

INFORMAL TRANSLATION

System Code

Conditions within the meaning of Section 31, subsection 1 c of the Electricity Act 1998

Disclaimer

The text in this document is a constituent part of the conditions referred to in Section 31, subsection 1 c of the Electricity Act 1998, as applied at the date stated at the foot of the page.

The text was compiled with utmost care but has no formal status. The authentic text is the text of the decisions under which the conditions were adopted and amended. The decisions are viewable on the website of DTe/Office of Energy Regulation (www.dte.nl). DTe is part of the Netherlands Competition Authority (NMa).

The technical codes and related annexes were laid down by decision 005 of 12 November 1999, Government Gazette 16 November 1999, No. 221, p. 8 and decision 00-011 of 12 April 2000, Government Gazette 13 April 2000, No. 74, p. 27.

The text in this document is current up to and including the following amendment decisions:

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1	00-016 (bob)	17-07-2000	Not published
2	00-074	16-11-2000	17-11-2000, No. 224, p. 31
3	00-127	19-12-2000	20-12-2000, No. 247, p. 52
4	00-124	21-12-2000	27-12-2000, No. 250, p. 69
5	100340	02-03-2001	05-03-2001, No. 45, p. 27
6	100078/21 (bob)	11-04-2001	17-04-2001, No. 74, p. 25
7	100556/4	21-11-2001	23-11-2001, No. 228, p. 14
8	100703/8	21-12-2001	28-12-2001, No. 250, p.148
9	100701/7	28-03-2002	02-04-2002, No. 63, p. 16
10	100757/3	24-04-2002	25-04-2002, No. 80, p. 38
11	100928/4	11-07-2002	12-07-2002, No. 131, p. 28
12	101162/5	27-11-2002	29-11-2002, No. 231, p. 20
13	101163/4	27-11-2002	29-11-2002, No. 231, p. 18
14	100950/23	17-12-2002	18-12-2002, No.244, p. 52
15	100078/102, 100797/25 and 101082/37 (bob)	14-02-2003	20-02-2003, No. 36, p. 39
16	100950/47	27-2-2003	28-02-2003, No. 42, p. 25
17	101525/4 and 101526/4	06-05-2003	07-05-2003, No. 87, p. 32
18	100950/65 (bob)	22-07-2003	23-07-2003, No. 139, p. 24
19	100082/54 (bob)	14-08-2003	19-08-2003, No. 158, p. 42
20	101594/26	09-12-2003	10-12-2003, No. 239, p. 41
21	101595/27	09-12-2003	10-12-2003, No. 239, p. 42
22	101600/17	19-12-2003	19-12-2003, No. 246, p. 76

23	101696_1/15 and 101696_2/14	27-04-2004	28-04-2004, No. 81, p. 42
24	101787/3	28-04-2004	14-05-2004-, No. 92, p. 39
25	101789/11	24-06-2004	25-06-2004, No. 119, p. 26
26	101806/4	20-08-2004	23-08-2004, No. 160, p. 17
27	101805/5	30-11-2004	03-12-2004, No. 234, p. 30
28	P_500042/4.O158	27-06-2005	29-06-2005, No. 123, p. 47
29	102055/5	12-10-2005	18-10-2006, No. 202, p. 14
30	102227/43	15-11-2006	16-11-2006, No. 224, p. 39
31	102472/8	06-03-2007	09-03-2007, No. 49, p. 20
32	102343/6	21-06-2007	29-06-2007, No. 123, p. 43

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1 Scope and definitions

1.1 Scope

- 1.1.1 Section 2.1 regulates how the network operator of the national high-voltage network on the one hand and connected parties and other network operators on the other shall act with regard to system services the network operator of the national high-voltage network performs to ensure safe and efficient transmission of electricity across all networks.
- 1.1.2 Section 2.2 regulates how the network operator of the national high-voltage network on the one hand and connected parties and other network operators on the other shall act with regard to system services the network operator of the national high-voltage network performs to maintain the energy balance on all networks.
- 1.1.3 Section 2.3 regulates how the network operator of the national high-voltage network on the one hand and connected parties and other network operators on the other shall act with regard to system services the network operator of the national high-voltage network performs to resolve major failures in the transmission of electricity.
- 1.1.4 Chapter 3 regulates how the network operator of the national high-voltage network on the one hand and connected parties and other network operators on the other shall act with regard to balance responsibility.

1.2 Definitions

- 1.2.1 Terms used in these regulations that are also used in the Act have the meanings respectively assigned to them in the Act.
- 1.2.2 The meanings of other terms used in these regulations have been laid down in a glossary of terms drawn up and managed centrally by the joint network operators.

2 System services

2.1 Safety and efficiency of electricity transmission

- 2.1.1 The network operator of the national high-voltage network shall endeavour to ensure that a single failure in the electricity supply system does not develop into a large-scale disruption or cause a complete blackout of the system.
- 2.1.2 Generation units with a nominal capacity greater than 5 MW and connected to networks with a voltage equal to or greater than 1 kV shall be subject to the technical requirements contained in:
 - a. articles 2.1.4 to 2.1.12 with regard to the primary control system;
 - b. articles 2.1.13 to 2.1.17 with regard to the robustness of the generation unit;
 - c. articles 2.1.18 to 2.1.26 with regard to checks and tests.

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- 2.1.3 Articles 2.1.4 to 2.1.13 shall not apply to generation units dependent solely on one or more uncontrollable sources of energy. Tests mentioned in annex 4 shall not apply to these generation units, insofar as the tests concern the foregoing exceptions.
- 2.1.4 If a generation unit has been integrated in an industrial generation process, in such a way that the delivered capacity cannot be changed without disrupting the generation process, it shall be allowed to relate the primary response to the resulting capacity in the connections.
- 2.1.5 The primary response shall:
- occur automatically;
 - satisfy the characteristics shown in annex 1;
 - be retained for at least 15 minutes after activation.
- 2.1.6 If the entire primary reserve capacity is required due to a frequency disruption, it shall be provided within 30 seconds of the start of the frequency disruption (annex 2).
- 2.1.7 If the required primary contribution is between 50% and 100% of the primary reserve, it shall be provided within a proportionate time between 15 and 30 seconds of the start of the frequency disruption (annex 2).
- 2.1.8 If the required primary contribution is 50% or less of the primary reserve, it shall be provided within 15 seconds of the start of the frequency disruption (annex 2).
- 2.1.9 A frequency disruption shall be the same as a deviation from the guideline frequency.
- 2.1.10 A deadband for a generation unit with $P_n > 60$ MW shall be allowed only if other generation units of the connected party will compensate for the deadband.
- 2.1.11 The network operator of the national high-voltage network shall prescribe the primary reserve for each category of generation units in accordance with article 2.2.20 and it shall not exceed 3% of the nominal capacity for generation units in categories 1 and 2 mentioned in annex 1.
- 2.1.12 The generation unit shall be capable of satisfying all technical requirements for the primary control system at the maximum values of the primary reserve stated in 2.1.11.
- 2.1.13 In accordance with the four areas defined in annex 3 for generation units connected to networks with a nominal voltage lower than 110 kV or generation units connected to networks with a nominal voltage equal to or higher than 110 kV, a generation unit shall be capable of:
- delivering nominal capacity for an unlimited time;
 - delivering nominal capacity for 15 minutes and thereafter remain operational for five minutes in parallel with the network;
 - delivering 90% of nominal capacity for 10 seconds and thereafter remain operational for five minutes in parallel with the network, unless the generation unit is already operating solely in parallel under the provisions of item b above;
 - remaining operational for five minutes in parallel with the network.
- 2.1.14 A generation unit shall be capable of delivering the reactive power in the areas defined in annex 3 in accordance with the provisions of articles 2.5.4.2 to 2.5.4.6 of the Network Code.
- 2.1.15 If a generation unit is equipped with several generators that feed in on networks of different voltages, the requirements that shall apply are those applicable to the highest voltage at which the generation unit feeds in.
- 2.1.16 In the event of short-circuits in the network:
- for generation units connected to networks with a nominal voltage lower than 110 kV, a

disconnection shall be allowed on a voltage dip after 300 ms, if the residual voltage has a value between $0.8 U_n$ and $0.7 U_n$. If the residual voltage has a value of $< 0.7 U_n$, the disconnection may occur after 300 ms or after 90% of the critical short-circuit time (CST) if $300 \text{ ms} > 0.9 \text{ CST}$;

- b. for generation units connected to networks with a nominal voltage of 110 kV or higher, a disconnection shall be allowed on a voltage after 300 ms or after 90% of the critical short-circuit time (CST), if the residual voltage has a value of $< 0.7 U_n$;
- c. if a generation unit is separated from the network because of a short-circuit in the network, the generation unit shall be capable, within 30 minutes of clearance of the short-circuit, of working stably synchronously to the network with all generators in operation. This shall not apply if the restoration of the network voltage takes longer than one hour.

