.
- 4.2.3 In order to issue the energisation operational notification, the following requirements shall be previously met, the more detailed scope of the application of which shall be agreed in the connection contract to be entered into with the client:
  - 4.2.3.1 the grid connection to be ensured by the Transmission System Operator and the consumption point are ready to be taken into use;
  - 4.2.3.2 the client’s electrical installation is ready to be taken into use;
  - 4.2.3.3 the client has made all the payments required by the date of issue of the energisation operational notification to the Transmission System Operator and properly performed all other obligations provided for in legislation and the contract entered into between the client and the Transmission System Operator;

- 4.2.3.4 the client has submitted the electrical design documentation of the electrical installation to the Transmission System Operator for approval in accordance with the requirements set out in the guideline “Requirements for the preparation and modelling of electrical design documentation of clients” at least fifty (50) days before the requested date of energisation and has obtained approval thereof at least seven (7) days before the requested energisation. The Transmission System Operator shall review the electrical design documentation within up to thirty (30) days, submitting an approval or comments for the elimination of deficiencies as a response.
- 4.2.3.5 the client has submitted a written notice for energisation and has obtained approval thereof from the Transmission System Operator at least seven (7) days before the requested date of energisation. The Transmission System Operator shall provide written feedback to the notice submitted by the client within seven (7) days from the submission thereof;
- 4.2.3.6 the client has submitted an energisation plan at least fourteen (14) days before the requested date of energisation, which the Transmission System Operator has approved at least seven (7) days before the requested date of energisation. The Transmission System Operator shall review the energisation plan within seven (7) days from the submission thereof;
- 4.2.3.7 the client has submitted the details of its electrical installation to the Transmission System Operator to the extent required in the connection contract at least seven (7) days before the requested date of energisation;
- 4.2.3.8 the client has verified the measurements, signals, and control transmissions of their electrical installation with the Transmission System Operator’s control center in accordance with the principles set out in the manual “Requirements for data exchange related to the electrical installations of clients” , and with the format of the data volume table provided in Appendix 7 of that manual, at least seven (7) days prior to the desired energization date.
- 4.2.3.9 the client has submitted an audit report of in accordance with the Equipment Safety Act and, if the client’s electrical installation, including the ground loop, is connected directly to the Transmission System Operator’s electrical installation, a contact voltage report to the Transmission System Operator at least seven (7) days before the requested date of energisation;
- 4.2.3.10 the client has entered into a network contract with the Transmission System Operator for consumption-oriented use of the capacity of the grid connection agreed in the connection contract.
- 4.2.4 The Transmission System Operator shall issue an energisation operational notification, which permits the consumption-oriented energisation of the grid connection within seven (7) days following the proper performance of the requirements set out in sections 4.2.3.1 to 4.2.3.10 by the client.

- 4.2.5 The Transmission System Operator has the right to verify the conformity of the client's electrical installation with the technical design documentation and the provisions of the connection contract and/or network contract. If the client's electrical installations do not comply with the requirements, the Transmission System Operator has the right to request the elimination of deficiencies, refuse to energise or interrupt the grid connection on the grounds established in the Electricity Market Act or the Standard Terms and Conditions for the Provision of Network Service.
- 4.2.6 The energisation plan referred to in section 4.2.3.6 cannot be submitted to the Transmission System Operator before approval of the electrical design documentation.
- 4.2.7 Following energisation, the client shall, within fourteen (14) days, verify and ensure the correct operation of all signals, measurements, and control functions of the electrical installation as specified in the project, in coordination with the Transmission System Operator's control center.

### **4.3 Synchronisation of generating units**

- 4.3.1 Synchronisation is the first synchronisation of a generating unit agreed in the connection contract by the client with the electricity network, for which the Transmission System Operator issues an interim operational notification.
- 4.3.2 In order to issue the interim operational notification, the following requirements shall be previously met, the more detailed scope of the application of which shall be agreed in the connection contract to be entered into with the client:
- 4.3.2.1 the Transmission System Operator has issued an energisation operational notification and the client has fulfilled the requirement set out in section 4.2.7 of the Connection Terms;
- 4.3.2.2 the grid connection to be ensured by the Transmission System Operator and the point of consumption are ready to be taken into generation-oriented use;
- 4.3.2.3 the client's electrical installation is ready to be taken into generation-oriented use and the client's generating unit is ready to be synchronised;
- 4.3.2.4 the client submits a respective written notice to the Transmission System Operator regarding the requested date of synchronising of the production device at least seven (7) days before the requested synchronising of the generating unit;

- 4.3.2.5 the Transmission System Operator has approved the comprehensive electrical design documentation of the electrical installation prepared by the client in accordance with the guideline “Requirements for the preparation and modelling of electrical design documentation of clients”. The electrical design documentation shall be approved by the Transmission System Operator seven (7) days before the requested date of synchronising. The Transmission System Operator shall review the electrical design documentation within thirty (30) days from the submission of the design documentation. The electrical design documentation includes, among other things, the following, prepared in accordance with the guideline “Requirements for the preparation and modelling of electrical design documentation of clients”:
- 4.3.2.5.1 type test reports for every type of power-generating facility;
  - 4.3.2.5.2 report on the simulation of cooperation between the generating unit and the electricity network;
  - 4.3.2.5.3 PSS/E and PSCAD models;
- 4.3.2.6 the Transmission System Operator has approved the acceptance test plan of the generating unit prepared by the client in accordance with the guideline “Requirements for testing of and preparation of test plans for generating units of clients.” The acceptance test plan shall be approved by the Transmission System Operator seven (7) days before synchronising. The Transmission System Operator shall review the acceptance test plan within fourteen (14) days from the submission thereof;
- 4.3.2.7 in the case of synchronous generators, the Transmission System Operator has approved the results of no-load tests of the generating unit. The results of no-load tests shall be submitted at least fourteen (14) days before the requested synchronising of the generating unit. The Transmission System Operator shall review the results of no-load tests within seven (7) days from the submission thereof;
- 4.3.2.8 the client has made all the payments required by the date of energisation to the Transmission System Operator and properly performed all other obligations provided for in legislation and the contract entered into between the client and the Transmission System Operator;
- 4.3.2.9 the client has approved and checked the functioning of signals and controls in the direction of the Transmission System Operator in accordance with the principles set out in the guideline “Requirements for data exchange related to the electrical installations of clients” and the information volume table form provided in appendix of section 7 of the guideline at least seven (7) days before the requested synchronising of the generating unit;
- 4.3.2.10 a temporary network contract has been entered into, permitting the generation-oriented capacity of the grid connection.

- 4.3.3 The client shall finally check and ensure the correct functioning of all the signals, including measurements and controls, set out in the technical design documentation with the energy system control centre within fourteen (14) days following the synchronisation, and submit the signal test report following the synchronisation.
- 4.3.4 The Transmission System Operator shall issue an interim operational notification permitting the synchronising of the generating unit within seven (7) days following the fulfilment of the conditions set out in sections 4.3.2.1 to 4.3.2.10 by the client.
- 4.3.5 The period of validity of the interim operational notification is twenty-four (24) months, during which the client has to fulfil all the conditions for the issuance of a final operational notification.

#### **4.4 Verification and certification of conformity of generating units**

##### **4.4.1 General provisions**

- 4.4.1.1 The verification and certification of the conformity of a generating unit shall take place in accordance with the provisions of the connection contract, the Connection Terms, the RfG, the Grid Code, and the Electricity Market Act.
- 4.4.1.2 The conformity of a generating unit with the established requirements shall be assessed as a whole at the connection point between the Transmission System Operator and the client.
  - 4.4.1.2.1 The control of a mixed installation and the communication connection thereof with the energy system control centre shall be established in accordance with the requirements set out in section 5.5 of the guideline “Technical requirements for the electrical installations of clients” of the Connection Terms. The connection point of a mixed installation to the electricity network shall be located at the connection point between the client and the Transmission System Operator, and the procedure of the connection and the verification and certification of conformity thereof shall take place in accordance with the requirements and conditions established in these Connection Terms. When adding a consumer to a generating unit, the purpose of testing is to check and test functionalities and the effects of the control system that are affected by the connection. In the case of generating units connected to the electricity network before 2003, it shall be verified whether metering data concerning additional electricity consumption are forwarded to the energy system control centre of the Transmission System Operator with regard to electricity consumers added to the generating unit in the course of the connection process in accordance with the guideline “Requirements for data exchange related to the electrical installations of clients”. The verification of such measurement data does not require entering into an agreement on the temporary use of grid connection. Following the approval of the electrical design documentation by the Transmission System Operator and verification of the measurement data additionally submitted to the energy system control centre, a new permanent network contract shall be entered into with the client.

- 4.4.1.2.2 The generating unit of a mixed installation shall meet the requirements of the Grid Code and the Connection Terms applicable at the time of connection of the generating unit, except for generating units connected to the electricity network before 2003, upon the connection of additional consumption to which the conformity of the generating unit with the Grid Code is not checked. If an additional power-generating facility is added to the electrical installation of a consumer or producer, the conformity of the generating unit shall be checked on the basis of legislation, the Grid Code and the Connection Terms applicable at the time of connection of the additional power-generating facility.
- 4.4.1.3 The Transmission System Operator shall approve the conformity of the generating unit in writing on the basis of the test results.
- 4.4.1.4 The obligation to conduct tests lies with the client, except with regard to the FRT test which shall be conducted by the Transmission System Operator in accordance with section 4.4.6 of the Connection Terms and the guideline "Requirements for the testing and preparation of a testing plan for the generating units of clients".
- 4.4.1.5 If the client's generating unit is built in stages, the conformity of the generating unit with the requirements shall be verified in accordance with the provisions of section 4.4.8 of the Connection Terms following the connection of each stage to the electricity network.
- 4.4.1.6 If the network connection capacity of the generating unit is lower than the module's maximum capacity, the module shall be tested based on its maximum capacity.

#### **4.4.2 Preparation of a test plans**

- 4.4.2.1 A test plan shall, depending on the type of generating unit, be agreed upon in accordance with the sample test plan provided in the guideline "Requirements for the testing and preparation of a testing plan for the generating units of clients".
- 4.4.2.2 A test plan shall include:
- 4.4.2.2.1 a list of tests, the time of testing of and the person responsible for performing the tests;
- 4.4.2.2.2 data on measuring devices, network diagrams and other data, based on which the content and order of the tests can be planned and the results can be analysed;
- 4.4.2.3 A prerequisite for the commencement of tests is an agreed test plan signed by the client and the Transmission System Operator.

#### **4.4.3 Carrying out tests**

- 4.4.3.1 Tests shall generally be carried out in three stages in accordance with the requirements set out in the guideline "Requirements for the testing and preparation of a testing plan for the generating units of clients":
- 4.4.3.1.1 quality measurements;
- 4.4.3.1.2 functionality tests of the generating unit;
- 4.4.3.1.3 FRT test.
- 4.4.3.2 In order to start the tests, the client shall submit a declaration of readiness for tests prepared in accordance with the form provided in the guideline "Requirements for the

testing and preparation of a testing plan for the generating units of clients” to the connection project manager three (3) days before the start of the tests.

- 4.4.3.3 The Transmission System Operator shall be notified of the completion of the tests.
- 4.4.3.4 When planning tests and preparing test plans and in the later testing phase, activities shall be agreed with the connection project manager of the Transmission System Operator. The connection project manager shall be kept informed of the progress of the tests and allowed to attend the tests.
- 4.4.3.5 A test plan shall cover all the control functions of the generating unit which have to be tested both with local control and with control from the energy system control centre.
- 4.4.3.6 The tests shall be carried out in the order agreed in the test plan. The order of the tests may be changed by agreement of the parties.
- 4.4.3.7 Prior consent of the energy system control centre shall be obtained for all the tests to be performed in parallel to the power system, unless agreed otherwise.

#### **4.4.4 Quality measurements**

- 4.4.4.1 Quality measurements shall be performed for all the power park modules as a test that runs in parallel operation to the grid. Specific quality limits shall be agreed with the client in the connection contract.
- 4.4.4.2 The quality measurement period shall last for at least seven (7) days, during which there shall be no interruptions in measurements, except for brief interruptions for downloading measurement data. The number of interruptions per week shall be agreed with the transmission system operator before commencing with the tests.
- 4.4.4.3 A timeline of events shall be presented with regard to all the events occurring during the test period (including inverter on/off switching events and causes), commands between the central computer and the power park module, commands between the Transmission System Operator’s Supervisory Control and Data Acquisition (hereinafter: SCADA) and the client’s SCADA.
- 4.4.4.4 A summary report on the quality measurements shall be submitted in accordance with the form provided in the guideline “Requirements for the testing and preparation of a testing plan for the generating units of clients” within ten (10) working days following the completion of the quality measurements together with confirmation that the electricity quality indicators are within the permissible limits and the power park module does not cause non-permissible disruptions for other clients connected to the electricity network.
- 4.4.4.5 If the results contained in the summary report on the quality measurement are within the limits agreed in the connection contract, the Transmission System Operator shall, within ten (10) working days, give permission to continue with the tests in accordance with the test plan up to the FRT test.
- 4.4.4.6 The full report on the quality measurements shall, in addition to the data provided in the summary report, include a graphic representation of the results and state the active and

reactive power generated during the quality measurements.

#### **4.4.5 Functionality tests of generating units**

- 4.4.5.1 After carrying out the tests specified in the test plan, the client shall submit a report on the results of the tests to the Transmission System Operator within thirty (30) days. The report submitted on functionality tests shall include the results of quality measurements, which shall be submitted in accordance with the requirements set out in Appendix 3.
- 4.4.5.2 The test report shall include an assessment of the operating characteristics of the generating unit, the electricity quality and conformity with the requirements agreed in the RfG, the Grid Code, the Connection Terms, and the connection contract.
- 4.4.5.3 The Transmission System Operator shall assess conformity with the requirements at the connection point between the client and the Transmission System Operator. The Transmission System Operator shall transmit the assessment of the test results to the client within thirty (30) days from submission of the report.
- 4.4.5.4 If the report shows non-compliance and it is concluded that the electrical installation is not in conformity with the requirements, the client shall determine the causes of the non-compliance and the possibilities and time of eliminating thereof and shall perform new tests. In such a case, a new test report shall be submitted to the Transmission System Operator. The Transmission System Operator shall provide an assessment on the subsequent test report within thirty (30) days from receipt of the report or the supplement.