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- 2.1.17 If the period of 30 minutes mentioned in 2.1.16, item c, is not possible technically, the producer concerned shall notify the network operator of the national high-voltage network accordingly. The network operator of the national high-voltage network shall further be notified of the time within which the stable working referred to in 2.1.16, item c, will be possible.
- 2.1.18 If the actual behaviour of a generation unit with a nominal capacity greater than 5 MW warrants such action during a failure, the network operator of the national high-voltage network may request the connected party concerned to demonstrate that the generation unit satisfies the technical requirements stated in 2.1.3 to 2.1.17.
- 2.1.19 If a request within the meaning of 2.1.18 has been made, it shall be demonstrated within two months thereafter that the generation unit satisfies the technical requirements contained in 2.1.3 to 2.1.17.
- 2.1.20 At the request of the connected party, the national network operator may set a longer term than the one stated in 2.1.19, and may extend the term stated in 2.1.19 or the longer term set under the provisions of this article.
- 2.1.21 By means of testing, a connected party with a generation unit with a nominal capacity greater than 60 MW shall demonstrate to the satisfaction of the network operator of the national high-voltage network, before connecting the generation unit and whenever the primary control system of a generation unit undergoes a change, that the generation unit satisfies the technical requirements contained in 2.1.3 to 2.1.12.
- 2.1.22 The testing referred to in 2.1.21 shall be repeated each time a period of eight years has elapsed since the most recent test.
- 2.1.23 By means of testing, a connected party with a generation unit connected to a network with a nominal voltage equal to or higher than 110 kV shall demonstrate to the satisfaction of the network operator of the national high-voltage network, prior to its connection and whenever the generation unit's own operating system undergoes significant change, that the generation unit satisfies the technical requirements contained in 2.1.13 to 2.1.17.
- 2.1.24 Annex 4 describes the tests, how they must be performed and the method of reporting on the tests and their examination by the network operator of the national high-voltage network.
- 2.1.25 If the test results show that a generation unit does not satisfy the requirements, the network operator of the national high-voltage network shall make it compulsory for the connected party to take measures. After hearing the connected party, the network operator of the national high-voltage network shall set a term for carrying out the measures. Testing shall be repeated after the measures have been taken.
- 2.1.26 The testing referred to in articles 2.1.21 to 2.1.25 shall be performed by the connected party at its expense.

2.2 Retention of energy balance

- 2.2.1 The network operator of the national high-voltage network shall publish a summary of the relevant UCTE arrangements referred to in this section and any changes thereto on the Internet page of TenneT (www.tennet.org). A copy shall further be sent to any person who so requests.
- 2.2.2 The network operator of the national high-voltage network shall not apply the UCTE arrangements referred to in 2.2.1 if they will prevent or discontinue fulfilment of the duties referred to in Section 16 of the Electricity Act 1998 and fulfilment of the conditions referred to in Section 26e of the Electricity Act 1998 by the network operator of the national high-voltage network.
- 2.2.3 The network operator of the national high-voltage network shall use the means at its disposal to retain monitor, or restore at any time the supply-and-demand balance for electrical power in the Netherlands.
- 2.2.4 In the event of failures the network operator of the national high-voltage network shall restore the exchange with foreign countries with due observance of the time period agreed within the UCTE.
- 2.2.5 If a supply-and-demand imbalance occurs in the Netherlands, the network operator of the national high-voltage network shall, after automatic activation of the primary reserve, take the following measures in the stated sequence:
- a. the national network operator shall activate the means at its disposal, including the capacity referred to in article 5.1.1a1 of the Network Code;
 - b. the network operator of the national high-voltage network shall, if it has insufficient means at its disposal to maintain the n-1 reserve, hold authority to cancel exports that have already been approved completely or partly, in accordance with the procedure stated in chapter 5.6 of the Network Code for unforeseen transmission restrictions. The network operator of the national high-voltage network shall immediately inform the other network operators and parties with balance responsibility of the situation that has arisen and the measures that have been or will be taken;
 - c. if the measures mentioned at a do not restore the balance and the network operator of the national high-voltage network is of the opinion that a disrupted operational situation is arising or is likely to arise, it shall instruct operators of generation units with an installed capacity of 5 MW or more who possess capacity not yet at its disposal to regulate up or down that capacity (or cause such) or to take it in or out of service (or cause such), in each instance subject to the provisions of articles 2.2.6 to 2.2.12. The network operator of the national high-voltage network shall immediately inform the other network operators and parties with balance responsibility that such a situation has occurred;
 - d. if the measures referred to at a, b and c do not restore the balance, the network operator of the national high-voltage network shall shed load or instruct one or more other network operators to shed load, in each instance subject to the provisions of articles 2.2.13 to 2.2.19.

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- 2.2.6 The network operator of the national high-voltage network may not exercise its authority under article 2.2.5 c to restore the n-1 reserve referred to in 2.2.5 b.
- 2.2.7 For the purposes of the provisions of 2.2.5 c, the network operators shall possess up-to-date operational information of generation units with a capacity greater than 60 MW that are connected to their networks.
- 2.2.8 The network operator of the national high-voltage network shall issue by telephone the instructions referred to in 2.2.5 c.
- 2.2.9 The network operator of the national high-voltage network shall give advance notice of such an instruction and shall explain the reason for it at the same time. The explanation shall be confirmed in writing, later if necessary.
- 2.2.10 If the situation is so urgent that the network operator of the national high-voltage network cannot give advance notice of the instruction, it shall later explain in writing the reason for the instruction and the reason for omitting advance notice.
- 2.2.11 Regulating up and starting up shall be completed within the time that such is technically possible.
- 2.2.12 If an instruction has been issued to one or more other network operators, the other network operator(s) shall inform the network operator of the national high-voltage network by return phone call of the action they have taken to carry out the instruction.
- 2.2.13 The network operator of the national high-voltage network may not exercise its authority under 2.2.5 d to restore the n-1 reserve referred to in 2.2.5 b.
- 2.2.14 Network operators shall possess mutually agreed load shedding plans and restoration plans. The plans shall be available for inspection at the premises of the network operator. Each network operator shall send the board of the competition authority copies of the plans, also after their amendment.
- 2.2.15 The load shedding referred to in 2.2.5 d shall take place manually, and the instruction shall be given by telephone if the network operator of the national high-voltage network instructs another network operator to shed load.
- 2.2.16 The network operator of the national high-voltage network shall give advance notice of a load shedding instruction and shall explain the reason for it at the same time.
- 2.2.17 If the situation is so urgent that the network operator of the national high-voltage network cannot give advance notice of the instruction, it shall later explain in writing the reason for the instruction and the reason for omitting advance notice.
- 2.2.18 Unless the network operator of the national high-voltage network states a period of time within which a load shedding instruction must have been carried out, the instruction shall be carried out immediately after being given.
- 2.2.19 If one or more other network operators have been instructed to shed loads, they shall inform the network operator of the national high-voltage network by return phone call of the action they have taken to carry out the instruction.
- 2.2.20 In accordance with the rules laid down within the UCTE, the network operator of the national high-voltage network shall determine in respect of the primary control system the droop that must be set for each category of generation units, and also the minimum primary reserve expressed as a percentage of nominal capacity.
- 2.2.21 The network operator of the national high-voltage network shall ensure automatic activation of the required primary reserve within the time agreed within the UCTE.
- 2.2.22 [Repealed]

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- 2.2.23 The network operator of the national high-voltage network is required to monitor the energy balance with foreign countries, restore it as and when necessary and obtain the capacity required for that purpose.
- 2.2.24 The network operator of the national high-voltage network shall ensure that any deviation from the planned exchange with foreign countries shall under normal circumstances be kept within a limit that it sets.
- 2.2.25 In the event of frequency reductions to 49.0 Hz and lower, the other network operators shall automatically cause part of the load to be shed by means of the frequency relay, according to the following schedule:
- first shedding: shed 15% load at 49.0 Hz;
 - second shedding: shed 15% load at 48.7 Hz;
 - third shedding: shed 20% load at 48.4 Hz.
- The stated percentages shall be cumulated.
- 2.2.26 The load to be shed shall be determined with due allowance for any generation units that must shed load at the same time.
- 2.2.27 The frequency relay shall be set such that:
- a load shedding command follows within 100 ms of violation of the frequency limits stated in 2.2.25;
 - the relays shall not work if the measured voltage drops below 70% of nominal voltage.
- 2.2.28 The measurement inaccuracy of the relay may not exceed 10 mHz.
- 2.2.29 The fault sensitivity of the relay shall be appropriate to the system in which it is used, but in all instances shall satisfy at least IEC 1000-4, class 3.

2.3 Resolution of large-scale interruptions of electricity transmission

- 2.3.1 Reactivation of:
- load that has been shed by means of frequency relays;
 - load that has been shed manually, insofar the network operator of the national high-voltage network coordinates the shedding,
- shall take place only with the permission of the network operator of the national high-voltage network.
- 2.3.2 The network operator of the national high-voltage network shall acquire black start provisions on a scale of its choice. The network operator of the national high-voltage network shall determine the requirements such provisions must satisfy and where they must preferably be located.

2.4 Availability of generation capacity for balance retention

- 2.4.1 Submission of data
- 2.4.1.1 For each generation unit connected to the network with an installed capacity of 5 MW or more, the connected party concerned shall notify the network operator of the national high-voltage network each quarter, not later than 15 March, 15 June, 15 September and 15 December, respectively, of the installed generation capacity (in MW) at each individual generation site for each day of the next 12 calendar months and the type of fuel used by each of its generation units with an installed capacity of 5 MW or more.

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- 2.4.1.2 a. If the installed capacity will be unavailable or will be available to a lesser or greater extent (collectively referred to hereafter as "changed availability") over the period mentioned in article 2.4.1.1 for reasons referred to in article 2.4.1.3 b, the connected party concerned shall, within 24 hours of the changed availability becoming known, notify the network operator of the national high-voltage network of the extent of the changed availability (in MW) and of the programme time units the changed availability is likely to concern;
- b. If the changed availability occurs within 24 hours of the first clock hour it concerns, the connected party referred to in article 2.4.1.1 shall immediately notify the network operator of the national high-voltage network of the extent of the changed availability and of the programme time units the changed availability is likely to concern;
- c. The connected party referred to in article 2.4.1.1 shall immediately notify the network operator of the national high-voltage network of any technical deficiencies, including failures, that cause incomplete availability of the installed capacity or render operation of the generation unit impossible, and shall report within 24 hours the technical cause of the failure;
- d. If a change occurs in the extent or cause of a previously notified changed availability or in the programme time units a previously reported changed availability concerns, the connected party shall immediately notify the network operator of the national high-voltage network of this;
- e. Notifications referred to in clauses a to d of this article do not need to be made if the changed availability differs less than 10 MW per generation site from the data known to the network operator of the national high-voltage network at that time.
- 2.4.1.3 a. In the notifications referred to in article 2.4.1.2, the connected party referred to in article 2.4.1.1 shall state the reason(s) for the changed availability and the generation unit affected by the changed availability.
- b. The only reasons for changed availability may be:
- a generation unit's capacity usable to supply electricity differs from the installed capacity due to environmental conditions;
 - technical deficiencies, including failures, which reduce or render impossible the operation of the generation unit;
 - maintenance on a generation unit, or maintenance on the connection of the generation unit, which reduces or renders impossible the operation of the generation unit;
 - preservation or demolition of a generation unit;
 - fulfilment of conditions stated in the environmental licence of the generation unit or of the establishment of which the generation unit forms part, which reduces or renders impossible the operation of the generation unit, including but not confined to cooling water restrictions;
 - technical limitations of the generation unit or in the connection to the network, which reduce the operation of the generation unit;
 - technical limitations concerning the fuel supply, which reduce the operation of the generation unit;
 - technical limitations concerning the removal of heat, which reduce the operation of the generation unit.
- 2.4.1.4 A connected party as referred to in 2.4.1.1 shall notify the network operator of the national high-voltage network, for each programme time unit, of the regulating margin (in MW) of each of its generation units before 14:00 hrs¹ on the day before the day the regulating margin concerns. In so doing the connected party shall make a distinction between the following categories:
- capacity instantly available for balancing in conformity with article 2.2.5;
 - capacity that will be available within 15 minutes for balancing in conformity with article 2.2.5;
 - capacity that will be available after a term of between 15 and 30 minutes for balancing in conformity with article 2.2.5;
 - capacity that will be available after a term of between 30 minutes and two hours for

¹ Amended under Decision 102227 of 15-11-2006, 16-11-2006, No. 224, p.39

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- balancing in conformity with article 2.2.5;
 - capacity that will be available after a term of between two hours and eight hours for balancing in conformity with article 2.2.5.
- 2.4.1.5 a. The connected party referred to in article 2.4.1.1 shall notify the network operator of the national high-voltage network of deviations of more than 10 MW per generation site from the notification made under article 2.4.1.4 immediately after such deviations become known.
- b. If the connected party referred to in article 2.4.1.1 has offered the network operator of the national high-voltage network the regulating margin notified under article 2.4.1.4 completely by means of bids within the meaning of articles 5.1.1.1a1 and 5.1.1.1a2 of the Network Code, the notifications referred to in clause a of this article may be made by means of changes to the bids.
- 2.4.1.6 The connected party referred to in article 2.4.1.1 may transfer performance of the provisions of section 2.4 to its party with balance responsibility. If the connected party chooses to do this, it shall inform the network operator of the national high-voltage network accordingly in writing.
- 2.4.1.7 Articles 2.4.1.4 and 2.4.1.5 shall not apply to installed capacity that produces electricity from energy sources that cannot be regulated, i.e. wind energy and solar energy.
- 2.4.1.8 Sections 3.8 and 4.1 shall apply *mutatis mutandis* to the exchange of data referred to in section 2.4.

2.5 Disclosure of data concerning generation capacity

- 2.5.1 a. The network operator of the national high-voltage network shall publish on its public Internet website each quarter, not later than 20 March, 20 June, 20 September and 20 December, respectively, the data received under article 2.4.1.1, showing the name of the connected party, generation site, installed capacity of each generation unit and type of fuel of each generation unit, for the coming 12 calendar months
- b. The network operator of the national high-voltage network shall further publish on its public Internet website the total installed capacity per day for the coming 12 calendar months.
- 2.5.2 a. The network operator of the national high-voltage network shall publish on its public Internet website daily, before 09:00 hrs, for each programme time unit, the total expected capacity available calculated on the basis of articles 2.4.1.1 to 2.4.1.3, for a period of nine months into the future, starting the next day at 00:00 hours.
- b. The network operator of the national high-voltage network shall update the data published under clause a of this article with a delay of two hours after receipt of notifications under articles 2.4.1.2 and 2.4.1.3.
- c. Insofar as notifications under articles 2.4.1.2 and 2.4.1.3 occur between 17:00 hrs and 07:00 hrs, the network operator of the national high-voltage network shall update the data published under clause a of this article concerning those notifications at 09:00 hrs the next day.
- 2.5.3 a. The network operator of the national high-voltage network shall publish on its public Internet website daily, before 15:00 hrs², the data received for the following calendar day under article 2.4.1.4 concerning the regulating margin, for each programme time unit and summed for each category mentioned in article 2.4.1.4.
- b. The network operator of the national high-voltage network shall update the data published under clause a of this article with a delay of two hours after receipt of the notifications referred to in article 2.4.1.5
- c. Insofar as notifications under article 2.4.1.5 occur between 17:00 hrs and 07:00 hrs, the network operator of the national high-voltage network shall update the data published under clause a of this article concerning these notifications at 09:00 hrs the next day.
- 2.5.4 Data published under articles 2.5.1 to 2.5.3 shall be kept accessible for any interested party for a period of at least 10 years, in a chronological archive on the Internet website of the network operator of the national high-voltage network.

² Amended under Decision 102227 of 15-11-2006, 16-11-2006, No. 224, p. 39

3 Balance responsibility

3.1 Exercise of balance responsibility

- 3.1.1 A network operator shall allow only natural persons and legal entities the network operator of the national high-voltage network has formally accredited as parties with balance responsibility under article 3.2 to exercise balance responsibility for a connection.
- 3.1.2 A connected party that does not personally exercise balance responsibility for its connection shall transfer the balance responsibility to a natural person or legal entity as referred to in 3.1.1.
- 3.1.3 Network operators shall transfer their balance responsibility for compensation of network losses to a natural person or legal entity as referred to in 3.1.1.
- 3.1.4 A connected party that does not personally exercise balance responsibility for its connection shall give written notification to the network operator to whose network it is connected of the fully accredited party with balance responsibility to which it has transferred its balance responsibility.
- 3.1.5 The notification referred to in 3.1.4 shall be accompanied by a statement in which the accredited party with balance responsibility confirms that the connected party has transferred balance responsibility to it. The network operator shall not accept the notification unless accompanied by such a statement.
- 3.1.6 A connected party shall inform the relevant network operator in writing at least five working days before the envisaged commencement date, or in another way in accordance with section 3.8, of any intention to transfer its balance responsibility to an accredited party with balance responsibility other than the accredited party with balance responsibility that has exercised balance responsibility for him to date.
- 3.1.7 Notwithstanding the provisions of 3.1.4 to 3.1.6, a duly authorised supplier that arranges balance responsibility for a connected party shall make the notification referred to in 3.1.4 and shall give the notice referred to in 3.1.6 in conformity with the processes described in Chapter 2 of the Electricity and Gas Information Code.³
- 3.1.8 In the way described in Chapter 2 of the Electricity and Gas Information Code, a network operator shall immediately inform the accredited party with balance responsibility that exercises balance responsibility for the connected party until the transfer referred to in 3.1.6 that it has received and accepted a notice within the meaning of 3.1.6.⁴
- 3.1.9 The provisions of 3.1.4 to 3.1.8 shall apply to the balance responsibility of a network operator, other than the network operator of the national high-voltage network, for compensation of network losses, with the proviso that the notifiable network operator is the network operator of the higher voltage network to which the network of the first-mentioned network operator is connected.
- 3.1.10 An accredited party with balance responsibility that intends to end the balance responsibility of a connected party **on its connection** shall inform the connected party and the relevant network operator accordingly, in all instances in writing at least **30** working days before the envisaged effective date or otherwise in conformity with section 3.8. An accredited party with balance responsibility that bears balance responsibility under an agreement with a supplier and wishes to end that agreement shall **within the prescribed term** inform the supplier instead of the connected party, and also the connected party if it has contracted transmission capacity greater than 3x80 A at low voltage.⁵
- 3.1.11 The connected party or supplier, duly authorised for that purpose, shall notify the relevant network operator in writing or otherwise in conformity with section 3.8, at least five working days before the

³ Amended under Decision 102472/8 of 06-03-2007, 09-03-2007, No. 49, p. 20

⁴ Amended under Decision 102472/8 of 06-03-2007, 09-03-2007, No. 49, p. 20

⁵ Amended under Decision 102343 of 21-06-2007, 29-06-2007, No. 123, p. 43

effective date referred to in 3.1.0, of the fully accredited party with balance responsibility that from that date onwards shall bear balance responsibility for the connection.

- 3.1.12 If the connected party or supplier, duly authorised for that purpose, fails to fulfil on time the obligation referred to in 3.1.11, the arrangements mentioned in section 3.1c shall be invoked for the connection concerned, except insofar as the reason for cancellation is attributable to the connected party. The network operator concerned shall immediately inform the network operator of the national high-voltage network and the board of the competition authority.

3.1a Arrangements if a natural person or legal entity loses its capacity as a fully accredited party with balance responsibility

- 3.1a.1 The network operator of the national high-voltage network shall immediately inform the other network operators, the other parties with balance responsibility and the board of the competition authority as soon as a natural person or legal entity loses its capacity as a fully accredited party with balance responsibility. At that time the regulations referred to in section 3.1c shall be invoked for connections for which the party concerned is entered in the Connections Register as being a party with balance responsibility. The other network operators shall then immediately inform the suppliers, if they are duly authorised, the affected connected parties with contracted transmission capacity of more than 3x80 A at low voltage and the other affected connected parties insofar as they have not authorised a supplier.