#### **4.4.6 FRT test**

- 4.4.6.1 The FRT test shall be carried out by the Transmission System Operator within thirty (30) days after completion of all the other tests included in the test plan and approval of the final report by the Transmission System Operator, where possible.
- 4.4.6.2 If it is not possible to organise the test within thirty (30) days due to seasonally high electricity flows or an abnormal condition of the elements of the electricity system without risking leaving other connection points of the Transmission System Operator without power or the voltage exceeding the limits permitted in the standard terms and conditions of network services, the test shall be carried out at the earliest opportunity.
- 4.4.6.3 The FRT test shall be carried out in accordance with the conditions agreed in the test plan at the connection point between the client and the Transmission System Operator. The FRT test parameters shall also comply with the FRT parameters set out in the RfG, which the generating unit must be able to tolerate without disconnecting from the electricity system.
- 4.4.6.4 The FRT test measurements shall be performed and the test result report shall be prepared by a third party. The Transmission System Operator shall submit the report to the client within ten (10) working days from the completion of the test.

- 4.4.6.5 Upon failure of the FRT test due to reasons attributable to the network operator, the test is considered unsuccessful and shall be repeated at the earliest opportunity. In such a case, the fee specified in section 2.3.6 of the Connection Terms shall not be applied.
- 4.4.6.6 Upon failure of the FRT test due to reasons attributable to the client's generating unit:
  - 4.4.6.6.1 the client shall have the right to submit justified objections to the third-party report within seven (7) working days from the transmission of the report specified in section 4.4.6.4 to the connection project manager of the Transmission System Operator;
  - 4.4.6.6.2 the client shall, within thirty (30) days from the submission of the test results report specified in section 4.4.6.4 by the Transmission System Operator, prepare a report on the reasons for the failure of the test, an action plan for the improvements made to the generating unit to ensure the success of the subsequent test, a report on the improvements made by the client, and a declaration provided in the guideline "Requirements for the testing and preparation of a testing plan for the generating units of clients" to the effect that the generating unit is ready for a new FRT test. A description of the previous situation and the corrected situation with the parameters and the expected impact thereof shall be provided with regard to all the improvements;
  - 4.4.6.6.3 the Transmission System Operator shall review the client's report within up to ten (10) working days, after which the planning of the repeat test shall commence or the report shall be returned to the client for corrections;
  - 4.4.6.6.4 if the Transmission System Operator decides that the volume and content of the client's report is sufficient, a repeat test shall be carried out within thirty (30) days at the latest following the approval of the report, provided that the client has introduced the improvements to the generating unit and the situation in the electricity system permits.
- 4.4.6.7 The test plan is considered completed once all the agreed tests have been successfully carried out.

#### **4.4.7 Certification of conformity**

- 4.4.7.1 Once all the agreed tests have been successfully carried out, the Transmission System Operator shall, in accordance with section 2.8, provide an assessment of the conformity of the generating unit with the requirements set out in the Grid Code, the RfG, and the connection contract.
- 4.4.7.2 Certification of conformity by an authorised certifier.
  - 4.4.7.2.1 If the client wishes to certify conformity pursuant to the RfG on the basis of a certificate issued by an authorised certifier, the client shall submit a detailed plan for certification of the conformity of the generating unit issued by an entity accredited under DIN EN ISO/IEC 17065. If the generating unit has an output lower than 5 MW, certifying FRT capacity is also permitted based on simulations. For this purpose, the client shall perform conformity modelling pursuant to the RfG using a previously validated model. The client shall then perform simulations of special types of short circuits in accordance

with the legislation and other standards applicable in Estonia. In addition to the simulations, the person carrying out the work shall provide a guarantee that none of the fuses installed in the client's installation do not switch off the generating unit during the 250 ms short circuit.

- 4.4.7.2.2 The respective plan shall be prepared in accordance with the requirements established in Estonia, and the Transmission System Operator shall have the right to make its own amendments and proposals.

#### **4.4.8 Connecting generating units to the electricity network stages**

- 4.4.8.1 If a generating unit is built and brought into conformity with the requirements in stages, the complete conformity of the generating unit with the requirements shall be verified following the synchronisation of each stage with the network, taking into account the provisions of sections 4.4.7 and 4.4.8, in order to obtain the final operational notification for the generating unit.
- 4.4.8.2 The volume of the stages shall be agreed in the connection and the network contract.
- 4.4.8.3 A generating unit that is connected in stages shall be referred to by a single name, while the stages of the generating unit may have separate names. The nominal active power of a generating unit is derived as a sum of the nominal active powers of the completed stages.
- 4.4.8.4 The devices necessary for the generation of electricity installed in different stages shall be considered a complete generating unit (a functional assembly) and shall be tested as a whole if they have the following in common:
- 4.4.8.4.1 connection point to the Transmission System Operator and/or;
- 4.4.8.4.2 control and protection systems and auxiliary equipment.
- 4.4.8.5 The control of a generating unit shall be established so that control is specific to a connection point, regardless of the number of stages.
- 4.4.8.6 All stages of a generating unit that is capable of operating in stages shall be capable of meeting the requirements set out in the connection contract, the RfG and the Grid Code both individually and when operating together. When complying with the functional requirements of the Grid Code:
- 4.4.8.6.1 the required primary and secondary reserves of the generating unit shall be derived from the nominal active power of the operating stages;
- 4.4.8.6.2 the minimum power generated by the generating unit as well as the speed of regulating active power together with the range of application of this requirement shall be derived from the nominal active power of the operating stages;
- 4.4.8.6.3 the technical capacity of the generating unit as established in the reactive power P/Q diagram shall be achievable as an aggregate of the P/Q diagrams of the operating stages in both reactive power and voltage control modes.
- 4.4.8.7 The FRT test necessary for the assessment of the conformity of the generating unit shall be performed with all the completed stages operating in parallel.

## **4.5 Permanent commissioning of generating units**

- 4.5.1 The client obtains the right to operate a generating unit using the grid connection after the verification and certification of the conformity of the generating unit and performance of all the obligations set out in the connection contract, the Connection Terms and legislation, for which the Transmission System Operator issues a final operational notification.
- 4.5.2 The terms and conditions of issuing a final operational notification, unless a more detailed scope of application thereof has been agreed in the connection contract or an agreement on the temporary use of grid connection to be entered with the client:
  - 4.5.2.1 The Transmission System Operator has issued an energisation operational notification and the client has fulfilled the requirements set out in section 4.2.7 of the Connection Terms.
  - 4.5.2.2 The Transmission System Operator has issued an interim operational notification and the client has fulfilled the requirements set out in section 4.3.3 of the Connection Terms.
  - 4.5.2.3 The generating unit has been assessed for conformity and the Transmission System Operator has issued a certificate of conformity with the requirements of the Grid Code.
  - 4.5.2.4 The Transmission System Operator has approved the models of the electrical installation corrected and verified by the client. The client shall submit verified models to the Transmission System Operator after the generating unit has been declared compliant, together with the documentation specified in the guideline “Requirements for the Preparation and Modelling of Electrical Design Documentation of Clients”.
  - 4.5.2.5 The client has eliminated all the non-conformities identified by the Transmission System Operator in the interim operation notification status.
  - 4.5.2.6 The client has made all the payments required in the course of the performance of the connection contract to the Transmission System Operator and has properly performed all other obligations provided for in legislation and the connection contract entered into between the client and the Transmission System Operator.
  - 4.5.2.7 A network contract has been entered into between the client and the Transmission System Operator.
- 4.5.3 The Transmission System Operator shall issue the final operational notification within fourteen (14) days after the client has fulfilled all the conditions set out in section 4.5.2.
- 4.5.4 The client is permitted to maintain the interim operational notification status for up to twenty-four (24) months unless the Transmission System Operator has established a shorter term.
- 4.5.5 If the client fails to comply with the requirements for the issuance of a final operational notification within the established deadline or within twenty-four (24) months from issuance of the interim operational notification at the latest, the Transmission System Operator shall disconnect the generating unit from the network.
- 4.5.6 In order to extend the term of validity of an interim operational notification, an application shall be submitted to the Transmission System Operator no later than six

(6) months before the expiry of the period of validity of the interim operational notification. The application for an extension of the period of validity of an operational notification shall be submitted to the Transmission System Operator in accordance with the derogation procedure established in Article 60 of the RfG.

- 4.5.7 The application for an extension of the period of validity of an interim operational notification shall include, among other things, a detailed overview of the technical reasons for the failure to achieve a final operational notification, the measures of eliminating thereof, and the schedule for eliminating the deficiencies.
- 4.5.7.1 The period of validity of an interim operational notification may only be extended if the owner of the generating unit has made significant progress towards achieving full conformity.
- 4.5.7.2 When processing the application for extension, the RfG shall be complied with in matters not governed by the Connection Terms.
- 4.5.8 If the client wishes to connect a generating unit to the Transmission System after the Transmission System Operator has shut down the generating unit in accordance with the conditions set out in section 4.5.5, the Transmission System Operator has the right to permit the connection of the generating unit to the Transmission System for a period of two (2) years for the purpose of meeting the conditions of the final operational notification, provided that the owner of the generating unit presents the measures for meeting the conditions of the final operational notification in the application.
- 4.5.9 By submitting the application specified in section 4.5.8, the client loses the right to the guaranteed transmission capacity agreed in the connection contract and can use the transmission capacity to the extent left over from ensuring the transmission capacity established in the network contracts of other clients of network services.
- 4.5.10 The client and the Transmission System Operator shall agree on the more detailed terms and conditions of the re-energisation and use of the grid connection by amending the connection contract. Other market participants can submit connection applications for taking the released transmission capacity in accordance with the conditions established in section 4.5.5 into use.
- 4.5.11 The client referred to in section 4.5.5 is permitted to initiate a new connection procedure for applying for guaranteed transmission capacity after three (3) years have passed from the expiry of the interim operational notification status.

## **5 PROCEDURE FOR THE TRANSMISSION SYSTEM OPERATOR'S APPROVAL FOR GENERATING UNITS TO BE CONNECTED TO THE ELECTRICITY NETWORKS OF DISTRIBUTION SYSTEM OPERATORS**

### **5.1 General part**

- 5.1.1 The Transmission System Operator has established the following procedure for the purpose of specifying the obligations of generating units to be connected to the electricity systems of distribution system operators in respect of the Transmission System Operator as established in the Grid Code and the RfG.
- 5.1.2 A Distribution System Producer shall initiate the approval process for the connection of type C and D generating modules to the electricity system following the entry into a connection contract between the Distribution System Producer and the distribution system operator by forwarding the required details of the producer's generating unit and the additional mandatory appendices to be drawn up by the distribution system operator in accordance with section 5.3, 5.4 or 5.5 to the Transmission System Operator.
- 5.1.3 For the coordination of Type C and Type D generating units, the distribution network developer shall pay the Transmission System Operator a processing fee in accordance with the tariff published on the Transmission System Operator's website. An invoice for the processing fee with a payment term of twenty-one (21) days shall be submitted to the Distribution System Producer within three (3) working days following the transmission of the materials required for the approval of the connection of the generating unit to the Transmission System Operator.
- 5.1.4 The Transmission System Operator shall, within ten (10) working days after the distribution network developer has submitted the coordination request referred to in section 1.4 of Appendix 1 and the processing fee has been received (if applicable), notify the distribution network developer of the acceptance of the coordination request or of any deficiencies in the submitted documents.
- 5.1.5 If the connection of the Distribution System Producer to the distribution system operator requires changes to the consumption and/or generation conditions at the connection point between the distribution system operator and the Transmission System Operator, the distribution system operator shall, in addition to the approval process, initiate a connection process between the distribution system operator and the Transmission System Operator, for which purpose the distribution system operator shall submit a connection application in accordance with section 2.1 and which shall be subject to the processing fee specified in section 2.3.2.1 and the transaction fee specified in section 2.3.4.1.

- 5.1.6 The Transmission System Operator shall review the documents submitted by the distribution network developer in the form specified in point 1.4 of Annex 1 (including the project and data communication plans) within thirty (30) days from the date of notification to the distribution network developer of the receipt of the coordination request, providing in response either approval or comments for the elimination of deficiencies. The approval procedure shall be suspended until submission of the proper materials.
- 5.1.7 The connection of a generating unit to the electricity network is deemed to have been approved by the Transmission System Operator if there are no deficiencies in the documents submitted to the Transmission System Operator in accordance with section 1.4 of Appendix 1 and the generating unit has successfully completed the necessary operations for approval set out in sections 5.3 to 5.5 of the Connection Terms. The Transmission System Operator shall notify the distribution system operator of the approval of the connection of the generating unit to the electricity network by a respective written notice.

## **5.2 Type A generating units**

- 5.2.1 When connecting type A generating units to the electricity network, the distribution system operator shall submit the data of type A generating units connected to its network in accordance with section 23 of the Government of the Republic Regulation "Grid Code on the functioning of the electricity system".