3.1b Arrangements if a fully accredited party with balance responsibility has been made subject to debt adjustment by law, has been granted suspension of payments or has been declared bankrupt

- 3.1b.1 The network operator of the national high-voltage network shall immediately inform the board of the competition authority as soon as it learns that a fully accredited party with balance responsibility has been made subject to debt adjustment by law, has been granted suspension of payments or has been declared bankrupt, and shall consult with the board of the competition authority as to whether and, if so, on what conditions, it may or must offer the party with balance responsibility, or the administrator and party with balance responsibility jointly, or the liquidator, a possibility to suspend termination of accreditation as a party with balance responsibility, and, insofar as such is reasonably necessary, stand surety for the additional costs during such temporary continuation. Depending on the outcome of these consultations, the network operator of the national high-voltage network shall enter into consultation with the party with balance responsibility, or the party with balance responsibility and administrator jointly, or the liquidator, and shall make an offer within the meaning of this article.
- 3.1b.2 Additional costs in the context of 3.1b.1 means any extra costs incurred for purchasing energy compared with a situation without dissolved purchase contracts of the party with balance responsibility concerned.
- 3.1b.3 If the consultations referred to at 3.1b.1 result in extension of accreditation of the affected party with balance responsibility, all individual requests made during the extension period for changing the party with balance responsibility shall be refused.
- 3.1b.4 If and to the extent that changes occur under this section or under 3.1c in the balance responsibility of groups of connected parties due to the loss of accreditation of the original party with balance responsibility or the sale or relaunch of the enterprise of the original party with balance responsibility or in some other way, the relevant network operator shall ensure that the switch of balance responsibility shall be recorded in the Connections Register within one working day.

3.1c Apportionment of connections for which balance responsibility has been lost of connected parties who are not to blame for the loss

- 3.1c.1 In cases referred to in 3.1.12 and 3.1a.1, the network operator of the national high-voltage network shall allocate balance responsibility for connections referred to in those articles to the other parties with balance responsibility in the following way:

- a. connections for which a duly authorised supplier has arranged balance responsibility and assigned it to a legal entity other than itself: to the fully accredited party with balance responsibility, which the supplier shall immediately make known to the network operator involved;
- b. connections with a contracted transmission capacity up to and including 3x80 A at low voltage to which clause a is not applicable or for which the supplier referred to at clause a has not arranged balance responsibility on time: in proportion to the number of connected parties with a contracted transmission capacity up to and including 3x80 A at low voltage for which a fully accredited party with balance responsibility bears balance responsibility as of the first day of the year in which the allocation occurs, or, if allocation occurs in January or February, as of the first day of the year preceding allocation;
- c. connections with a contracted transmission capacity greater than 3x80 A at low voltage but less than 10 MW to which clause a is not applicable or for which the supplier referred to at clause a has not arranged balance responsibility on time: in proportion to the total contracted transmission capacities in this category for which a fully accredited party with balance responsibility bears balance responsibility as of the first day of the year in which the allocation occurs, or, if allocation occurs in January or February, as of the first day of the year preceding allocation;
- d. other connected parties: none.

Fully accredited parties with balance responsibility allocated connections under the provisions made at b and/or c shall within three working days of the allocation inform the connected parties concerned or their supplier, if the supplier is duly authorised to arrange balance responsibility, of the allocation, the conditions they apply and the possibility for cancellation.

- 3.1c.2 **Not later than 20 January each year**, the other network operators shall give the network operator of the national high-voltage network the details necessary to carry out the provisions made at 3.1c.1. The network operator of the national high-voltage network shall give the other network operators the information they need for the purpose of allocation. Section 3.8 shall apply to the provision of this information.⁶
- 3.1c.3 The network operator of a connected party within the meaning of 3.1c.1 shall hold authority to disconnect the connection of a connected party that has not stated the other fully accredited party with balance responsibility that will replace the party with balance responsibility that has lost its accreditation.
- 3.1c.4 A connected party that has got a different fully accredited party with balance responsibility for its connection through the allocation referred to in this section shall for three months have the right to switch to a different party with balance responsibility without giving notice.
- 3.1c.5 A fully accredited party with balance responsibility that has been allocated balance responsibility for connections under the provisions of this section shall not have the right to refuse such allocation, unless it informed the network operator of the national high-voltage network in writing at least one calendar month before such allocation that it did not wish to be considered for allocation and also stated the other fully accredited party with balance responsibility that would take over its apportionment. However, the party with balance responsibility shall have the right to cancel under the provisions of 3.1.10.

3.1d Arrangements if a supplier is no longer able to fulfil its supply obligations

- 3.1d.1 The network operator of the national high-voltage network shall immediately inform the board of the competition authority as soon as it learns that a supplier can no longer or will no longer be able to fulfil its supply obligations, has been made subject to debt adjustment by law, has been granted suspension of payments or has been declared bankrupt, and shall consult with the board of the competition authority as to whether and, if so, on what conditions, it may or must offer the supplier, or the administrator and supplier jointly, or the liquidator, a possibility to support continuation of supplies temporarily **for at most ten working days** by, insofar as reasonably necessary, standing surety for the

⁶ Amended under Decision 102343 of 21-06-2007, 29-06-2007, No. 123, p. 43

additional costs during such temporary continuation. Depending on the outcome of these consultations, the network operator of the national high-voltage network shall enter into consultation with the supplier, or the supplier and administrator jointly, or the liquidator, and, if reason exists for doing so, also with the party with balance responsibility for the connections concerned, and shall make an offer within the meaning of this article. **If the supplier in question is also a licence holder, the aforementioned consultations shall take place under the provisions of Security of Supply (Electricity Act 1998) Decree at the request of and with the Minister.**⁷

- 3.1d.2 Additional costs in the context of 3.1d.1 means any extra costs incurred for purchasing energy compared with a situation without dissolved purchase contracts of the supplier in question.
- 3.1d.3 If the consultations referred to at 3.1d.1 result in extension of supplies by the supplier concerned, all individual requests made during the extension period for changing the supplier shall be refused.
- 3.1d.4 If the consultations referred to at 3.1d.1 do not result in extension of supplies by the supplier concerned, Article 2.6 of the Security of Supply (Electricity Act 1998) Decree and 3.1c.2 shall apply *mutatis mutandis* to supplies by a licence holder to small scale consumers. For supplies to the other connected parties of the supplier, the fully accredited party with balance responsibility who bears balance responsibility for those connected parties shall replace the supplier. The network operator of the national high-voltage network shall immediately inform the party with balance responsibility of this situation. The new licence holder or the new party with balance responsibility shall inform the affected connected parties in writing within three working days of the aforementioned replacement of the situation that has arisen and of the conditions that currently apply (including but not confined to possibilities for cancellation)⁸.
- 3.1d.4a A licensed supplier that is assigned to supply small scale consumer under the provisions of 3.1d.4 shall notify the network operator of the national high-voltage network of the party with balance responsibility that must be given balance responsibility for those small scale consumers. This notification (and changes thereto) shall be taken into account in the apportionment if the notification occurred not later than on the first working day of the calendar month preceding the time of the apportionment.⁹
- 3.1d.5 If the consultations referred to at 3.1d.1 result in extension of supplies by the supplier concerned, the provisions of 3.1d.4 shall apply *mutatis mutandis* after expiry of the extension period, insofar as continuation of supplies after the extension period has not been adequately arranged by the supplier or by the administrator and supplier jointly, or by the liquidator.
- 3.1d.6 In the situation referred to at 3.1d.4 and 3.1d.5, the connected party shall be deemed to have a supply contract with the licence holder or the party with balance responsibility that replaces the supplier. A connected party, other than a small scale consumer, shall have for three months the right to terminate the supply contract without observing a period of notice.¹⁰
- 3.1d.7 The provisions of Article 2.6 of the Security of Supply Decree shall apply to the tariff for the energy a licence holder supplies to small consumers. The party with balance responsibility referred to at 3.1d.4 and 3.1d.5 that replaces the supplier may charge a connected party, other than a small scale consumer, a tariff for the supplied energy that corresponds with the APX price, unless the connected party has agreed different arrangements with the party with balance responsibility.¹¹
- 3.1d.8 The licence holder referred to at 3.1d.4 and 3.1d.5 that replaces the supplier shall immediately inform the board of the competition authority of the situation that has arisen.
- 3.1d.9 If and to the extent that under this section the supplier changes of groups of connected parties (including on the grounds of sale or re-launch of the enterprise of the original supplier), the network operator involved shall ensure that the switch to a different supplier is entered in the Connections Register within one working day.

3.1e Preparation of a procedure for implementing the arrangements in sections 3.1a to 3.1d

⁷ Amended under Decision 102343 of 21-06-2007, 29-06-2007, No. 123, p. 43

⁸ Amended under Decision 102343 of 21-06-2007, 29-06-2007, No. 123, p. 43

⁹ Amended under Decision 102343 of 21-06-2007, 29-06-2007, No. 123, p. 43

¹⁰ Amended under Decision 102343 of 21-06-2007, 29-06-2007, No. 123, p. 43

¹¹ Amended under Decision 102343 of 21-06-2007, 29-06-2007, No. 123, p. 43

- 3.1e.1 The network operator of the national high-voltage network shall draw up and publish on its website a procedure for performing its duties under sections 3.1a to 3.1d.

3.2 Accreditation as party with balance responsibility

- 3.2.1 On request the network operator of the national high-voltage network may grant a natural person or legal entity an accreditation as a party with balance responsibility. The accreditation may be:
- a full accreditation;
 - a trade accreditation.
- 3.2.2 A fully accredited party with balance responsibility shall have the right to:
- exercise balance responsibility for its own connections, unless it is a captive consumer;
 - offer as a service the exercise of balance responsibility for connections of third parties;
 - submit energy programmes;
 - act as a transaction party in energy programmes.
- 3.2.3 A party with balance responsibility with a trade accreditation shall have solely the right mentioned in c and d of 3.2.2.
- 3.2.4 The rights referred to at 3.2.2 and 3.2.3 shall not be transferable.
- 3.2.5 An accredited party with balance responsibility may exercise the rights referred to at 3.2.2 and 3.2.3 starting from the day following the day it was entered as such in the Balance responsibility Register referred to at 3.3.1.
- 3.2.6 The application for accreditation as a party with balance responsibility shall be submitted in writing to the network operator of the national high-voltage network in accordance with a model that the latter shall issue.
- 3.2.7 When granting full accreditation as a party with balance responsibility, the network operator of the national high-voltage network shall observe the matters laid down by the board of the competition authority under Section III, subsection 3, of the Act of 3 June 1999 (Netherlands Bulletin of Acts and Decrees, No. 260).
- 3.2.8 [Repealed]
- 3.2.9 Within thirty days of receiving the application form, the network operator of the national high-voltage network shall decide whether the applicant is eligible for accreditation as a party with balance responsibility.
- 3.2.10 If any required details are missing in a submitted application, the term referred to at 3.2.9 shall be suspended until fulfilment of the request by the network operator of the national high-voltage network to supply the missing details.
- 3.2.11 Without prejudice to other matters laid down in or pursuant to the Act, an accreditation shall be granted after:
- the network operator of the national high-voltage network has established that the applicant possesses the expertise and the technical, administrative and organisational facilities required to exercise balance responsibility, and
 - the applicant has given an undertaking to the network operator of the national high-voltage network in a uniform agreement to fulfil the conditions for exercising balance responsibility, whereby those conditions shall concern financial securities to be provided by the applicant, unless the applicant is a licence holder within the meaning of the Act, the fulfilment of the conditions laid down by the board of the competition authority under Section 26 of the Act, the payment of

amounts that become due under the agreement and the cases in which and conditions on which the agreement will end or may be ended.