## **5.3 Type B generating units**

- 5.3.1 To connect type B generating units to the electricity network, the Distribution System Producer shall submit an application in accordance with the form "Application for approval of generating units to be connected to the distribution system" provided in section 1.4 of Appendix 1 together with the necessary documents specified in the application form regarding the connection of its generating unit to the distribution system to the Transmission System Operator's e-mail address [kliendihaldur@elering.ee](mailto:kliendihaldur@elering.ee). The documents required in the application shall be approved by the Transmission System Operator seven (7) days before synchronising the generating unit.
- 5.3.2 After reviewing the documents specified in section 5.3.1 submitted by the Distribution System Producer, the Transmission System Operator shall issue a respective written approval if there are no deficiencies or, where necessary, shall specify the deficiencies in the documents.
- 5.3.3 After the required documents have been approved by the Transmission System Operator, the Distribution System Producer shall carry out the following activities before synchronising:

- 5.3.3.1 the owner of the generating unit shall notify the Transmission System Operator of the intention to open a communication connection by e-mail no later than 7 working days before the establishment of the requested communication connection;
- 5.3.3.2 before synchronising the generating unit, the owner of the generating unit shall ensure and test the functioning of the communication connection to the energy system control centre in accordance with the guideline "Requirements for data exchange related to the electrical installations of clients" pursuant the approved table of data volumes.
- 5.3.4 Following the synchronising of the generating unit, the owner of the generating unit shall submit the following documents and perform the following activities:
  - 5.3.4.1 submit to the Transmission System Operator a plan for testing the compliance of the generating unit with the Grid Code approved by the distribution system operator no later than 7 working days before the requested tests are carried out, which includes tests related to the Transmission System Operator;
  - 5.3.4.2 test the real-time measurement and remote control signals to be sent out required by the Transmission System Operator with a generating unit operating in parallel with the system from the energy system control centre within three (3) months after synchronising;
  - 5.3.4.3 test the generating unit operating in parallel with the system in accordance with the compliance test plan with the Grid Code submitted by the Distribution System Producer.
- 5.3.5 Before issuing the final operational notification, the distribution system operator shall verify that the Transmission System Operator has no complaints regarding the following operations:
  - 5.3.5.1 the operation of real-time measurement and remote control signals transmitted by the Distribution System Producer to the energy system control centre;
  - 5.3.5.2 compliance tests with the Grid Code related to the agreed Transmission System Operator have been successfully completed.
- 5.3.6 After approving the documents of the generating unit required in section 5.3 and successfully completing the activities required for approval, the Transmission System Operator shall transmit to the Distribution System Producer a corresponding written notice regarding the approval of the generating unit.

## **5.4 Type C generating units**

- 5.4.1 To connect type C generating units to the electricity network, the Distribution System Producer shall submit an application in accordance with the form “Application for approval of generating units to be connected to the distribution system” provided in section 1.4 of Appendix 1 together with the necessary documents specified in the application form regarding the connection of its generating unit to the distribution system to the Transmission System Operator’s e-mail address [kliendihaldur@elering.ee](mailto:kliendihaldur@elering.ee). The documents required in the application shall be approved by the Transmission System Operator seven (7) days before synchronising the generating unit.
- 5.4.2 After reviewing the documents specified in section 5.4.1 submitted by the Distribution System Producer, the Transmission System Operator shall issue a respective written approval if there are no deficiencies or shall specify the deficiencies in the documents.
- 5.4.3 After the required documents have been approved by the Transmission System Operator, the Distribution System Producer shall carry out the following activities before synchronising:
- 5.4.3.1 the owner of the generating unit shall notify the Transmission System Operator of the intention to open a communication connection in writing no later than 7 working days before the establishment of the requested communication connection;
- 5.4.3.2 before synchronising the generating unit, the owner of the generating unit shall ensure and test the functioning of the communication connection to the energy system control centre in accordance with the guideline “Requirements for data exchange related to the electrical installations of clients” pursuant the approved table of data volumes.
- 5.4.4 Following the synchronising of the generating unit, the owner of the generating unit shall submit the following documents and perform the following activities:
- 5.4.4.1 submit to the Transmission System Operator a plan for testing the compliance of the generating unit with the Grid Code approved by the distribution system operator no later than 7 working days before the requested tests are carried out, which includes tests related to the Transmission System Operator;
- 5.4.4.2 test the real-time measurement and remote control signals to be sent out of a generating unit to be tested which operates in parallel with the system as required by the Transmission System Operator from the energy system control centre within three (3) months after synchronising;
- 5.4.4.3 test the generating unit operating in parallel with the system in accordance with the compliance test plan with the Grid Code submitted by the Distribution System Producer.
- 5.4.5 The owner of the generating unit shall submit to the Transmission System Operator a verified PSS/E model prepared in accordance with the guideline “Requirements for the preparation and modelling of electrical design documentation of clients” no later than within 3 months following the successful completion of the tests on the generating unit. The verified model shall be approved by the Transmission System Operator.

- 5.4.6 Before issuing the final operational notification, the distribution system operator shall verify that the Transmission System Operator has no complaints regarding the following operations:
- 5.4.6.1 the operation of real-time measurement and remote control signals transmitted by the Distribution System Producer to the energy system control centre;
- 5.4.6.2 compliance tests with the Grid Code related to the agreed Transmission System Operator have been successfully completed.
- 5.4.7 After approving the documents of the generating unit listed in section 5.4 and successfully completing the activities required for approval, the Transmission System Operator shall transmit to the Distribution System Producer a corresponding written notice regarding the approval of the generating unit.

## **5.5 Type D generating units**

- 5.5.1 To connect type D generating units to the electricity network, the Distribution System Producer shall submit an application in accordance with the form “Application for approval of generating units to be connected to the distribution system” provided in section 1.4 of Appendix 1 together with the necessary documents specified in the application form regarding the connection of its generating unit to the distribution system to the Transmission System Operator’s e-mail address [kliendihaldur@elering.ee](mailto:kliendihaldur@elering.ee). The documents required in the application shall be approved by the Transmission System Operator seven (7) days before synchronising the generating unit.
- 5.5.2 After reviewing the documents required in section 5.5.1 by the Distribution System Producer, the Transmission System Operator shall issue a respective written approval if there are no deficiencies or, where necessary, shall specify the deficiencies in the documents.
- 5.5.3 After the required documents have been approved by the Transmission System Operator, the Distribution System Producer shall carry out the following activities before synchronising:
- 5.5.3.1 the owner of the generating unit shall notify the Transmission System Operator of the intention to open a communication connection in writing no later than 7 working days before the establishment of the requested communication connection;
- 5.5.3.2 before synchronising the generating unit, the owner of the generating unit shall ensure and test the functioning of the communication connection to the energy system control centre in accordance with the guideline “Requirements for data exchange related to the electrical installations of clients” pursuant the approved table of data volumes.
- 5.5.4 Following the synchronising of the generating unit, the owner of the generating unit shall submit the following documents and perform the following activities:

- 5.5.4.1 submit to the Transmission System Operator a plan for testing the compliance of the generating unit with the Grid Code approved by the distribution system operator no later than 7 working days before the requested tests are carried out, which includes tests related to the Transmission System Operator;
- 5.5.4.2 test the real-time measurement and remote control signals to be sent out of a generating unit to be tested which operates in parallel with the system as required by the Transmission System Operator from the control centre within three (3) months after synchronising;
- 5.5.4.3 test the generating unit operating in parallel with the system in accordance with the compliance test plan with the Grid Code submitted by the Distribution System Producer.
- 5.5.5 The owner of the generating unit shall submit to the Transmission System Operator a verified PSS/E model prepared in accordance with the guideline "Requirements for the preparation and modelling of electrical design documentation of clients" no later than within 3 months following the successful completion of the tests on the generating unit. The verified model shall be approved by the Transmission System Operator.
- 5.5.6 Before issuing the final operational notification, the distribution system operator shall verify that the Transmission System Operator has no complaints regarding the following operations:
  - 5.5.6.1 the operation of real-time measurement and remote control signals transmitted by the Distribution System Producer to the energy system control centre;
  - 5.5.6.2 compliance tests with the Grid Code related to the agreed Transmission System Operator have been successfully completed.
- 5.5.7 After approving the documents of the generating unit listed in section 5.5 and successfully completing the activities required for approval, the Transmission System Operator shall transmit to the Distribution System Producer a corresponding written notice regarding the approval of the generating unit.

## **6 TEMPORARY CONNECTION OF A PROTOTYPE DEVICE TO THE TRANSMISSION SYSTEM**

### **6.1 General principles**

- 6.1.1 This chapter sets out the terms and conditions for temporary connection of a prototype device to the Transmission System.
- 6.1.2 In this chapter, connection shall mean the connection of an electrical installation of a prototype device to the Transmission System via a new or an existing connection point.
- 6.1.3 Connection to the Transmission System shall be established at the rated voltage of 110 kV or 330 kV.
- 6.1.4 If a connection point has to be built for the connection of a prototype device, a connection process shall be carried out. After completion of the connection process, a fixed-term network contract shall be entered up for up to five (5) years from the completion of the connection point.
- 6.1.5 In the case of a prototype device, the new connection point may be used for up to three (3) years from the date of the synchronising of the prototype device.
- 6.1.6 Within two (2) years after the end of the three-year period, a connection application may be submitted for the connection of a permanent electrical installation to the same connection point or for using the same connection point for a new prototype device. If no proper connection application or an application for using the connection point is submitted within two (2) years, the right to use the connection point expires and the client shall no longer receive network services from the connection point.
- 6.1.7 Within two (2) years following the period of use of a prototype device specified in section 6.1.5, the client may submit an application for the connection of an electrical installation of a new prototype device to the Transmission System at the same connection point.
- 6.1.8 If the client wishes to use an existing connection point for the connection of a prototype device, the prototype device shall not generate or consume more than provided for in the applicable connection and/or network contract.
- 6.1.9 A prototype device(s) may be connected to a connection point for up to three (3) years.
- 6.1.10 Following the completion of the testing period of the prototype device(s), the prototype device(s) shall be removed or connected to the network through the connection process for connecting generating units to the network.
- 6.1.11 Any communication and data exchange with the Transmission System Operator with regard to connection to the Transmission System as well as approvals and testing shall be done by e-mail or in the e-environment for connection.
- 6.1.12 The client shall pay all of the justified costs arising from the connection of a prototype device to the electricity network.

## **6.2 Technical principles of connection**

- 6.2.1 The total nominal power of prototype devices to be connected to the electricity network node shall be below 0.2% of the short-circuit power, calculated under normal operation of the system.
- 6.2.2 If a connection point shows interference coming from the client, in the case of which the electricity quality limits (planning values) set out in the guideline “Technical requirements for the electrical installations of clients” or the uninterrupted supply of electricity to other clients connected to the electricity network is not ensured, the client’s prototype device is disconnected from the Transmission System.
- 6.2.3 In the event of disconnection from the network, the client has no right to claim compensation for any damages incurred against the Transmission System Operator.
- 6.2.4 In the event of an occurrence of disruptions, the client shall submit a detailed report on the causes of the disruption.
- 6.2.5 The client’s electrical installation shall not be reconnected to the Transmission System until the client has submitted a detailed plan together with explanatory activities to eliminate the disruptions. The electrical installation shall be energised to the Transmission System once the plan for the elimination of the disruptions has been approved by the Transmission System Operator and the disruptions have been eliminated.
- 6.2.6 The period of three (3) years specified in sections 6.1.5 and 6.1.6 and provided for in the contract for connecting the prototype device shall not be extended upon the occurrence of disruptions and the disconnection of the prototype device from the Transmission System.
- 6.2.7 If a generating unit is or will be connected to the same connection point as the prototype device(s), it shall be possible to separate the prototype device(s) from the generating unit.
  - 6.2.7.1 The prototype device(s) shall not be connected to the control system of the generating unit connected to the same connection point.
  - 6.2.7.2 The prototype device(s) shall be disconnected from the network during testing of the generating unit connected to the same connection point.

## **6.3 Brief description of the connection process of a prototype device**

- 6.3.1 A person wishing to connect a prototype device to the electricity network shall submit an application to the Transmission System Operator in accordance with the form “Application for the connection of a prototype device” provided in section 1.3 of Appendix 1. The following shall be submitted together with the application:
  - 6.3.1.1 basic data of the generating unit in accordance with the form provided in section 1.1.2 of Appendix 1 to the Connection Terms;
  - 6.3.1.2 schematic diagram of the electrical installations up to the connection point;

- 6.3.1.3 PQ diagram of the power-generating facility and separately up to the connection point.
- 6.3.2 If the Transmission System Operator finds the project to be feasible based on the initial information in accordance with the provisions of section 6.3.1, an invoice for the processing fee shall be issued to the client in accordance with section 2.3.2.1 of the Connection Terms.
- 6.3.3 Following the receipt of the processing fee and acceptance of the application for the connection of a prototype device by the Transmission System Operator, the Transmission System Operator shall prepare a contract offer and issue it to the client within ninety (90) days from receipt of the processing fee at the latest. The contract offer shall be valid for up to sixty (60) days.
- 6.3.4 If the client accepts the offer, a contract for the connection of a prototype device shall be entered into with the client.
- 6.3.5 Once the contract is signed, an invoice for the first instalment is issued, which also includes transaction fee in accordance with section 2.3.4.1 of the Connection Terms.
- 6.3.6 The client shall submit information concerning their electrical installation for approval by the Transmission System Operator at least thirty (30) days before submission of a written notice for energisation which includes:
- 6.3.6.1 electrical design documentation at least for consumption in accordance with the guideline "Requirements for the preparation and modelling of electrical design documentation of clients";
- 6.3.6.2 signals to be transmitted to the Transmission System Operator at least in the volume of whether the generating unit(s) are on/off and real-time measurements of the client's electrical installation P, Q, I, U;
- 6.3.6.3 relay protection configurations (as well as configurations of the power-generating facility), which shall be specified in the agreement to connect a prototype device.
- 6.3.7 In the case of an electric wind turbine, an assessment of capability of the electrical part of the power park module, an assessment of the fulfilment of the requirements of the Grid Code and an assessment of the fulfilment of the electricity quality limits prepared by a company holding an accreditation required in standard IEC 61400-22 shall be submitted. The reports shall be submitted in accordance with standard IEC 61400-21.
- 6.3.8 For other types of prototype devices, the prototype certificate shall be submitted in accordance with the relevant standards.
- 6.3.9 The client shall submit a written notice for the energisation of its electrical installation at least thirty (30) days before the planned initial energisation.
- 6.3.10 An agreement for the temporary use of the grid connection shall be entered into between the Transmission System Operator and the client before energisation as an appendix to the agreement to connect a prototype device.
- 6.3.11 For the synchronisation of their electrical installation, the client shall submit a respective written notice regarding the requested date of the synchronisation of the production device at least thirty (30) days before the planned initial synchronisation.