- 3.2.12 The financial security referred to at 3.2.11 shall be provided in the form of a bank guarantee in accordance with a model issued by the network operator of the national high-voltage network, supplemented or not supplemented, at the election of the party with balance responsibility, by a deposit held by the network operator of the national high-voltage network. The provisions made in annex 5 shall apply to determination and alteration of the size of the financial security to be provided.
- 3.2.13 If a previous accreditation of the applicant was withdrawn, the network operator of the national high-voltage network shall not approve the application until after it has established that the reasons for withdrawal of the previous accreditation no longer exist and there are no grounds for suspecting that the same reasons will reoccur.
- 3.2.14 The network operator of the national high-voltage network shall have a decision to grant an accreditation as a party with balance responsibility published as soon as possible in the Government Gazette, stating the following details:
- name and full address of the accredited party with balance responsibility;
 - whether the accreditation is a full accreditation or a trade accreditation.
- 3.2.15 The network operator of the national high-voltage network may not attach to the agreement referred to in article 3.2.11 b any conditions for accreditation as a party with balance responsibility other than the conditions stated in this section.

3.3 Balance responsibility (PV) Register and Connections Register

- 3.3.1 The network operator of the national high-voltage network shall manage a register ("PV Register") that contains the names, addresses, telephone number and fax number and electronic communication details of the natural persons and legal entities referred to in 3.1.1 and an entry that shows whether a full accreditation or a trade accreditation has been granted.
- 3.3.2 The network operator of the national high-voltage network shall inform an accredited party with balance responsibility of the date of its registration in the PV Register.
- 3.3.3 An accredited party with balance responsibility shall have the right to inspect the PV Register and to require correction of any inaccuracies concerning its registration.
- 3.3.4 The network operator of the national high-voltage network shall immediately inform the other network operators and accredited parties with balance responsibility of changes made in the PV Register.
- 3.3.5 [Repealed]
- 3.3.6 [Repealed]
- 3.3.7 [Repealed]
- 3.3.8 [Repealed]

3.4 Obligation to exercise balance responsibility

- 3.4.1 A fully accredited party with balance responsibility shall at all times be under obligation to the network operator of the national high-voltage network to exercise balance responsibility for the connections for which it is listed at any time in the Connections Register as the party with balance responsibility.
- 3.4.2 With regard to the obligation of a party with balance responsibility to exercise balance responsibility for a connection, the network operator of the national high-voltage network may rely on entries made in

the Connections Register regarding balance responsibility for that connection, without prejudice to the right of the party with balance responsibility to require correction of an incorrect entry and without prejudice to its entitlement to claim from the network operator concerned compensation for costs caused by an incorrect entry imputable to the network operator.

3.5 Ending of accreditation

- 3.5.1 A natural person or legal entity within the meaning of 3.1.1 shall lose its accreditation as a party with balance responsibility from the date the agreement referred to at 3.2.11 b ends, regardless of whether its registration in the PV Register has been deleted on such date and the loss of its accreditation has been published, in each instance within the meaning of 3.5.2 and 3.5.3.
- 3.5.2 If a natural person or legal entity has lost its accreditation as a party with balance responsibility, the network operator of the national high-voltage network shall immediately inform the other network operators and accredited parties with balance responsibility and shall delete the relevant entry in the PV Register.
- 3.5.3 The network operator of the national high-voltage network shall have published as soon as possible in the Government Gazette a loss of accreditation as a party with balance responsibility, stating the name, full address of the natural person or legal entity concerned, and also the date it lost its accreditation and the date its entry in the PV Register was deleted.

3.6 Energy programmes

- 3.6.1 An accredited party with balance responsibility shall submit to the network operator of the national high-voltage network before 08:00 hrs or a different time jointly agreed by the combined network operators a schedule of electricity imports, exports and transits for the following day ("IET schedule"), in line with permission obtained earlier from the network operator of the national high-voltage network for imports, exports and transits for more than one day.
- 3.6.2 Not later than 30 minutes after the required submission time of the schedule referred to at 3.6.1, the network operator of the national high-voltage network shall inform the party with balance responsibility of the imports, exports and transits stated in the schedule that it has allocated for the following day, taking into account the capacity available in cross-border connections, and of the availability that exists for the spot market for the following day on cross-border connections.
- 3.6.3 If the allocation referred to at 3.6.2 does not correspond with the schedule referred to at 3.6.1, the party with balance responsibility shall submit a revised schedule to the network operator of the national high-voltage network before 13:00 hrs the same day¹².
- 3.6.4 If the IET schedule or revised IET schedule for the following day has not been submitted before the time referred to at 3.6.1 or, as the case may be, 3.6.3, the network operator of the national high-voltage network shall not allocate any capacity on cross-border connections for transmissions stated in the schedule.
- 3.6.5 A fully accredited party with balance responsibility shall submit to the network operator of the national high-voltage network before 13:00 hrs each day an energy programme that includes an IET schedule¹³.
- 3.6.6 A party with balance responsibility that has a trade accreditation shall submit to the network operator of the national high-voltage network before 13:00 hrs each day an energy programme that includes an IET schedule for energy transactions the following day¹⁴.
- 3.6.7 Insofar as the energy programmes referred to at 3.6.5 and 3.6.6 include imports, exports and transits other than those allocated under 3.6.1 to 3.6.4, the network operator of the national high-voltage network shall provide notification not later than 30 minutes after the times mentioned at 3.6.5 and 3.6.6 of the imports, exports and transits it has allocated, taking into account the capacity available in the cross-border connections.
- 3.6.8 If an allocation within the meaning of 3.6.7 does not correspond with the energy programme referred to at 3.6.5 and 3.6.6, the party with balance responsibility shall submit to the network operator of the national high-voltage network a revised energy programme for the IET schedule before 15:00 hrs¹⁵.
- 3.6.9 Article 3.6.4 shall apply *mutatis mutandis* to the schedule of the imports, exports and transits referred to at 3.6.7 and 3.6.8.
- 3.6.10 An allocation shall expire if the allocation of transmission capacity referred to at 3.6.2 or 3.6.7 is not confirmed before 17:00 hrs the same day by the manager of the part of the cross-border connection that is not located in the Netherlands¹⁶.

¹² Amended under Decision 102227 of 15-11-2006, 16-11-2006, No. 224, p. 39

¹³ Amended under Decision 102227 of 15-11-2006, 16-11-2006, No. 224, p. 39

¹⁴ Amended under Decision 102227 of 15-11-2006, 16-11-2006, No. 224, p. 39

¹⁵ Amended under Decision 102227 of 15-11-2006, 16-11-2006, No. 224, p. 39

¹⁶ Amended under Decision 102227 of 15-11-2006, 16-11-2006, No. 224, p. 39

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- 3.6.11 As soon as possible after the network operator of the national high-voltage network has informed the relevant party with balance responsibility of the occurrence of a case as referred to at 3.6.10, the party with balance responsibility shall submit a change to the energy programme that incorporates the expiry of the allocation and meets the provisions of 3.6.17.
- 3.6.12 If a party with balance responsibility with a full accreditation or trade accreditation has included in its energy programme an energy transaction at odds with the details stated for the transaction in the energy programme of another party with balance responsibility, and the inconsistency has not been eliminated before the starting time of the energy programme, the network operator of the national high-voltage network shall charge the part of the energy transaction thus unaccounted for to the two parties with balance responsibility, at the imbalance price appropriate to electrical energy taken from and supplied to the operator of the national high-voltage network.
- 3.6.13 The network operator of the national high-voltage network shall withhold its approval of an energy programme if the programme fails to satisfy the requirements of internal and external consistency, subject to the following definitions:
- a. internal consistency:
 - if a fully accredited party with balance responsibility is involved: in each programme time unit, the consumption, sale and export of energy on the one hand are in balance with the infeed, purchase and import of energy on the other;
 - if a party with balance responsibility with trade accreditation is involved: in each programme time unit, the sale and export of energy are in balance with the purchase and import of energy.
 - b. external consistency: the details stated for each programme time unit concerning an energy transaction corresponds with the details stated for the same transaction in the energy programme of another accredited party with balance responsibility.
- 3.6.14 The network operator of the national high-voltage network shall further withhold its approval of an energy programme if the programme warrants the expectation that based on transmission forecasts submitted to the network operator of the national high-voltage network, transmission problems will occur at the connecting points to the national high-voltage network.
- 3.6.15 Immediately after receiving notification from the network operator of the national high-voltage network that its energy programme has not been approved, the party with balance responsibility shall submit a corrected energy programme, which shall again be subject to approval by the network operator of the national high-voltage network.
- 3.6.16 An approved energy programme shall commence at 00:00 hrs on the day it concerns.
- 3.6.17 In the case referred to at 3.6.11, or in the event of a cancellation of imports, exports or transits, a party with balance responsibility shall submit a change to the energy programme that is such that it restores the balance lost because of expiry of the allocation of capacity or cancellation of imports, exports or transits.
- 3.6.18 In the cases stated below, a party with balance responsibility may, subject to the internal and external consistency requirements, submit a change to an approved energy programme:
- a. the party with balance responsibility observes or expects on the connections for which it has balance responsibility a net consumption or infeed that differs from the energy programme and wishes to amend the programme so as to eliminate the deviation to the fullest extent possible;
 - b. for commercial or contractual reasons, the party with balance responsibility wishes to make changes to the energy transactions contained in the energy programme.