# APPENDICES TO THE CONNECTION TERMS

## APPENDIX 1 – Forms

### FORMS

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# 1. FORMS

## 1.1 Connection application

1.1.1. The following shall be indicated in the connection application:

- 1.1.1.1. details of the applicant;
- 1.1.1.2. details of the location of the connection point;
- 1.1.1.3. clarification of whether it is a new or an existing connection point;
- 1.1.1.4. voltage at the requested connection point;
- 1.1.1.5. requested generating or consumption capacity at the connection point;
- 1.1.1.6. recommended requirements for the security of electricity supply of the consumption point;
- 1.1.1.7. number of connection points at the substation following the establishment of the connection;
- 1.1.1.8. brief description of the connection of the electrical installation to the network;
- 1.1.1.9. details of the generating unit or electrical installation;
- 1.1.1.10. details of the generating unit;
- 1.1.1.11. other important information concerning the application.

1.1.1.12. List of appendices to be submitted together with the connection application

Title of the appendix	Connection of generating units or mixed installations to the Transmission System or amendment of generation and/or consumption conditions thereof	Connection of a consumer or a distribution system operator at a new connection point or the amendment of consumption and/or generation conditions at an existing connection point of a distribution system operator or the amendment of consumption conditions at an existing connection point of a consumer
Documents provided for in subsections 19 (1 <sup>1</sup> ) and (1 <sup>2</sup> ) of the Grid Code on the functioning of the power system and other documents provided for in legislation	x	
In the absence of the obligation to prepare a plan, confirmation from the local government or another person establishing a plan that there is no such obligation for the construction of an electrical installation to be connected to the network	x	
Site plan (layout) indicating the existing or requested location of the electrical installation and the connection point with coordinates and the location of the production device to be connected to the Transmission System by the client. In the case of a production device to be built in a public water body, the known location of the production device shall be provided.	x	x
Description of the start-up and shut-down process of the electrical installation and description of the predicted operation, indicating all important factors affecting operation		x <i>where the capacity of a single consumer's current-using equipment is more than 10 MW</i>
List of generating units to be connected to and already connected to the distribution system based on a connection application		x
Other important appendices to be attached to the application which the applicant considers necessary to submit (not mandatory)		

## 1.1.2 General data of the generating unit

### Tootmismooduli põhiandmed / General data of the generating unit

Tabeli C osa tuleb täita iga erineva planeeritava tootmisüksuse kohta

Part C of the table shall be filled in for each different planned power-generating facility

A	Tootmismooduli kirjeldus	Data	General information about power station
A.1	Tootmismooduli nimi		Name of the power station
A.2	Tootmismooduli aadress		Address of power station unit
A.3	Tootmismooduli omaniku nimi		Name of power station owner
A.4	Liitumispunkti pinge		Voltage at the connection point
A.5	Jaotusvõrguettevõtja alajaam		Substation of the distribution system operator
B	Maksimaalne väljastatav võimsus	Data	Maximum/minimum power and
B.1	Maksimaalne tootmismooduli väljundvõimsus		Maximum net capacity
B.2	Minimaalne tootmismooduli püsivalt väljastatav võimsus		Minimum continuous net capacity
C	Tootmisüksuse elektrilised nimiandmed	Data	Electrical nominal data of the
C.1	Tootmisüksuse tüüp (sünk, asünk, inverter vms)		Type of generating device (synchronous, asynchronous, inverter, etc.)
C.2	Tootmisüksuste arv		Number of generation devices
C.3	Niminäivvõimsus (1 p.u.) Sn MVA		Nominal apparent power (1 p.u.) Sn MVA
D	Reaktiivvõimsuse kompenseerimine	Data	Reactive power compensation
D.1	Juhul kui reaktiivvõimsuse kompenseerimiseks kasutatakse kondensaatorpatareid/reaktoreid, siis selle suurus, Mvar		Size of additional capacitor/reactors if any (Mvar):
D.2	Reaktiivvõimsuse kompenseerimise seadme astmete suurus, Mvar		Steps of switching shunts (Mvar):
F	Tootja jõutrafo andmed	Data	Step-up transformer
F.1	Jõutrafo niminäivvõimsus Sn MVA		Nominal apparent power (1 p.u.) Sn MVA
F.2	Ülepingemähise nimipinge Up kV		Nominal primary voltage (1 p.u.) Up kV
F.3	Alapingemähise nimipinge Us kV		Nominal secondary voltage Us kV
F.4	Lühispinge uk% (eeldatav)		Short circuit voltage uk% (preliminary)
F.5	Astmelülitid ja astme suurus (online/offline)		Step changer and step size (online/offline, % kV)
F.6	Lülitusgrupp		Connection type (e.g. YNd11)



## 1.2 Energisation plan

Item No.	Content	Responsible person	Notation on execution
<b>1.</b>	<b>PERSONS RESPONSIBLE FOR IMPLEMENTING THE ENERGISATION PLAN</b>		
1.1.	Person responsible for implementing the energisation plan: <i>/ company / position / name / contact phone /</i>		
1.2.	Person responsible for the correct assembly and configuration of equipment: <i>/ company / position / name / contact phone /</i>		
1.3.	Implementation of the energisation plan is managed by the dispatcher of the energy system control centre (hereinafter ESCC) of the Transmission System Operator. <i>/ company / position / name / contact phone /</i>		
<b>2.</b>	<b>OBJECTIVE</b>		
2.1.			
<b>3.</b>	<b>BASELINE SITUATION</b>		
3.1.			
<b>4.</b>	<b>PREPARATIONS FOR BLOCKING CHECK</b>		
4.1.			
<b>5.</b>	<b>BLOCKING CHECK</b>		
5.1.			
<b>6.</b>	<b>PREPARATIONS FOR ENERGISATION</b>		
6.1.			
<b>7.</b>	<b>ENERGISATION</b>		
7.1.			
	<b>APPENDICES</b>		
	Appendix 1: Initial energisation diagram (Elering's part)		
	Appendix 2: Reference energisation diagram (CLIENT's part)		
	Appendix 3: Final diagram (Elering's part)		
	Appendix 4: Final diagram (CLIENT's part)		
	Appendix 5: Provisions (Elering's part)		
	Appendix 6: Provisions (CLIENT's part)		

### Client's confirmation:

Representative of the client: .....	Date:
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### Approvals of the Transmission System Operator:

Meets the relay protection and automation requirements. Reliability expert of the energy system control centre of the Transmission System Operator: .....	Date:
Meets the operating requirements of the Estonian electricity system. Dispatcher control expert of the energy system control centre of the Transmission System Operator: .....	Date:

### 1.3 Application for the connection of a prototype device

BUSINESS NAME OF APPLICANT / NAME (ELECTRICITY PRODUCER WHOSE ELECTRICAL INSTALLATION IS TO BE CONNECTED TO THE Transmission System)		REGISTRY CODE OR PERSONAL IDENTIFICATION CODE
ADDRESS (ACCORDING TO COMMERCIAL REGISTER CARD DATA)		
TELEPHONE:		E-MAIL:
NAME OF THE APPLICANT'S REPRESENTATIVE:		BASIS OF REPRESENTATION: <input type="checkbox"/> POSITION <input type="checkbox"/> AUTHORISATION DOCUMENT
REPRESENTATIVE'S TELEPHONE:		REPRESENTATIVE'S E-MAIL

#### GENERAL TECHNICAL INFORMATION

REQUESTED LOCATION OF THE CONNECTION POINT (NAME OF ELERING'S SUBSTATION, VILLAGE, CITY, COUNTY)	
DATE OF CONNECTION	
VOLTAGE AT THE CONNECTION POINT	KV
NUMBER OF CONNECTION POINTS AND REQUIREMENTS FOR SECURITY OF ELECTRICITY SUPPLY	
BRIEF DESCRIPTION OF THE CONNECTION OF THE ELECTRICAL INSTALLATION TO THE NETWORK (CABLE/OVERHEAD LINE, SINGLE- OR DOUBLE-CIRCUIT LINE)	

#### ELECTRICITY PRODUCTION

RATED CAPACITY OF THE GENERATING UNIT TO BE CONNECTED TO THE NETWORK	MW. COSJ
REQUESTED RATED CAPACITY OF POWER TRANSFORMERS TO BE CONNECTED TO THE CONNECTION POINT	MVA

IF NO CONNECTION OFFER CAN BE MADE FOR THE REQUESTED CAPACITY, WOULD YOU LIKE TO RECEIVE A CONNECTION OFFER FOR THE MAXIMUM POSSIBLE CAPACITY?	<input type="checkbox"/> YES <input type="checkbox"/> NO
--	--

#### ELECTRICITY CONSUMPTION

REQUESTED TOTAL CONSUMPTION CAPACITY	MW COSJ
REQUESTED RATED CAPACITY OF POWER TRANSFORMERS TO BE CONNECTED TO THE CONNECTION POINT (MVA)	MVA
REQUESTED TOTAL CAPACITY IN THE FUTURE STATE THE YEAR IF POSSIBLE	MW

To be appended separately to the application:

**Appendix 1** Basic data of the generating unit in accordance with the form provided in section 1.1.2 of Appendix 1 to the Connection Terms

**Appendix 2** Schematic diagram of the electrical installations up to the connection point

**1.4 Application for approval of a generating unit to be connected to the distribution system**

<b>Application form for approval of a type B, C or D generating unit to be connected to the distribution system</b>	
Owner of the generating unit:	
Registry code:	
Name of the representative:	
Telephone:	
E-mail:	
<b>Data of the generating unit</b>	
Name of generating unit:	
Data of the generating unit:	
Elering's substation:	
Types of generating units (B; C; D):	
Maximum capacity (MW):	
EIC code of the production device meter:	
<b>Documents to be submitted for approval</b>	
<b>B, C, D: list of measurement and remote control signals</b> to be transmitted to the energy system control centre according to the volume of signals specified in the appendix applicable to the type of generating unit provided for in chapter 7 of the guideline "Requirements for data exchange related to the electrical installations of clients" of the Connection Terms;	
<b>B, C, D: design documentation for a communication solution</b> to be implemented in the energy system control centre in accordance with section 3.7 of the Connection Terms guideline "Requirements for data exchange related to the electrical installations of clients" of the Connection Terms <b>together with an explanatory memorandum;</b>	
<b>B, C, D: data sheets of technical parameters</b> issued by the manufacturing plant for each specific type of power-generating facility of the generating unit;	
<b>C, D: single-line diagram</b> of the production device up to the Transmission System Operator's connection point (also includes manufacturer's cable and transformer data);	
<b>C, D: basic data</b> of the generating unit in accordance with section 1.1.2 of Appendix 1 to the Connection Terms.	

## APPENDIX 2 – Standard Form of a Connection Contract

**CONNECTION CONTRACT No.** .....

**Elering AS** (hereinafter referred to as Transmission System Operator), registry code 11022625, seat Kadaka tee 42, 12915 Tallinn, represented on the basis of the articles of association by the chairman of the management board ..... and member of the management board .....,

and

..... (hereinafter referred to as Client), registry code ....., registered office at ..... represented by member of the management board .....,

have entered into (hereinafter the Transmission System Operator and the Client separately and jointly also referred to as Party and Parties, respectively) this connection contract (hereinafter referred to as the Connection Contract) in the following:

### **1. Subject of the Connection Contract and general provisions**

- 1.1 By entering into the Connection Contract, the Parties have agreed that the Transmission System Operator shall design and build a substation specified in section 2.1 of Appendix 1 (hereinafter referred to as the Substation), electrical installations on the Transmission System side of the connection points listed in section 2.3 of Appendix 1 (hereinafter also referred to as the Connection Point) in accordance with the Connection Contract and the Client's connection application and shall connect these to the Client's compliant electrical installation at the Connection Point with the aim of ensuring grid connection for the Client. The connection applications submitted by the Client and listed in section 3.1 of Appendix 1 shall be integral parts of the Connection Contract.
- 1.2 In the case of a generation-oriented connection, the Client shall start generating electricity with a production device specified in the connection application within the period provided for in the Electricity Market Act.
- 1.3 If the Client wishes to put the Connection Point into use before both Parties have fully performed the Connection Contract, the Client shall be obligated to enter into an agreement with the Transmission System Operator for the temporary use of the grid connection after the Connection Point established by the Transmission System Operator has been completed, to which the document "Elering AS standard terms and conditions of the electricity network contract" (hereinafter: Standard Terms and Conditions of the Network Agreement) applies.

*/Where necessary, if the Client wishes to enter into a fixed-term network contract instead of a network contract without a term after entering into a Connection Contract./*

- 1.3.1 *At the Client's request, the Transmission System Operator shall provide the Client with grid connection with a validity of up to 25 years based on a fixed-term network contract. The term is calculated from the completion of the electrical installation established by the Transmission System Operator or the time specified in section 2.1.3 of Appendix 1, depending on which occurs later. The Parties shall enter into a respective fixed-term network contract.*
- 1.3.2 *At the Client's request, it is possible to extend the period of validity of the network contract by written agreement, provided that the Client pays the costs of all renovation work on the Transmission System Operator's electrical installations required for the use of the grid connection at the Client's Connection Point if such costs arise as a result of the extension of the term of grid connection.*
- 1.4 The Connection Contract sets out the terms and conditions for connecting the Client's electrical installation to the Transmission System, including:
  - 1.4.1 the rights, obligations and liability of the Client and the Transmission System Operator arising from the connection;
  - 1.4.2 the principles of calculation and the procedure for payment of the costs related to the connection;
  - 1.4.3 the ownership of the electrical installations of the Client and the Transmission System Operator, and the location of the connection and metering point;
  - 1.4.4 the deadline for the performance of the Connection Contract;
  - 1.4.5 terms and conditions of amendment and termination of the connection contract;
  - 1.4.6 the terms and conditions for ensuring and certifying the compliance of the Client's electrical installation;
  - 1.4.7 other terms and conditions necessary for the performance of the Connection Contract.
- 1.5 When performing the Connection Contract, the Parties shall, in addition to the Connection Contract, comply with the following documents: „Elering AS Standard Terms and Conditions for Connecting to the Electricity Transmission System” (hereinafter: Connection Terms), “Elering AS Methodology for Calculating the Connection Charge and the Fee for Amending the Consumption and Generation Conditions” (hereinafter: Methodology), the Standard Terms and Conditions of a Network Contract, and Transmission System Operator's connection charge price list which form an integral part of the Connection Contract. By signing the Connection Contract, the Client confirms that they have reviewed the documents referred to and the content thereof is understandable to the Client.
- 1.6 The description of the Client's production device to be connected and the electrical installations to be designed and built as well as the technical specifications of the grid connection are provided in Appendix 1 to the Connection Contract.

- 1.7 The calculation of the connection charge is provided in Appendix 2 to the Connection Contract, and the payment schedule for the connection charge is provided in Appendix 3 to the Connection Contract.
- 1.8 The electrical parameters of the Connection Point are provided in Appendix 4.
- 1.9 The Connection Terms are provided in Appendix 5.
- 1.10 The list of generating units to be connected and already connected to the electricity system of a Transmission System supplying the point of consumption is provided in Appendix 6.
- 1.11 Meetings between the parties related to the performance of the connection contract shall be recorded in minutes and signed by the parties by mutual agreement, and these minutes shall be used for the interpretation of the connection contract.
- 1.12 The Transmission System Operator shall ensure to the Client the performance of the Connection Contract under the terms and conditions and within the term provided for in section 3.5 of Appendix 1. The term shall be extended by the period during which the Transmission System Operator has rightfully refused to perform its obligations or suspended the performance of the Connection Contract as well as in other cases provided for in the Connection Contract and legislation.
- 1.13 The Transmission System Operator shall ensure a temporary grid connection to the Client for the commissioning of the electrical installation and for the performance of the tests necessary for verifying conformity in accordance with the Connection Terms.
- 1.14 The conformity of the electrical installation shall be verified in accordance with the provisions of the Connection Terms, and for the purpose of performing tests the Client and the Transmission System Operator shall enter into an agreement on the temporary use of the grid connection as an appendix to the Connection Contract, during the period of validity of which the Client shall have the right to perform tests that cannot be performed without a grid connection. Conformity in matters not governed by the Connection Terms shall be verified in accordance with the instructions established by the Transmission System Operator.
- 1.15 The Transmission System Operator shall order all the works or services necessary for the performance of the Connection Contract through a procurement procedure, provided that such an obligation arises from the law. Procurement is understood to mean compliance with the rules of procurement procedures mandatory for the Transmission System Operator arising from the Public Procurement Act (public procurements and simple procurements). In the Connection Contract, procurement is also understood to mean all other orders and purchases of works or services in the case of which the Transmission System Operator is not obligated to comply with the Public Procurement Act. The Transmission System Operator shall decide the number of procurements necessary to perform connection contracts and the distribution of the subject-matter of the procurement.

## **2. Rights and Obligations of the Parties**

- 2.1 The obligations of the Transmission System Operator necessary for the performance of the Connection Contract be implemented in the stages agreed in section 3.4 of Appendix 1.
- 2.2 Where necessary, the Transmission System Operator shall announce procurements for the design and construction works necessary for the performance of the Connection Contract in accordance with the terms and conditions agreed in section 3.4.4 of Appendix 1. The Transmission System Operator shall have the right, in order to perform the Connection Contract, to use procurement contracts awarded as a result of the Transmission System Operator's procurement procedure carried out before the entry into the Connection Contract.
- 2.3 The Client shall have the right to request from the Transmission System Operator the execution of design works related to the cost-based component of the connection charge, which do not require a public procurement procedure, before the payment of the first instalment specified in the connection contract, paying the Transmission System Operator for the expenses incurred for such design works in accordance with clause 3.7 of the connection contract.
- 2.4 The Transmission System Operator shall notify the Client in writing within ten (10) days of the results of the procurement carried out for the execution of design and construction works or provision of services related to the cost-based component of the connection charge necessary for the performance of the connection contract. In the event that the procurement for the execution of design and construction works or the provision of services related to the cost-based component of the connection charge necessary for the performance of the connection contract was carried out before the conclusion of the connection contract, the Transmission System Operator shall notify the Client in writing of the results of the previously conducted procurements after the connection contract has been concluded, except for declarations of intent, including approvals, submitted by the Client during the validity of the connection contract as referred to in section 3.6.1 of Appendix 1, all of which shall be deemed valid under this connection contract.
- 2.5 The Client is aware that the contracts for work concluded as a result of procurements carried out by the Transmission System Operator for the execution of design and construction works or the provision of services related to the cost-based component of the connection charge necessary for the performance of the connection contract may provide for price indexation, which may cause the costs of the procurements to change later and, accordingly, result in a change in the amount of the cost-based component of the connection charge. The Transmission System Operator shall notify the Client immediately, but no later than ten (10) business days, of any changes in the costs of the procurements and in the cost-based component of the connection charge due to price indexing.

- 2.6 The Client shall notify the Transmission System Operator no later than within twenty (20) days from the receipt of the notice specified in section 2.4 of whether or not they agree to entering into a procurement contract by the Transmission System Operator enabling the performance of this Connection Contract under the specified conditions or to the results of procurements carried out prior to the entry into the Connection Contract. If the Client fails to notify the Transmission System Operator of whether or not they agree within the aforementioned period, they shall be deemed to not have agreed. Not agreeing, including failure to notify, shall be deemed to be the Client's declaration of withdrawal from the Connection Contract, which is followed by the consequences specified in section 7.6 of the Connection Contract, unless the situation referred to in section 2.7 of the Connection Contract occurs. The Transmission System Operator is not required to obtain the Client's approval for the results of procurements (including procurements carried out before the entry into the Connection Contract), the estimated cost of which is less than ..... EUR.
- 2.7 The client shall have the right to request, no later than twenty (20) days after the result of the procurement conducted for the performance of the cost-based component of the connection charge under the connection contract, a written notice from the Transmission System Operator regarding the conduct of a repeat procurement for the performance of the connection contract, if the successful bid resulting from the procurement exceeds the estimated cost-based component of the connection charge under the connection contract by at least 50% and the costs of executing the works are not subject to simultaneous allocation under the methodology. The Client shall have the right to request a repeat procurement pursuant to this section once per procurement carried out by the Transmission System Operator, and the term provided in section 3.5.2 of Appendix 1 to the Connection Contract shall be extended by the time it takes the Transmission System Operator to carry out the repeat procurement.
- 2.8 The Client's refusal to accept the outcome of a procurement related to the cost-based component of the connection charge, which concerns either the increase of transmission network capacity due to capacity requirements or the reduction of the deadline for eliminating faulty power outages, shall not be considered as a notice of withdrawal from the connection contract. In such a case, if the Client does not agree with the procurement related to the cost-based component of the connection charge, the Client is obliged to conclude a connection contract amendment agreement with the Transmission System Operator to reduce the generation and/or consumption capacity to a level that prevents overloads in the transmission network or to adjust the supply security parameters.

- 2.9 In the event of the failure of any procurement organized by the Transmission System Operator for the purpose of fulfilling the connection contract (including non-receipt of tenders), due to circumstances beyond the control of the Transmission System Operator, the deadline for fulfilling the connection contract shall be extended by the period required to conduct a repeat procurement. In the event that the repeat procurement fails, Parties to the Connection Contract shall be obligated to negotiate to extend the deadline for the performance of the Connection Contract.
- 2.10 The deadline for announcing the procurement of design and construction works necessary for the execution of works agreed in Annex 1, points 3.4.4 and 3.5.2 of the connection contract, as well as the deadline for fulfilling the connection contract, shall be extended by the period required for the Transmission System Operator to implement a technical solution change caused by the Client.
- 2.11 If the Client gives notice of agreement to the entry into a procurement contract or the implementation of a procurement contract entered into previously in accordance with section 2.6, the Transmission System Operator shall enter into the said procurement contract or shall implement a procurement contract entered into previously and ensure shall the design and construction of electrical installations located on the side of the Transmission System from the Connection Point in accordance with the Connection Contract. In the event that any procurement related to the connection is disputed before the Public Procurement Review Committee or a court, the Transmission System Operator shall have the right to suspend the execution of the connection contract for the period from the initiation of the dispute until a final and binding decision on the dispute is rendered. The Transmission System Operator and the Client shall cooperate to ensure compliance with the deadlines specified in section 3.5 of Appendix 1 to the Connection Contract despite the suspension of the performance of the Connection Contract.
- 2.12 In the event that, upon concluding a procurement contract, the Transmission System Operator determines that the deadline for constructing the network connection specified in the connection contract, which is related to the cost-based component of the connection charge, is significantly shorter, the parties shall, where possible, negotiate and agree on a shorter network connection construction deadline.
- 2.13 At the Client's request, the procurement conditions may include a construction deadline for the cost-based component of the connection charge, which may be shorter than the deadlines specified in section 3.5 of Appendix 1 to the connection contract. In such a case, the cost of the cost-based component of the connection charge may increase significantly.

- 2.14 The Client has the right, after the execution of the Connection Contract, to receive information from the Transmission System Operator regarding the procurements carried out for the fulfillment of the connection contract, as well as to request from the Transmission System Operator explanations and evidence concerning the expenses incurred for the fulfillment of the connection contract and covered by the cost-based component of the connection charge paid by the Client.
- 2.15 The Transmission System Operator shall notify the Client in writing about the completion of work arising from the Connection Contract necessary for the use of the grid connection and all generation and/or consumption-oriented connection capacity.
- 2.16 During the performance of the Connection Contract or in the event of premature expiry of the Connection Contract, the Transmission System Operator can initially only provide the Client with information on the unavoidable expenses incurred under contracts for services entered into for the performance of the Connection Contract which the Transmission System Operator has managed to obtain at that time from contractors performing the contracts for services under such contracts. The Client is aware that the actual amount of the cost-based component of the connection charge, and consequently the amount of the expenses incurred for the fulfillment of the connection contract, may only be determined after the termination of the connection contract in the event of its premature expiration.
- 2.17 The Client shall be obligated to cooperate with the Transmission System Operator in obtaining the permits and establishing the servitudes necessary for the construction of the electrical installations specified in Appendix 1 to the Connection Contract and for the establishment of a line. The Client shall also be obligated to ensure, at their own expense, the removal of any objects or circumstances that impede or may impede the establishment of a Connection Point from the area in the Client's territory which is necessary for the establishment of said electrical installations before commencement of the construction work. Where no agreement is reached with the landowner for the erection of electrical installations or where other permits or consents necessary for the performance of the Connection Contract are not obtained (including obstacles due to planning) or if there are any other circumstances preventing the construction of electrical installations specified in Appendix no. 1 due to the Client's actions or omissions, the Transmission System Operator has the right to suspend the performance of the Connection Contract until agreements are reached, permits or consents are obtained, or the obstacle has ceased to exist. The Transmission System Operator shall initiate proceedings for the establishment of compulsory possession or shall appeal to court only with the Client's consent and approval. The costs related to reaching agreements are included in the connection charge.

- 2.18 The Transmission System Operator shall be obligated to immediately notify the Client of any circumstances which impede or may impede proper performance of the Transmission System Operator's obligations arising from the Connection Contract or circumstances which cause the suspension of the performance of the Connection Contract.
- 2.19 The Client shall be obligated to:
- 2.19.1 ensure the timely conformity of their electrical installation in accordance with the prerequisites and conditions set out in the connection application;
- 2.19.2 ensure that the Transmission System Operator has the opportunity to install electrical installations and metering systems necessary for the Client's power supply, which remain the property of the Transmission System Operator, in the Client's territory and buildings;
- 2.19.3 ensure access to the electrical installations and metering systems specified in clause 2.19.2 for their maintenance and repair;
- 2.19.4 not charge a fee for the location of the Transmission System Operator's electrical installations and metering systems on the Client's territory or buildings or for the use of the Client's territory or premises for their maintenance and use, unless otherwise provided for by legislation;
- 2.19.5 ensure the activities specified in sections 2.19.2 and 2.19.3, the Parties shall, where necessary, hold negotiations for the establishment of free-of-charge servitudes;
- 2.19.6 in the case of generation-oriented Connection Contract, put the generating capacity under the Connection Contract into use by the deadline agreed upon in the Connection Contract or provided for in legislation;
- 2.19.7 where the deadline for putting generating capacity under the Connection Contract into use is exceeded, pay to the Transmission System Operator a fee for the unused generation-oriented grid connection capacity at the rate and in accordance with the procedure provided for in the Electricity Market Act.

### **3. Calculation and payments of the connection charge**

- 3.1 Upon performance of the Connection Contract, the Client shall pay the connection charge in accordance with the Transmission System Operator's price list, including the cost-based component of the connection charge, if provided for in Appendix 2 to the Connection Contract. The price list is published on the Transmission System Operator's website. The schedule and deadlines for payment of the connection charge shall be determined in accordance with "The Grid Code on the Functioning of the Electricity System" and the Connection Terms. The exact amount of the connection charge is agreed upon in Appendix 2 to the Connection Contract.

- 3.2 The Client shall be obligated to pay the connection charge to the Transmission System Operator by the payment term indicated in the invoices for the connection charge. Upon paying the invoice, the Client shall be obligated to include the reference number indicated in the invoice. The Transmission System Operator shall grant the Client a term of at least fourteen (14) days for payment of invoices. All payments shall be subject to value added tax in accordance with legislation.
- 3.3 If the Client pays the Transmission System Operator the connection charge for the cost-based component of the connection, this fee shall cover all actual and justified expenses incurred for that purpose. The cost-based component of the connection charge includes any additional costs arising from changes to the construction schedule caused by the Client's actions or inactions. The estimated expected amount of the cost-based component of the connection charge is set out in the calculation provided in Appendix 2 to the Connection Contract. Upon signing the Connection Contract, the Parties have agreed that the amount and cost items of the cost-based component of the connection charge constitute only a forecast, based on the Transmission System Operator's best available knowledge and practice, and that the actual exact amount of the cost-based component will be determined during the execution of the connection contract, which may include cost items not listed in Appendix 2. The Parties undertake to immediately notify each other of any circumstances that may affect the forecasted amount of the cost-based component of the connection charge.
- 3.4 The Client shall pay the connection charge based on the tariff and the cost-based component of the connection charge in accordance with the payment schedules agreed in Appendix 3 to the Connection Contract, taking into account the exception set out in clause 3.7. The Parties have agreed that the payment schedule underlying the payment of the cost-based component of the connection charge has been prepared and shall be amended immediately if necessary, based on the principle that all reasonable and justified expenses incurred by the Transmission System Operator for the Client's connection shall be paid by the Client to the Transmission System Operator in advance in installments corresponding to the works carried out by the Transmission System Operator and in accordance with the payment schedule agreed between the Parties (excluding the final installment under the payment schedule for the cost-based component of the connection charge).