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- 3.6.19 Programme changes may take effect from any whole clock hour and shall be sent in at least one hour before such clock hour.
- 3.6.20 Notwithstanding the provisions made at 3.6.19, a change to an approved energy programme may take effect at any whole clock hour that follows the time of submission, if the change is necessary on account of:
- a. a network failure reported by the network operator concerned to accredited parties with balance responsibility and to the network operator of the national high-voltage network that causes the load of the affected network to decrease by more than 25 MW;
 - b. a cancellation of imports, exports or transits by the network operator of the national high-voltage network, or by the manager of the part of the cross-border connection located in another country, on account of transmission problems concerning such connection.
- 3.6.21 A party with balance responsibility shall not owe the network operator of the national high-voltage network any costs for dealing with an energy programme or with programme changes, provided that there are not more than 1500 changes per calendar year.
- 3.6.22 For every programme change that exceeds the number mentioned at 3.6.21 in a calendar year, the party with balance responsibility shall owe the network operator of the national high-voltage network an amount of EUR 200 in costs for dealing with the change.

3.7 Exchange of metering data

- 3.7.1 The exchange of metering data for the purpose of balance responsibility shall take place in accordance with the provisions made for such exchange in the Electricity Metering Code.
- 3.7.2 [Repealed]
- 3.7.3 [Repealed]
- 3.7.4 [Repealed]
- 3.7.5 Each working day not later than 17:00 hrs, a fully accredited party with balance responsibility shall receive from the network operator of the national high-voltage network the following data concerning the preceding 24 hours:
- a. the energy programme submitted to and approved by the network operator of the national high-voltage network, including any changes thereto;
 - b. the supplies and consumption of energy metered on those connections;
 - c. the observed deviation from the approved energy programmes;
 - d. the imbalance price for each programme time unit;
 - e. the total amount concerning the imbalance.
- 3.7.5a After receiving the definitive data referred to at 4.2.7 of the Electricity Metering Code, a fully accredited party with balance responsibility shall receive the next working day not later than 15:00 hrs the data referred to at 3.7.5, a to e inclusive.

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- 3.7.6 If the working day referred to at 3.7.5 follows a weekend or public holiday, the provision of data referred to at 3.7.5 shall concern the weekend or public holiday(s) and the preceding 24 hours.
- 3.7.7 When determining the deviation referred to in article 3.7.5 c, the network operator of the national high-voltage network shall take into account the higher or lower quantity of energy delivered if it concerns:
- balance responsibility for the connection(s) of a producer with whom the network operator of the national high-voltage network has concluded an agreement for provision of regulated capacity and the supply of the higher or lower quantity occurred under such agreement;
 - the balance responsibility for the connection(s) a consumer that has taken a lower quantity, or, in the case of a producer, that had produced a higher or lower quantity in accordance with article 2.2.5 a;
 - the supply of a higher or lower quantity under a transaction between the party with balance responsibility and another party with balance responsibility and such transaction was established in accordance with a procedure laid down and published by the network operator of the national high-voltage network.
- 3.7.8 An accredited party with balance responsibility shall check the data it has received under the provisions of articles 3.7.1 to 3.7.7.
- 3.7.9 [Repealed]
- 3.7.10 [Repealed]
- 3.7.10a.1 The network operator of the national high-voltage network and the network operators with network connections for which consumption was allocated in the way referred to in annex 14 of the Electricity Metering Code to each fully accredited party with balance responsibility shall perform the reconciliation using meter readings taken before 24:00 hrs on the fifth working day of the month.
- 3.7.10a.2 Network operators, other than the network operator of the national high-voltage network, shall send the relevant parties with balance responsibility and the network operator of the national high-voltage network the data necessary for the reconciliation not later than on the final working day of the month referred to at 3.7.10a.1 The provisions made in 3.8 shall apply to the way this data shall be gathered and edited.
- 3.7.10a.3 Within 10 working days of the end of the period referred to at 3.7.10a.2, a fully accredited party with balance responsibility shall receive from the network operator of the national high-voltage network the following data:
- the total of the gathered data referred to at 3.7.10a.2;
 - the reconciliation price, i.e. the weighted average day-ahead price published by the APX for the peak and off-peak periods. Annex 7 states the way this price is determined;
 - the total amount still payable or receivable.
- 3.7.10a.4 Parties with balance responsibility that on balance must pay shall ensure that the owed amounts have been credited on the first Tuesday after the time referred to at 3.7.10a.3 to a bank account specially opened by the network operator of the national high-voltage network for that purpose, unless there are not more than three working days between that time and the first Tuesday. In that case, the fully accredited parties with balance responsibility shall ensure that the amounts owed have been credited by the following Tuesday to the special bank account of the network operator of the national high-voltage network.
- 3.7.10a.5 On the Wednesday following the Tuesday referred to at 3.7.10a.4, the network operator of the national high-voltage network shall transfer the amounts payable under 3.7.10 8.3 to a bank account

number made known by parties with balance responsibility that on balance are due payment. The network operator of the national high-voltage network shall not be under obligation to pay out more than was transferred to it by the parties with balance responsibility.

3.7.10a.6 If the Tuesday or Wednesday referred to at 3.7.10a.4 and 5 do not fall on a working day, the times shall shift to the next working day.

3.7.10a.7 The formulas and calculating models the network operators shall use to determine the reconciliation data are stated in annex 7.

3.7.10a.8 The network operators shall keep data in accordance with annex 6 for the purpose of the reconciliation process.

3.7.11 For the joint network operators the network operator of the national high-voltage network shall apportion the costs of establishing and operating the arrangements referred to at 3.7.10, including the required metering programme, to the parties with balance responsibility in proportion to the energy each such party takes by means of the connections referred to at 3.7.10.

3.7.12 The costs incurred for the profiles in 2001 and 2002 shall be settled up using the sales figures in 2002. The costs for the profiles in 2003 and later shall be settled up using the sales data for the year in question.

3.7.13 Monthly on the first working day of the month, the network operator of the national high-voltage network shall charge each party with balance responsibility, by way of an advance, one-twelfth of what it is estimated to have to pay over that year for establishment and operation of the arrangements referred to at 3.7.10. Each year within two months of the end of the calendar year, the regional network operators shall supply data concerning the number of connections referred to at 3.7.10 of each party with balance responsibility for each profile category and the actual energy taken up by the consumers concerned. This shall subsequently be used as a basis for settling up for the past calendar year in accordance with the system referred to at 3.7.11.

3.8 Implementing rules for purposes of 3.6 and 3.7

3.8.1 In connection with the provisions of 3.6 and 3.7, the network operator of the national high-voltage network and the other network operators shall jointly determine rules regarding the arrangements that shall apply between the network operators mutually and between them and accredited parties with balance responsibility with regard to:

- a. message specifications for electronic data interchange;
- b. procedures and specifications of the central mailbox system to be used for electronic data interchange;
- c. communication protocols for the daily exchange of information;
- d. specifications the energy programmes and associated messages must satisfy.

3.8.1a The network operator of the national high-voltage network shall manage the central mailbox system referred to at 3.8.18.

3.8.1b A user of the central mailbox system may exchange messages only if it holds for each exchangeable message a test certificate issued by the network manager of the national high-voltage network. The certificate shall be valid for not more than 12 months.

3.8.1c The network operator of the national high-voltage network may deny access to the central mailbox system if:

- a. a user of the central mailbox system exchanges in violation of the provisions of 3.8.1b messages for which it does not possess a test certificate issued by the network operator of the national high-voltage network,
- b. the user does not immediately commence a test after being invited to do so by the network operator of the national high-voltage network, and
- c. the user is still not in possession of a test certificate within two weeks of the aforementioned invitation.

3.8.1d Articles 3.8.1 to 3.8.1 c shall apply outside the context of 3.8 insofar as electronic messaging occurs via the central mailbox system referred to at 3.8.1.

- 3.8.1e For messages already in use at the time when articles 3.8.1a to 3.8.1c. take effect, the users shall be deemed to possess a certificate valid until up to 12 months after that time.
- 3.8.2 The network operator of the national high-voltage network shall inform every accredited party with balance responsibility of the rules referred to at 3.8.1 by sending them a copy thereof.
- 3.8.3 For the purpose of managing and maintaining the specifications and protocols referred to at 3.8.1, the joint network operators shall organise a consultative platform, whose members shall include a delegation of the joint network operators and of representative organisations of parties in the electricity market, who use the aforementioned means of electronic data communication on the basis of these regulations or any other regulations under Section 31 of the Electricity Act 1998.
- 3.8.4 The costs of the consultative platform for management and maintenance shall be charged by the platform referred to in 3.8.3 to the network operators.

3.8a Quality of metering data

- 3.8a.1 Based on the data received under articles 4.2.5 and 4.2.5 b of the Electricity Metering Code, the network operator of the national high-voltage network shall compare the sum of the infeeds in each sub-network that has a voltage equal to or higher than 110 kV with the sum of the consumption in that sub-network. If a deviation greater than 1000 kWh per day is observed, the network operator concerned shall be notified accordingly and shall be requested to ensure correction of the data.
- 3.8a.2 Each quarter the network operator of the national high-voltage network shall notify the other network operators of trends in the metering correction factors the network operator of the national high-voltage network receives under 4.2.5a.