- 3.5 In the event that the cost of the procurement contract exceeds the sum of the first and second installments of the connection charge related to the cost-based component of the connection charge as agreed in the Connection Contract, the Client shall, at the request of the Transmission System Operator, conclude a written agreement amending the cost-based component forecast calculation set out in Appendix 2 to the Connection Contract and/or the payment schedule set out in Annex 3 to the connection contract, in accordance with the provisions of clauses 3.4 – 3.6 of the Connection Contract. Such an amendment agreement to the Connection Contract shall be concluded at the earliest opportunity, but no later than 30 days prior to the expiry of the validity of the procurement offer. If the Client fails to conclude the amendment agreement, such non-acceptance, including failure to notify, shall be deemed a declaration by the Client of withdrawal from the Connection Contract, with the consequences set out in section 7.6 of the Connection Contract.
- 3.6 The Transmission System Operator shall have the right to require the Client to reimburse, under the cost-based component of the connection charge stipulated in the Connection Contract, the actual, reasonable, and justified expenses incurred for the preparation of the procurement(s) related to the connection and for carrying out the connection, prior to the due date for payment of the cost-based component of the connection charge, if the Transmission System Operator, at the Client's request and within the scope agreed with the Client, commences the works necessary for the performance of the Connection Contract before receipt of the first installment of the cost-based component of the connection charge. Such reimbursement of expenses shall be made once per month within ten (10) days after the Transmission System Operator submits to the Client a report on the works performed in the preceding month and their cost. Amounts paid by the Client pursuant to this clause shall be taken into account when calculating the final installment of the cost-based component of the connection charge payable under the Connection Contract.
- 3.7 If, upon completion of the works carried out under the cost-based component of the connection charge, it is determined that the Client has paid the Transmission System Operator a higher amount of the connection charge based on the forecasts of the cost-based component than the actual expenses incurred for the performance of the connection contract, the Transmission System Operator shall refund the overpaid amounts to the Client within thirty (30) days from the date of signing the final acceptance certificate for the works carried out under the connection charge.
- 3.8 If the Client fails to pay the connection charge to the Transmission System Operator by the due date, the Client shall be obligated to pay to the Transmission System Operator a penalty for late payment in the amount of 0.05% (zero point zero five per cent) of the outstanding payment per day until the receipt of the full payment on the bank account of the Transmission System Operator.

- 3.9 If the Transmission System Operator delays with the payment of the amount specified in section 3.8, the Transmission System Operator shall be obligated to pay to the Client a penalty for late payment in the amount of 0.05% (zero point zero five per cent) of the outstanding payment until the receipt of the full payment on the bank account of the Client.
- 3.10 If the Client makes payments of the instalments of the cost-based component of the connection charge under the Connection Contract, the payments shall be applied first to the first instalment of the cost-based component, then to the second instalment, and thereafter to the third instalment. This order of payment shall apply regardless of the Client's unilateral will.

#### **4. Ownership of electrical installations**

- 4.1 The Parties have agreed that the boundary of ownership of the electrical installations between the Client and the Transmission System Operator is determined by the respective Connection Point in accordance with Appendix 1 to the Connection Contract.
- 4.2 A description of the location of the electrical installations owned by the Transmission System Operator and the Client is provided in Appendix 1 to the Connection Contract. By signing the Connection Contract, the Client confirms that they are aware that the description of the location of the Connection Point is approximate and may change insignificantly due to engineering-technical reasons in the course of establishment of the Connection Point. In the case of such changes, the Parties shall be obligated to sign a new Appendix 1 to the Connection Contract within ten (10) working days after the Transmission System Operator has submitted it to the Client.
- 4.3 Both Parties shall be obligated to ensure the preservation, upkeep and compliance of the electrical installations in their ownership or possession with the applicable legislation and the connection contracts entered into between the Parties, unless the Parties have agreed otherwise.

#### **5. Performance of the Connection Contract and liability**

- 5.1 The Transmission System Operator has the right to suspend the performance of the Connection Contract and their obligations if the Client significantly breaches the obligations arising from the Connection Contract or legislation (including if the Client has failed to ensure the compliance of its electrical installation or fulfil other prerequisites set out in the connection application), including in a situation where the Client has failed to ensure that the Transmission System Operator has sufficient readiness of the Client's electrical installation necessary for the performance of the Connection Contract in accordance with the construction schedule communicated by the Transmission System Operator, or if the right to suspend the performance of obligations arises from other provisions of the Connection Contract. The Transmission System Operator shall submit a notice of suspension of the Connection Contract in writing and the Connection Contract shall be suspended from the submission of the notice. Where possible, the Transmission System Operator shall notify the Client of the suspension of the Connection Contract at least seven (7) days in advance, and the Connection Contract shall be suspended if the Client has not eliminated the circumstances that cause the suspension of the Connection Contract within the aforementioned period. In the case of suspension of the performance of the Connection Contract, the Client shall compensate the Transmission System Operator for the expenses already incurred as well as for any additional justified expenses related to suspension and resumption of the performance of the Connection Contract. In the case of suspension of the performance of the Connection Contract, the date of completion of the grid connection shall be extended by the period during which performance of the Connection Contract was suspended. During the suspension, the Transmission System Operator has the right to continue the performance of the Connection Contract to the extent not affected by the impeding circumstance. Upon the cessation of the grounds for suspension, the Transmission System Operator shall continue the performance of the Connection Contract, notifying the Client thereof.
- 5.2 A Party shall not be liable for the failure to perform and/or improper performance of its obligations arising from the Connection Contract or legislation (breach of obligations) and shall therefore not be obligated, among other things, to compensate the other Party for damage caused by the breach of obligations and the other Party shall not have the right to rely on the breach of obligations in any other way in exercising its rights, provided that the breach of obligations is excusable and the Party in breach of the obligation could not have been reasonably expected to have foreseen or taken thereof into account at the time of entry into the Connection Contract or avoided or overcome the consequences thereof, including:
- 5.2.1 natural disasters;
  - 5.2.2 thunderstorms, wind, frost, and other natural phenomena exceeding the design standards for electrical installations;
  - 5.2.3 fires;
  - 5.2.4 strike, act of sabotage, or unrest;

- 5.2.5 declaration of an emergency situation or a state of war.
- 5.3 If the circumstance, event, activity or omission referred to in section 5.2 is only temporary, the Party shall not be liable for the breach of obligations only for the period during which that circumstance, event, activity or omission affected the performance of obligations.
- 5.4 The Parties shall be obligated to notify each other of the occurrence of the circumstances specified in section 5.2 as well as of the impact and extent thereof with regard to the Party's ability to perform its obligations and of the cessation of said circumstances at the earliest opportunity. In the event of a breach of this obligation, the Party that materially breaches an obligation shall lose its right to rely on the impeding circumstances from the occurrence or cessation of the circumstances until performance of the respective notification obligation.
- 5.5 The occurrence of the circumstance, event, activity or omission specified in section 5.2 shall not release the Parties from the obligation to take any and all possible measures to prevent or alleviate the damage and other adverse effects caused by the breach of obligations.
- 5.6 The Client shall immediately notify the Transmission System Operator of any unsafe situations or accidents or other circumstances which threaten or may threaten the performance of obligations assumed under the Connection Contract.

## **6. Compensation for Damage**

- 6.1 The Parties shall be obligated to compensate for damage caused to the other Party during the performance of the ma Connection Contract or otherwise in connection with the Connection Contract only and solely in the cases, to the extent and under the terms and conditions established in this chapter, unless provided otherwise by legislation. Limitations of liability do not apply in the case of intentional damage.
- 6.2 The Party in breach of an obligation shall only compensate for direct material damage caused to the other Party's electrical installations or other items in the ownership or possession of the Party by a breach of obligation. The legal remedy provided for in section 6.3 of the Connection Contract is not in contravention of this section.
- 6.3 In the event that the Transmission System Operator is late in the performance of their obligations by the deadline of the Connection Contract, the Transmission System Operator shall pay to the Client a contractual penalty of 0.05% (zero point zero five per cent) of the amount of the connection charge or the fee for amending the conditions in proportion to the connection capacity that the Client is unable to use for each day of delaying with the performance of the obligation, which shall be paid to the Client's bank account or offset against the connection charge due. The Transmission System Operator shall not be obliged to pay a contractual penalty in the event that the obligation has been breached due to force majeure.

- 6.4 The Parties have the right to require each other to submit evidence and other documents and information necessary to establish the existence and amount of the damages to be compensated and the existence of the grounds for compensation for damages.
- 6.5 The Client has the right to require the Transmission System Operator to compensate for damage that has occurred due to the exercise of the rights of a system operator provided for in legislation by the Transmission System Operator on the grounds provided for in the Electricity Market Act.

## **7. Validity of the Connection Contract**

- 7.1 The Connection Contract is digitally signed and can be amended by a written agreement of the Parties.
- 7.2 The Connection Contract expires:
- 7.2.1 upon the proper performance of the obligations of the Parties provided for in the Connection Contract;
- 7.2.2 by written agreement of the Parties;
- 7.2.3 upon withdrawal from the Connection Contract in cases provided for by the legislation or the Connection Contract at the request of one of the Parties.
- 7.3 The Transmission System Operator has the right to withdraw from the Connection Contract by notifying the Client thereof in writing fourteen (14) days in advance and provided that the Client has not eliminated the deficiencies within the aforementioned period of fourteen (14) days if:
- 7.3.1 the Client has failed to make the payments agreed in the Connection Contract (including the connection charge) by the agreed due date; or
- 7.3.2 the Client materially breaches other obligations provided for in the Connection Contract or legislation; or
- 7.3.3 one or more of the circumstances referred to in points 8.7.1–8.7.4 of the Connection Contract occur, and due to this or any other circumstance notified by the client pursuant to point 8.7.5, it is evident that the Client will be unable to properly fulfil the Connection Contract;
- 7.3.4 the performance of the Connection Contract has been suspended in accordance with section 5.1 and the total duration of the suspension is ninety (90) days or more, or if the Client exceeds the deadline for securing or establishing the right of use of land or right of use of an access road for the benefit of the Transmission System Operator set out in the Connection Contract by more than 90 days.
- 7.4 The Client has the right to withdraw from the Connection Contract by notifying the Transmission System Operator thereof in writing thirty (30) days in advance.

- 7.5 In the event that a Client who has entered into a generation-oriented Connection Contract fails to pay the fee specified in section 2.19.7 of the Connection Contract on time, the network operator shall not guarantee to the market participant grid connection agreed upon in a connection or network contract to the extent of generation-oriented capacity that the Client has not used. To restore the generation-oriented capacity necessary at the Connection Point, the Client shall submit a new connection application.
- 7.6 If the Connection Contract is terminated before its performance due to reasons attributable to the Client, the connection charge shall not be refunded to the Client, except as provided in the exception described in section 7.7 of the Contract.
- 7.7 If the Client decides to withdraw from the Connection Contract because the actual cost of the construction contract for the cost-based component of the connection charge, revealed during the connection process, turns out to be more than twice the originally forecasted cost-based component under the Connection Contract. In such case, the Transmission System Operator shall refund to the Client the network hardening fee, the connection creation fee, and the cost-based component of the connection charge in accordance with section 7.10 of the Contract. The Client has the right to require the Transmission System Operator to provide information and evidence regarding the existence and amount of expenses that are the basis for the deduction to be made on the basis of this section.
- 7.8 If the Transmission System Operator terminates the Connection Contract due to a reason attributable to itself, the Transmission System Operator shall refund to the Client the amounts paid by the Client as the connection charge.
- 7.9 If, upon the termination of the Connection Contract due to a reason attributable to the Client or for any other reason not related to the proper performance of the obligations set out in the Connection Contract, the Transmission System Operator has already incurred costs for the performance of the Connection Contract, including under contracts with contractors concluded for the performance of the Connection Contract, or must unavoidably incur costs in connection with the termination of the Connection Contract, including for the termination of contracts with contractors concluded for the performance of the Connection Contract, and such costs exceed the connection charge actually paid by the Client to the Transmission System Operator, the Client shall be obliged, upon the Transmission System Operator's request, to reimburse the Transmission System Operator for the amount by which such costs exceed the connection charge within thirty (30) days of receiving the respective substantiated claim.

7.10 The Transmission System Operator shall pay the amount to be refunded to the Client on the basis of section 7.7, the amount of which is not in dispute, to the Client within thirty (30) days from the expiry of the Connection Contract. In the event of delaying with refunding the specified amount or another amount payable to the Client on the basis of this Connection Contract, the Transmission System Operator shall be obligated to pay to the Client a penalty for late payment in the amount of 0.05% (zero point zero five per cent) of the outstanding payment until the receipt of the full payment on the bank account of the Client.

## **8. Other Agreements**

8.1 As of the entry into force of this Connection Contract, any prior agreements between the Parties in respect of connection points set out in this Connection Contract, including the Connection Contract specified in section 3.6.1 of Appendix 1 shall expire. The network contract referred to in section 3.6.1 of Appendix 1 shall remain in force until an agreement necessary for the provision of network services at the connection point is concluded.

8.2 By signing the Connection Contract, the Client confirms that they have been given sufficient opportunity to familiarise themselves with the contents of the Connection Contract and that they have familiarised themselves with it and have understood the contents thereof. By signing the Connection Contract, the Client also confirms that they have submitted to the Transmission System Operator the data and documents required by Government of the Republic Regulation "Grid Code on the Functioning of the Electricity System" and that they are valid upon the entry into the Connection Contract and throughout the period of validity of the Connection Contract.

8.3 The Client is aware that a network contract is entered into with the Client, the Client's electrical installation is connected to the network and the Transmission System Operator ensures proper grid connection (establishment of grid connection) only if the Client's electrical installation meets the requirements specified in the Connection Contract, the Connection Terms and the legislation (compliant electrical installation), including if all documents required in the Connection Contract, Connection Terms and the legislation have been submitted.

- 8.4 If any provision of the Connection Contract is, in whole or in part, in contravention of the legislation and is therefore null and void or declared invalid or is not part of the Connection Contract according to the law, it shall not affect the validity of the Connection Contract as a whole, and the Parties shall be obligated to perform the Connection Contract to the extent to which it is not null and void or declared invalid or to the extent to which it is part of the Connection Contract according to the law. The Parties shall also be obligated to promptly commence with negotiations and enter into an agreement within a reasonable time to replace the ineffective provisions or provisions declared invalid with provisions that are valid and create a balance of rights and obligations for the Parties that is as similar as possible to the balance of rights and obligations that existed between the Parties under the aforementioned ineffective provisions or provisions that were declared invalid.
- 8.5 The Parties do not have the right to transfer the rights and/or obligations arising from the Connection Contract to third parties or encumber them for the benefit of third parties without the written consent of the other Party. The Transmission System Operator does, however, have the right to transfer, at any time, all the rights and/or obligations arising from the Connection Contract to a subsidiary of the Transmission System Operator into whose ownership or possession the Transmission System Operator is transferred, and by signing the Connection Contract, the Client is deemed to have granted their written consent for such transfer of rights and/or obligations and the Client is obligated to enter into respective agreements where necessary.
- 8.6 During the period of validity of the Connection Contract as well as following the expiry of the Connection Contract, the Parties shall be obligated to maintain the confidentiality of any information about the other Party that has become known to them in connection with the entry into and performance of the Connection Contract, the disclosure of which may harm the interests of the other Party or maintaining the confidentiality of which the other Party is expected to have or may have interest in. A Party may disclose the information to their advisors, who are bound by the obligation to maintain confidentiality, as well as to the court or authorities upon request.
- 8.7 The Client is obligated to notify the Transmission System Operator immediately in writing:
- 8.7.1 if a competent person or body has decided to dissolve a Client who is a legal entity, including compulsory dissolution;
  - 8.7.2 if a statement of claim has been filed against the Client in an amount exceeding twenty (20%) of the Client's equity;
  - 8.7.3 if a petition for declaring bankruptcy has been filed against the Client or a bankruptcy warning has been issued against the Client;
  - 8.7.4 if a Client who is a legal entity is being merged, divided, or transformed;
  - 8.7.5 of all circumstances that affect or may affect the performance of the Client's obligations provided for in the Connection Contract.

- 8.8 A Party shall have the right to offset a payment payable to the other Party only by agreement of the Parties.
- 8.9 The Transmission System Operator shall be obligated, at the Client's request, to provide the Client with information on the performance of the Connection Contract, including completion of the grid connection, and technical data concerning the Client's connection (i.e. diagram of the Substation of the Connection Point, device specifications, and other technical indicators/diagrams/drawings related to the Client's connection).
- 8.10 In the event that the Client ensures, through the conclusion of the connection contract, the establishment of a free-of-charge and indefinite right of use in favour of the Transmission System Operator for the land under the Substation to be built in the course of the connection process, for the installation of input lines and/or towers necessary for connecting the Substation to the Transmission System, and/or for access to the Substation from a public road, or in the event that the Client organises negotiations for the acquisition of land by the Transmission System Operator, the Client shall be guided by the terms and conditions set out in the guideline "Technical Principles and Solutions for Electrical Installations of the Transmission System Operator" of the Connection Terms. For the purposes of this clause, the required land ownership or land use right must be established in favor of the Transmission System Operator no later than five (5) months after the conclusion of the Connection Contract, and the Client must construct the access road leading to the substation no later than fourteen (14) months from the conclusion of the Connection Contract. Any costs associated with concluding agreements for establishing a personal right of use or acquiring the land shall be borne by the Client as part of the connection charge.

## **9. Resolving Disagreements**

- 9.1 The Parties shall resolve disagreements and disputes arising from the performance, amendment or termination of the Connection Contract foremost by way of negotiations.
- 9.2 Where disputes arising from the Connection Contract cannot be resolved by way of negotiations between the Parties, the dispute shall be settled at Harju County Court.

## **10. Declarations of Intent**

- 10.1 All notices, consents, approvals and other declarations of intent related to the performance of the Connection Contract or disputes arising from the Connection Contract as well as other information (hereinafter referred to as the Declaration of Intent) of legal effect shall be submitted to the contact person of the other Party in writing. Informative notices the transmission of which to the other Party has no legal consequences may also be submitted in a format which can be reproduced in writing.

10.2 A Declaration of Intent shall be deemed to have been received once it has been transmitted in the e-environment for connection. All Declarations of Intent related to the performance of the Connection Contract that do not deviate from the terms and conditions of the Connection Contract shall be deemed to have been valid and binding on the Parties only if they are made by the persons specified in this Connection Contract or by persons directly authorised to do so by them.

**11. Contact Addresses and Persons of the Parties**

11.1 To resolve issues related to the performance of the Connection Contract or disputes arising from the Connection Contract, except for amending the terms and conditions of the Connection Contract, the Transmission System Operator shall appoint a person described in section 1.1.6 of Appendix 1 to the Connection Contract as their contact person, and the Client shall appoint a person described in section 1.2.6 of appendix 1 as their contact person.

11.2 A Party shall promptly notify the other Party of changes to the contact persons and contact details provided in sections 1.1 and 1.2 of Appendix 1 to the Connection Contract.

**Transmission System Operator**

*/signed digitally/*

.....

Chairman of the management board  
board

*/signed digitally/*

.....

Member of the management board

**Client**

*/signed digitally/*

.....

Chairman of the management

*/signed digitally/*

.....

Member of the management board

*Connection Contract No. 1.1-4/202x/xx appendix no. 1:  
Description of the connection point, the electrical installations to be designed and constructed,  
and the technical parameters of the grid connection, including the connection diagram.*

- 1. Details of the parties:**
- 1.1. Transmission System Operator: .....**
- 1.1.1. Contact address: .....
- 1.1.2. Telephone: .....
- 1.1.3. E-mail: .....
- 1.1.4. Contact person:**
- 1.1.4.1. Name: .....
- 1.1.4.2. Telephone: .....
- 1.1.4.3. E-mail: .....
- 1.2. Client: .....**
- 1.2.1. Contact address: .....
- 1.2.2. Telephone: .....
- 1.2.3. E-mail: .....
- 1.2.4. Contact person:**
- 1.2.4.1. Name: .....
- 1.2.4.2. Telephone: .....
- 1.2.4.3. E-mail: .....

**2. Details of connection point(s):**

2.1. Substation of the Transmission System Operator (where the connection point is located): .....

2.1.1. Voltage level: .....

2.1.2. Address: .....

2.1.3. Date of completion of a fixed-term substation<sup>1</sup>: .....

**2.2. Consumption points at the Substation specified in section 2.1 of Appendix 1:**

2.2.1. Consumption point no. 1:

2.2.1.1. consumption point no. 1 comprises the following connection points: .....

2.2.1.2. rated voltage(s) of consumption point no. 1: ..... kV

**2.2.1.3. maximum permitted generating capacity<sup>2</sup> at the consumption point:**  
..... MVA;

**2.2.1.4. maximum permitted consumption capacity<sup>3</sup> at the consumption point:**  
..... MVA;

**2.3. Connection points:**

**2.3.1. Connection point No. 1:**

2.3.1.1. is located in the Client's compartment of the Transmission System Operator on the terminals of ..... kV commercial metering transformer (Client/Transmission System Operator) transformer ..... (designation), incl. the terminals belonging to ..... (Client/Transmission System Operator)

2.3.1.2. Rated voltage at the connection point: ..... kV

**2.3.1.3. maximum permitted generating capacity:** ..... MVA;

**2.3.1.4. maximum permitted flexible consumption capacity:** ..... MVA;

2.3.1.5. The electrical parameters of the grid connection are further provided in Appendix 4.

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<sup>1</sup>Only used if the Client connects to the Transmission System Operator's fixed-term substation.

<sup>2</sup>For the purposes of this contract, maximum generating capacity means the transmission of electricity from the connection point in the direction of the Client's network.

<sup>3</sup>For the purposes of this contract, maximum consumption capacity means the transmission of electricity from the Client's network towards the connection point.

**2.3.2. Connection point no. 2:**

- 2.3.2.1. is located in the Client’s compartment of the Transmission System Operator on the terminals of ..... kV commercial metering transformer (Client/Transmission System Operator) transformer ..... (designation), incl. the terminals belonging to ..... (Client/Transmission System Operator)
- 2.3.2.2. Rated voltage at the connection point: ..... kV
- 2.3.2.3. maximum permitted generating capacity: ..... MVA;**
- 2.3.2.4. maximum permitted flexible consumption capacity: ..... MVA;**
- 2.3.2.5. The electrical parameters of the grid connection are further provided in Appendix 4.

**2.4. Deadlines for eliminating power outages:**

- 2.4.1. The deadlines for eliminating a power outage per consumption point are established in the Ministry of Economic Affairs and Communications Regulation “Quality requirements for network services and conditions for the reduction of network charges in the event that those quality requirements are violated”. The performance of the connection contract is always subject to the current version of the Regulation. At the time of the entry into the connection contract, the deadlines provided in the Regulation are as follows:
  - 2.4.1.1. Deadline for elimination of faulty power outages at the consumption point of a substation:
    - 2.4.1.1.1. .... MVA up to ..... MVA 2 hours;
    - 2.4.1.1.2. over ..... MVA up to ..... MVA 120 hours.
  - 2.4.1.2. Permitted duration of power outages at the consumption point per year:
    - 2.4.1.2.1. outages caused by faults – up to 120 hours per year;
    - 2.4.1.2.2. planned power outages – up to 64 hours per year;
  - 2.4.1.3. The duration of a single planned power outage – up to 120 hours and the total annual duration of planned outages up to 240 hours per year.<sup>4</sup>
  - 2.4.1.4. The deadlines for eliminating a power outage do not apply to power outages caused by the Client’s failure to comply with electrical installation regulations.
  - 2.4.1.5. The term “power outage” is defined in the standard terms and conditions of the Transmission System Operator’s network contract.

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<sup>4</sup> Outage times apply if the Client’s grid connection is established by the Transmission System Operator at a substation with fixed-term run-through line protection.

- 3. Connection:**
- 3.1. Details of the connection application:**
  - 3.1.1. Date of submission of the application: .....
  - 3.1.2. Date of acceptance of the application: .....
- 3.2. Description of the final result of the connection: .....**
- 3.3. Description of the electrical installation to be connected: .....**
  - 3.3.1. ....;
  - 3.3.2. The Client is obligated to connect the production device described in section 3.3 of Appendix 1 to the electricity network no later than .....
- 3.4. Work carried out for the connection charge for the performance of the connection contract:**
  - 3.4.1. Stage 1: works to be carried out at the Transmission System Operator's Substation described in section 2.1 of Appendix 1:
    - 3.4.1.1. ....;
  - 3.4.2. Stage 2: Works on grid element LXXX :
    - 3.4.2.1. ....;
  - 3.4.3. The Transmission System Operator performs the stages set out in the connection contract as a single whole, and the performance of just one stage or several stages separately is not possible.
  - 3.4.4. Procurements for design and construction works required to carry out the works ordered under the cost-based connection charge shall be announced by the Transmission System Operator after all land use rights (including expropriations) necessary for the stage described in section 3.4 of the respective connection contract have been obtained and after the client has paid the first installment of the connection charge for that stage.
    - 3.4.4.1. no later than within ..... months for the stage described in section 3.4.1;
    - 3.4.4.2. no later than within ..... months for the stage described in section 3.4.2;
    - 3.4.4.3. ....
- 3.5. Performance of the connection contract:**
  - 3.5.1. Requirements for the performance of the connection contract for the Client:
    - 3.5.1.1. the Client has paid all the installments;
    - 3.5.1.2. the Client has properly performed other obligations arising from the connection contract and legislation;
    - 3.5.1.3. the Client has signed a network contract for the use of the grid connection at the Substation described in section 2.1 of Appendix 1, which determines the generating and consumption capacity.
  - 3.5.2. The Transmission System Operator ensures the Client with functioning grid connection in accordance with the terms and conditions set out in the connection contract no later than:

- 3.5.2.1. Completion of Stage 1: no later than ..... months after the payment of the first-stage connection charge as specified in the payment schedule in Appendix 3, and after the Transmission System Operator has obtained the necessary land ownership and land use rights.
- 3.5.2.2. Completion of Stage 2: no later than ..... months after the payment of the first installment of the second-stage connection charge as specified in the payment schedule in Appendix 3, and after the Transmission System Operator has obtained the necessary land ownership and land use rights.
- 3.5.2.3. Stage 3: .....

**3.6. Additional terms and conditions of connection:**

- 3.6.1. Prior agreements between the parties with regard to connection points set out in the connection contract:
  - 3.6.1.1. Connection Contract No.: 1.1-4/...../..... (signed on: .....), transferred to this Connection Contract; the ..... instalment and transaction fee paid to the transmission system operator on the basis of this on ..... shall be deemed to be the ..... installment and transaction fee of this Connection Contract;
  - 3.6.1.2. Network Contract No.: 1.1-4/...../..... (signed on: .....).
- 3.6.2. The Client shall design and build their own electrical installations up to the connection point.
- 3.6.3. The Transmission System Operator’s relay protection devices are not intended to serve as the main protection for the Client’s equipment.
- 3.6.4. The Transmission System Operator shall provide available technical data about their installation if this is necessary for the design of the Client’s electrical installation.
- 3.6.5. The client shall ensure the availability of a proper and functional protection solution for the generating unit in their network.
- 3.6.6. The client shall ensure the synchronous connection of the generating units connected to their electricity network to the Transmission System Operator’s network.
- 3.6.7. When designing electrical installation installations, their protection, automation and control equipment, the Transmission System Operator’s guideline “Technical requirements for the electrical installations of clients” shall be adhered to.
- 3.6.8. Before synchronisation, the Client shall prepare an electrical design documentation for their electrical installation in accordance with the guideline “Requirements for the preparation and modelling of electrical design documentation of clients” and obtain the Transmission System Operator’s approval with it in accordance with the deadlines set out in chapter 4 of the Connection Terms. The electrical design documentation shall include PSS/E and PSCAD models and a co-operation simulation report between the electricity network and the generating unit, the exact scope of which shall be agreed with the Transmission System Operator.