3.9 Imbalance price

- 3.9.1 In this section:
- a. "Upward regulation" means the supply of electrical energy to the network operator of the national high-voltage network out of the regulating capacity, reserve capacity and emergency capacity that such network operator uses for the purpose of system balancing;
"Downward regulation" means the supply of electrical energy by the network operator of the national high-voltage net to the managers of the regulating capacity and reserve capacity used by such network operator for the purpose of system balancing;
 - b. "Price for upward regulation" means the price per kWh, determined for each programme time unit, corresponding with the highest bid price within the meaning of Article 5.1.1.1a.1 of Decision

number 00-023, of the Network Code of the regulating capacity and reserve capacity used to regulate up or, if it is higher, the price of the emergency capacity used;

- c. "Price for downward regulation" means the price per kWh, determined for each programme time unit, corresponding with the lowest bid price within the meaning of article 5.1.1.1a2 of Decision 00-023, of the Network Code of the balancing capacity and reserve capacity used to regulate down. This price may be negative;
- d. "Incentive component" means an amount per kWh, as described in 3.9.7 to 3.9.9;
- e. "Regulating state" means a parameter used to identify the required regulating action to suppliers of regulating capacity and its progress during a programme time unit. This network operator of the national high-voltage network sets this parameter in accordance with the provisions of 3.9.1a;
- f. "Balance delta" means the sum published by the network operator of the national high-voltage network of the response required by the national frequency capacity regulation system of suppliers of regulating capacity.

3.9.1a The network operator of the national high-voltage network shall determine the regulating state during a programme time unit in the following way:

If during a programme time unit the network operator of the national high-voltage network:

- a. neither regulates upward nor regulates downward, the regulating state shall be 0;
- b. has only regulated upward, the regulating state shall be +1;
- c. has only regulated downward, the regulating state shall be -1;
- d. has regulated upward and regulated downward and the balance delta is neither a constantly non-falling nor a constantly non-rising series, the regulating state shall be +1;
- e. has regulated upward and regulated downward and the balance delta is neither a constantly non-rising nor a constantly non-falling series, the regulating state shall be -1;
- f. has regulated upward and regulated downward and the balance delta is neither a constantly non-rising nor a constantly non-falling rising series, the regulating state shall be +2;
- g. has regulated upward and regulated downward and the balance delta is both a constantly non-rising series and a constantly non-falling series, the regulating state shall be +2.

3.9.2 If the energy programme submitted by a fully accredited party with balance responsibility for the connections for which it has balance responsibility deviates from the energy actually taken up and fed in on those connections, the amount of the deviation per programme time unit of the energy taken up from or fed into the system shall be settled up with the network operator of the national high-voltage network at a price per kWh (hereafter called the "imbalance price").

3.9.3 In a programme time unit in which the regulating state is -1, the imbalance price referred to in article 3.9.2 shall be:

- a. if the deviation referred to in 3.9.2 is comparable to a net take-up of electrical energy, the imbalance price for the party with balance responsibility shall equal the price for regulating downward, plus the incentive component. In this case the party with balance responsibility shall pay the network operator of the national high-voltage network;
- b. if the deviation referred to in 3.9.2 is comparable to an infeed of electrical energy, the imbalance price for the party with balance responsibility shall equal the price for regulating downward, minus the incentive component. In this case the network operator of the national high-voltage network shall pay the party with balance responsibility.

3.9.4 In a programme time unit in which the regulating state is +1, the imbalance price referred to in article 3.9.2 shall be:

- a. if the deviation referred to in 3.9.2 is comparable to a net take-up of electrical energy, the imbalance price for the party with balance responsibility shall equal the price for regulating

- upward, plus the incentive component. In this case the party with balance responsibility shall pay the network operator of the national high-voltage network;
- b. if the deviation referred to in 3.9.2 is comparable to an infeed of electrical energy, the imbalance price for the party with balance responsibility shall equal the price for regulating upward, minus the incentive component. In this case the network operator of the national high-voltage network shall pay the party with balance responsibility.
- 3.9.5 In a programme time unit in which the regulating state is +2, the imbalance price referred to in article 3.9.2 shall be:
- a. if the deviation referred to in 3.9.2 is comparable to a net take-up of electrical energy, the imbalance price for the party with balance responsibility shall equal the price for regulating upward, plus the incentive component. In this case the party with balance responsibility shall pay the network operator of the national high-voltage network;
- b. if the deviation referred to in 3.9.2 is comparable to an infeed of electrical energy, the imbalance price for the party with balance responsibility shall equal the price for regulating downward, minus the incentive component. In this case the network operator of the national high-voltage network shall pay the party with balance responsibility.
- 3.9.6 In a programme time unit in which the regulating state is 0, the imbalance price referred to in article 3.9.2 shall be the average of the lowest bid to the network operator of the national high-voltage network for regulating upward and the highest bid for regulating downward:
- a. plus the incentive component for a deviation that is comparable to a net take-up of energy. In this case the party with balance responsibility shall pay the network operator of the national high-voltage network;
- b. minus the incentive component for a deviation that is comparable to an infeed of energy. In this case the network operator of the national high-voltage network shall pay the party with balance responsibility.
- 3.9.7 The starting value of the incentive component at 1 January, 2001 shall be EUR 10 per MWh. The network operator of the national high-voltage network shall strive for the lowest possible value insofar as the system balance quality allows.
- 3.9.8 The operator of the national high-voltage network shall adjust the incentive component based on objective factors according to a procedure that it shall determine. The network operator of the national high-voltage network shall publish the current level of the incentive component on its website. The board of the competition authority may request the operator of the national high-voltage network to make the aforementioned procedure an integral part of the System Code.
- 3.9.9 The balance resulting in a calendar year for the operator of the national high-voltage network of the imbalance settlement and the costs not covered by the system tariff for regulating, reserve and emergency capacity shall be settled up by the operator of the national high-voltage network in the year following the year of settlement via the systems services tariff referred to in chapter 4 of the Tariffs Code.
- 3.9.10 If imbalance resulted from an event in the network or intervention by a network operator, the parties with balance responsibility shall be compensated for the paid incentive component. Examples of such events are:
- a. automatic load shedding within the meaning of article 2.2.25, or manual load shedding on the instructions of the operator of the national high-voltage network within the meaning of articles 2.2.13 to 2.2.19;
- b. changes to consumption or infeed at the request of a network operator as referred to in articles 5.1.1.8 to 5.1.1.10 of the Network Code;
- c. interruption or partial interruption of provision of the transmission service.
- The compensation shall be provided by the network operator responsible for the load shedding (a) or that requested a change to the consumption or infeed (b) or in whose network the interruption occurs

(c). The compensation shall be provided only for the part of the imbalance that was caused by the load shedding or interruption and if the resulting imbalance amounts to at least 1000 MWh jointly for all parties with balance responsibility.

4 Miscellaneous provisions

4.1 Electronic data interchange

- 4.1.1 Failing evidence to the contrary, the records kept of messages sent in connection with the provisions made in these regulations in accordance with the rules agreed jointly by the network operators for message specifications and message interchange shall stand as evidence of the data contained in those messages.
- 4.1.2 A message shall need to be sent with confirmation of receipt only if prescribed by the rules referred to at 4.1.1, in which case the rules shall also prescribe the procedure for transmission with confirmation of receipt and the transmission of the receipt message.
- 4.1.3 If the rules referred to at 4.1.1 prescribe transmission of a message with confirmation of receipt, such a message shall be invalid if its receipt is not confirmed within the period of time stated in the rules and the sender has informed the addressee accordingly, unless a restoration procedure was initiated in accordance with the rules, in the absence or failure of which the message shall be invalid from expiry of the aforementioned period of time.
- 4.1.4 The network operator of the national high-voltage network shall issue an access code and encryption method to parties who use the central mailbox system (CMS) referred to in the rules mentioned at 4.1.1, in accordance with arrangements agreed in that regard in those rules .
- 4.1.5 Users of the CMS shall execute and maintain security procedures and measures to protect messages against loss and against unauthorised inspection, alteration or destruction.
- 4.1.6 The procedures and measures referred to at 4.1.5 shall also apply to verification of the origin and completeness of a message.
- 4.1.7 If security procedures or measures result in rejection of a message or reveal an error in the message, the recipient shall inform the sender accordingly, in accordance with provisions made for that purpose in the rules referred to at 4.1.1. The recipient shall not act upon the message until instructed to do so by the sender. If the sender resends the message it shall indicate unambiguously that the message is a corrected message.
- 4.1.8 The contents of messages referred to in this section shall be confidential and shall be used solely for the purposes for which they were sent, unless the data contained therein is in the public domain.
- 4.1.9 Each recipient and each sender shall keep chronological records - protected against loss, destruction or alteration - of messages exchanged via the CMS, subject to a retention period provided for under the rules referred to at 4.1.1 or under any statutory provision.
- 4.1.10 A sender shall save its sent messages in the format in which they were sent. A recipient shall save its received messages in the format in which they were received.

4.2 Final provisions

4.2.1 [Repealed]

4.2.2 [Repealed]

4.2.3 [Repealed]

4.2.4 In cases where any of the provisions of chapter 2 of these regulations are not met at the time the regulations take effect, and by consequence the network operator of the national high-voltage network is unable to perform its statutory duties, the network operator of the national high-voltage network shall consult with the party concerned, or the joint network operators shall consult with each other, in order to determine the alterations that are necessary and the time by which they must have been carried out.