- 3.6.9. After the generating unit has been declared compliant and before the Transmission System Operator has issued the final operational notification, the Client shall submit to the Transmission System Operator verified PSS/E and PSCAD models together with the documentation specified in the guideline “Requirements for the preparation and modelling of electrical design documentation of clients”.

**3.7. Principle diagram of the Client's connection at the Substation described in section 2.1 of Appendix 1:**

*DIAGRAM*

**Calculation of the connection charge**

<b>Connection</b>	<b>PRICE</b>
<b>Transaction fee</b>	<b>xxx.00</b>
Network hardening fee (for generation-side capacity)	<b>xxx.00</b>
Stage 1: Substation works (a connection creation fee)	<b>xxx.00</b>
Stage 2: Works on grid element LXXX :	<b>xxx.00</b>
.....	.....
A fee for increasing supply reliability;	<b>xxx.00</b>
A project management fee (percentage of the cost of the stages according to the price list)	<b>xxx.00</b>
<i>Other costs necessary for connection (including owner's supervision, geodesy, geology, etc.)</i>	<b>xxx.00</b>
<b>TOTAL CONNECTION FEE</b>	<b>xxx.00</b>

<b>Simultaneous connection *</b>	<b>PRICE</b>
<b>Transaction fee</b>	<b>xxx.00</b>
Network hardening fee (for generation-side capacity)	<b>xxx.00</b>
Stage 1: Substation works (a connection creation fee)	<b>xxx.00</b>
Stage 2: Works on grid element LXXX *	<b>xxx.00</b>
.....	.....
A fee for increasing supply reliability;	<b>xxx.00</b>
A project management fee (percentage of the cost of the stages according to the price list)	<b>xxx.00</b>
<i>Other costs necessary for connection (including owner's supervision, geodesy, geology, etc.)</i>	<b>xxx.00</b>
<b>TOTAL SIMULTANEOUS CONNECTION FEE *</b>	<b>xxx.00</b>

\* - In the case of simultaneous connections, the cost shown in the calculation is divided between clients, taking into account the proportion of the capacity to be connected and in accordance with "Elering AS Methodology for calculating the connection charge and the charge for amending the consumption and generation conditions".

Value added tax in the amount provided for by law shall be added.

The prepared price offer takes into account the established prices of the Transmission System Operator's existing technical solutions. The estimated connection charge (excluding the transaction fee) shall be specified based on the results of the procurement.

### Connection Charge Payment Schedule

#### Transaction fee

Payment schedule	Amount, EUR (exclusive of VAT)
<i>Transaction fee (100%) – payment is due within sixty (60) days from the signing of the connection contract*</i>	xxx.00
<b>TOTAL</b>	<b>xxx.00</b>

#### Network hardening fee (for generation-side capacity)

Payment schedule	Amount, EUR (exclusive of VAT)
<i>Network hardening fee (for generation-side capacity) (100%) – payment is due within sixty (60) days from the signing of the connection contract</i>	xxx.00
<b>TOTAL</b>	<b>xxx.00</b>

#### Stage 1 (substation works) a connection creation fee

Payment schedule	Amount, EUR (exclusive of VAT)
<i>Substation works (a connection creation charge) (100%) – payment is due within sixty (60) days from the signing of the connection contract</i>	xxx.00
<i>Project management fee (percentage of the stage cost according to the price list) – payable within sixty (60) days from the signing of the connection contract</i>	xxx.00
<b>TOTAL</b>	<b>xxx.00</b>

## Stage 2 (Works on grid element LXXX) connection charge

Payment schedule	Amount, EUR (exclusive of VAT)
1st instalment (20% of the stage I fee estimated in the connection contract) – payment is due within sixty (60) days from the entry into the connection contract.**	xxx.00
Project management fee (percentage of the stage cost according to the price list) – payable within sixty (60) days from the signing of the connection contract	xxx.00
<i>1st instalment (20% of the stage I fee estimated in the connection contract) – payment is due within sixty (60) days from the entry into the connection contract (<b>simultaneous connection</b>)***</i>	xxx.00
2nd instalment (constitutes the remaining 70% of the actual stage I connection charge***) – payment is due after the announcement of the winner of the procurement necessary for the implementation of stage I of the connection contract, within twenty (20) days from the receipt of the invoice**	xxx.00
2nd instalment (constitutes the remaining 70% of the actual stage I connection charge***) – payment is due after the announcement of the winner of the procurement necessary for the implementation of stage I of the connection contract, within twenty (20) days from the receipt of the invoice ( <b>simultaneous connection</b> )***	xxx.00
3rd instalment – the remaining part of the actual costs of the stage, from which the connection charge previously paid by the client for the stage has been deducted. Payment is due within forty-five (45) days from the receipt of the invoice **	xxx.00
<i>3rd instalment – the remaining part of the actual costs of the stage, from which the connection charge previously paid by the client for the stage has been deducted. Payment is due within forty-five (45) days from the receipt of the invoice (<b>simultaneous connection</b>)***</i>	xxx.00
<b>TOTAL</b>	<b>xxx.00</b>
<b>TOTAL (simultaneous connection)</b>	<b>xxx.00</b>

### A fee for increasing supply reliability;

Payment schedule	Amount, EUR (exclusive of VAT)
Supply reliability enhancement fee (100%) – payment is due within sixty (60) days from the signing of the connection contract	xxx.00
<b>TOTAL</b>	<b>xxx.00</b>

Value added tax in the amount provided for by law shall be added.

\*\* - In accordance with Methodology section 3.2.5, each participant shall pay 100% for the shared design and construction of electrical installations when connecting simultaneously. \*\*. The shared costs for the construction of electrical installations shall be settled after the completion of the construction works, and each participant shall be reimbursed the portion that, according to the calculation principles set out in point 3.2.6, is not payable by them.

\*\*\* If the results of the procurement carried out for the performance of the connection contract differ from the initial estimated connection charge, the parties shall enter into an agreement to adjust the connection charge based on the best tender submitted for the procurement.

**1. Permanent data of the power system at the substation**

**1.1. Frequency**

Rated frequency	f	50	Hz
30 min	f	47.5 – 49.0	Hz
Unlimited	f	49.0 – 51.0	Hz
30 min	f	51.0 – 51.5	Hz

**1.2. Voltage**

The shortest time interval during which a transmission-connected demand facility or distribution network must be able to operate at the connection point without interruption of the grid connection

Rated voltage	Un	110	330	kV
Unlimited	U	99 – 123	297 – 362	kV
20 min	U	123 – 126.5	362 – 379.5	kV

The shortest period of time during which a generating unit must be able to operate without disconnecting from the network

Rated voltage	Un	110	330	kV
110 kV; 30 min / 330 kV; 20 min	U	93.5 – 99	290 – 297	kV
Unlimited	U	99 – 123	297 – 362	kV
20 min	U	123 – 126.5	362 – 379.5	kV

**2. Basic electrical parameters of the consumption point**

**2.1. Connection point 1 (110 kV)**

Short-circuit currents for calculating ground loop and contact voltage	Base kV 110.00 Ph-Ph (63.51 @0 deg A-Gnd) Prefault 1,070 V (p.u.) @ 0.00		
	3I0	xx	kA
t	xx	s	
Maximum short-circuit current with generators to be connected	I(3)k	xx	kA
	R	xx	Ω
	X	xx	Ω
Minimum short-circuit current	I(3)k	xx	kA
	R	xx	Ω
	X	xx	Ω
Typical short-circuit current	I(3)k	xx	kA
	R	xx	Ω
	X	xx	Ω

**2.2. Connection point 2 (xx 110kV)**

Short-circuit currents for calculating ground loop and contact voltage	Base kV 110.00 Ph-Ph (63.51 @0 deg A-Gnd) Prefault 1,070 V (p.u.) @ 0.00		
	3I0	xx	kA
t	xx	s	
Maximum short-circuit current with generators to be connected	I(3)k	xx	kA
	R	xx	Ω
	X	xx	Ω
Minimum short-circuit current	I(3)k	xx	kA
	R	xx	Ω
	X	xx	Ω
Typical short-circuit current	I(3)k	xx	kA
	R	xx	Ω
	X	xx	Ω

### 3. Electricity quality limits at the consumption power

#### 3.1. Background levels of the electricity network

Estimated levels of voltage distortion and asymmetry in the 110 kV network in the substation area:

Negative sequence component of the network voltage	xx %
Total harmonic distortion, THD <sub>u</sub>	xx %

#### 3.2. Voltage harmonics

Permissible values of individual harmonics (client's installation) at the consumption point:

Percentage of rated voltage					
Odd harmonics				Even harmonics	
Indivisible by 3		Divisible by 3			
N	%	n	%	n	%
5	xx	3	xx	2	xx
7	xx	9	xx	4	xx
11	xx	15	xx	6	xx
13	xx	21	xx	8	xx
17	xx	>21	xx	10	xx
19	xx			12	xx
23	xx			>12	xx
25	xx				
>25	xx				
Total harmonic distortion, THD <sub>u</sub> < xx %					

Total harmonic distortion is calculated based on the following expression:

$$THD_u = 100 \sqrt{\sum_{n=2}^{50} \left(\frac{U_n}{U_1}\right)^2} \% , n = f/50$$

To assess the level of harmonics, the 10-minute average values of the effective value of the phase-to-phase voltage measured at the connection point over a one-week measurement period are used. 95% values should be used in the analysis.

#### 3.3. Current harmonics

In the case of current, total harmonic distortion is defined as follows:

$$THD_i = 100 \sqrt{\sum_{n=2}^{50} \left(\frac{I_n}{I_1}\right)^2} \%$$

and psophometric current as follows

$$I_p = \frac{1}{1000} \sqrt{\sum_{n=1}^{n=N} (p_n \times I_n)^2}$$

where  $n$  1, 2, 3,..., harmonic order  
 $N$  100, the order of the harmonic to be considered  
 $I_n$   $n$ th order current harmonic and  
 $p_n$  psophometric weighting factor of the  $n$ th order harmonic

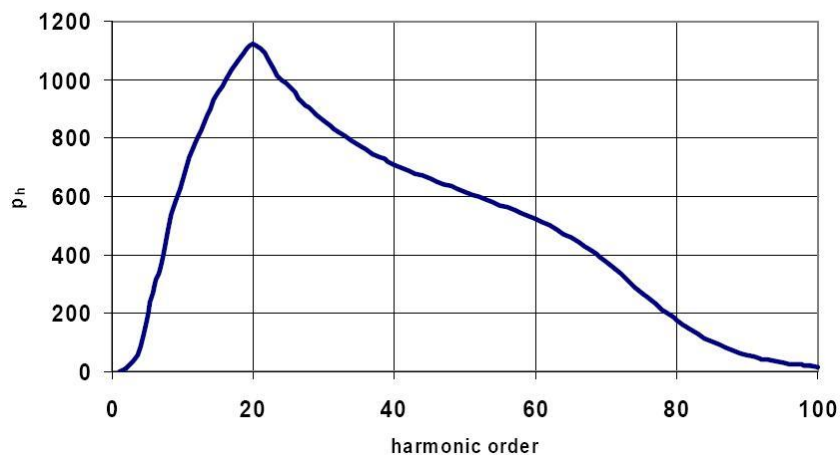
The values of total current harmonic distortion, current harmonics, and psophometric current at the connection point shall not exceed the values specified in the table below under any load conditions.

$THD_i$		5%
Relative harmonic content	$n \leq 13$	4%
	$n > 13$	2%
$I_p$		5 A

#### Psophometric coefficients

h	$p_h$	h	$p_h$	h	$p_h$	h	$p_h$	h	$p_h$
1	0,7	21	1109	41	698	61	513	81	161,3
2	8,9	22	1072	42	689	62	501	82	144,5
3	35,5	23	1035	43	679	63	487	83	130,3
4	89,1	24	1000	44	670	64	473	84	116
5	178	25	977	45	661	65	458,5	85	104,2
6	295	26	955	46	652	66	444	86	92,3
7	376	27	923	47	643	67	428	87	82,4
8	484	28	905	48	634	68	412	88	72,4
9	582	29	881	49	625	69	394	89	64,3
10	661	30	861	50	617	70	376	90	56,2
11	733	31	842	51	607	71	355,5	91	50
12	794	32	824	52	598	72	335	92	43,7
13	851	33	807	53	590	73	313,5	93	38,8
14	902	34	791	54	580	74	292	94	33,9
15	955	35	775	55	571	75	271,5	95	30,1
16	1000	36	760	56	562	76	251	96	26,3
17	1035	37	745	57	553	77	232,5	97	23,4
18	1072	38	732	58	543	78	214	98	20,4
19	1109	39	720	59	534	79	196	99	18,2
20	1122	40	708	60	525	80	178	100	15,9

#### Psophometric weighting factors



#### 3.4. Asymmetry

The asymmetry factor at the connection point must not exceed 1.4% (consumer's installation with the existing electricity network). The client's share of the electrical installation must not exceed xx%. 95% values should be used during the analysis.

### 3.5. Flickering

The short-term and long-term flicker levels at the connection point caused by the client's installation must remain below the following values –  $P_{st} \leq xx$ , 95% weekly measurements; and  $P_{lt} \leq xx$ , 95% weekly measurements.

### 3.6. Voltage changes

Any switching and control activities performed at the client's installation must not cause a voltage change greater than 3%  $U_n$  at the connection point.

## 4. **Relay protection**

The transmission system relay protection ensures short-circuit shutdown, taking into account the failure of the system and/or the relay protection n-1 and circuit breaker (0.25 s in a 330 kV network) (0.6 s in a 110 kV network, 1 s in exceptional cases). All 330 kV and 110 kV substations are equipped with bus bar protection and circuit breaker failure protection. Relay protection coordination is agreed upon separately in the electrical design documentation.