4.2.5 These regulations may be cited as the "System Code".

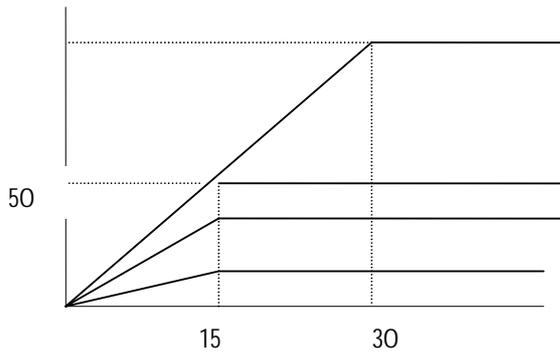
Annex 1: Characteristics for primary response

Category	Nominal capacity	Droop	Maximum permissible deadband	Maximum permissible insensitivity
1	$5\text{ MW} < P_n \leq 60\text{ MW}$	10%	$\pm 150\text{ mHz}$	<i>Not applicable (deadband includes insensitivity)</i>
2	$P_n > 60\text{ MW}$	<i>Adjustable between 4 and 20 %</i>	<i>0 mHz save for article 2.1.10</i>	$\pm 10\text{ mHz}$

Annex 2: Relative primary contribution relative to primary reserve

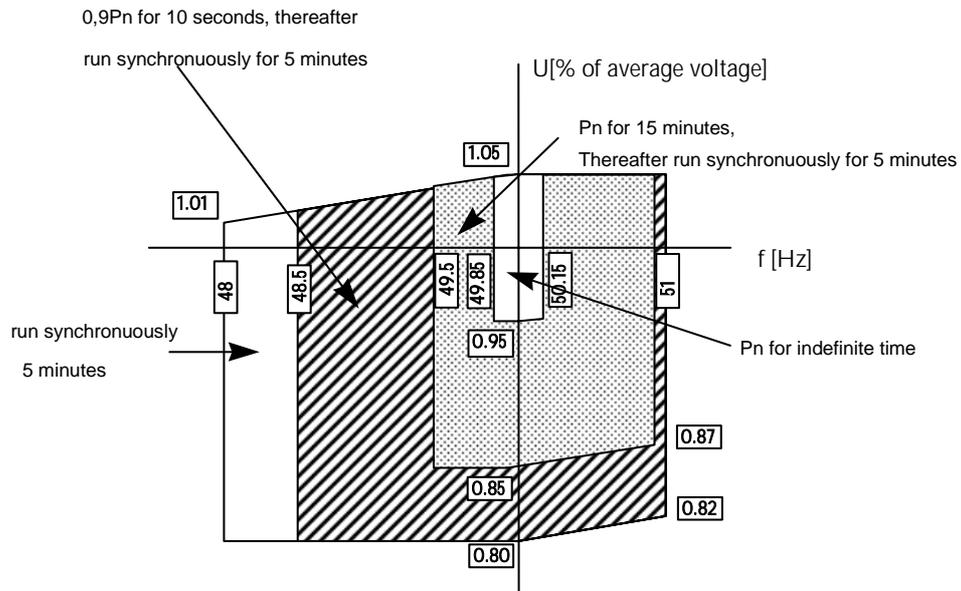
Contribution as %
of primary reserve

Time

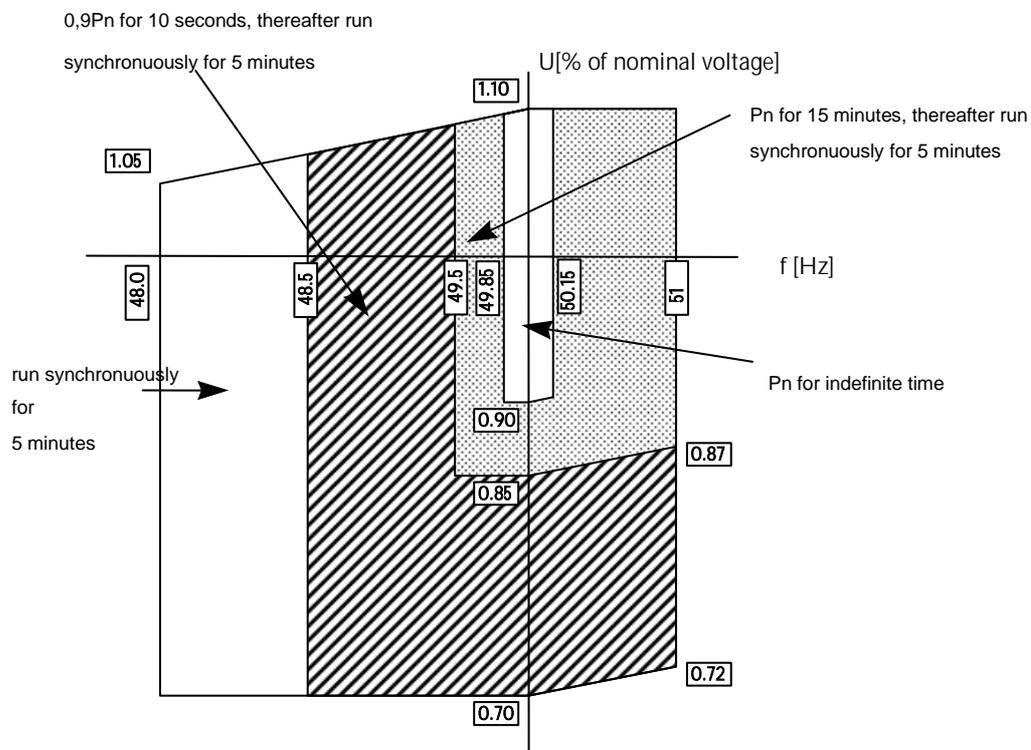


Annex 3: Operational situations in which the generator must remain connected to the network operator's network.

Means of production connected to grids lower than 110kV



Means of production connected to grids of 110kV and higher



Annex 4: Testing*I Testing of primary control system (transient tests)*

1. To determine the power settings, the generation unit shall deliver maximum net power for two consecutive hours. The net power delivered in this period shall be recorded on a five-minute basis and subsequently averaged per half-hour. The smallest value of the half-hour values shall determine the power settings used for the transient tests stated below.
2. At three power moments in the path between minimum net power and maximum net power as determined at 1, a transient power increase of 5% of the net power shall be achieved lastingly within 30 seconds at a set droop of 8% and a simulated frequency disturbance of -200 mHz.
3. At three power moments in the path between minimum net power and maximum net power as determined at 1, a transient power increase of 2.5% of the net power shall be achieved lastingly within 15 seconds at a set droop of 8% and a simulated frequency disturbance of -100 mHz.
4. One of the power moments referred to at 2 and 3 shall be 90% of maximum net power as determined at 1. The other two power moments shall be distributed proportionally in the path between minimum net power and 90% of maximum net power as determined at 1.
5. The power transients shall be induced via the primary control system. For this purpose a signal shall be fed into the control system that corresponds with the required frequency change.
6. A dead band shall not be allowed.
7. After each transient test, the unit shall for at least 10 minutes deliver the higher power achieved during the transient period.
8. The tests shall be performed with all generators running.
9. The tests shall be performed under the supervision of an independent body designated by the network operator of the national high-voltage network. This body shall report the test results to the network operator of the national high-voltage network.
10. The report shall state at least:
 - the maximum net power, converted to nominal ambient conditions;
 - the power settings at which the tests were performed, converted to nominal conditions;
 - the entered frequency disturbance;
 - the percentage-wise power increase after 15 seconds and after 30 seconds.
11. The network operator of the national high voltage network shall assess the test results and shall send its assessment together with the test report to the connected party concerned

II Testing of robustness at reduced voltage

1. At 85% of its own nominal operating voltage, the generation unit shall deliver for 15 minutes (or shorter if the generation unit is equipped with an automatically regulated operating transformer) the maximum net power referred to at I.1 at the assigned load factor.
2. The following details shall be reported to network operator of the national high-voltage network:
 - start and finish times;
 - voltage of the unit's voltage rail as a curve;
 - net power as a curve.

III Testing of robustness on short-circuiting in the network

1. The main switch of the operating system shall be opened on delivery of at least 80% of maximum net power referred to at I.1, at the load factor agreed with the network operator to which the generation unit is connected.
2. The switch shall be closed again after a period of at least 1.5 seconds, starting when the residual voltage on the main rails of the tested system is lower than 70% of nominal value. During this time, the

generation unit must not be disconnected from the network or go into idle state as a result of the protection of its auxiliaries.

3. The time of 1.5 seconds mentioned at 2 shall be the sum of:
 - maximum short-circuit duration (300 ms);
 - restoration time of the network voltage to 85% after shedding the short-circuit;
 - detection time of the minimum voltage relay on a returning voltage;
 - time delay of the minimum voltage relay;
 - switching time of the switch used to disconnect the unit from the network;
 - restoration time of the generator voltage.
4. The following details shall be reported to the network operator of the national high-voltage network:
 - start and finish times;
 - voltage of the unit's own voltage rail as a curve;
 - net power as a curve.

IV Testing synchronizing after short circuit in the network

1. On delivery of at least 85% of the maximum net power determined at I.1, the generation unit shall at the assigned load factor be disconnected from the network by means of the network switch. After one hour the generation unit shall be synchronized with the network. Thereafter the generation unit shall after 30 minutes be capable of delivering stable minimum power to the network for one hour.
2. The following details shall be reported to the network operator of the national high-voltage network:
 - time of opening the network switch;
 - net power as a function of time;
 - time of synchronisation of each generator.

V Other reporting obligations

1. Additional to the details referred to at II.2, III.4 and IV.2, the following details shall be reported to the network operator of the national high-voltage network:
 - electrical diagram of the tested system;
 - date(s) of performance of the tests;
 - description of the operating situation preceding the tests;
 - description of performance of the tests;
 - overview of switching actions;
 - total power consumption of auxiliaries before, during and after the tests;
 - overview of the most important systems in operation at the tester's company (> 100 kVA).

Annex 5: Determination of size of financial security required for fulfilment of balance responsibility.*I Trade accreditation*

1. The size of the security required from a party with balance responsibility with a trade accreditation shall be derived from the highest net transaction volume in MWh of such party with any other party with balance responsibility during one period of 24 hours.
2. The size of the first security required shall be based on the expectation of the party with balance responsibility of the highest net transaction volume referred to at 1, subject to a lower limit of 50 MW.
3. The size referred to at 1 shall be multiplied by a factor of 2, after which the product shall be multiplied by the average market price of energy over a period of three months preceding determination of the size of the required security. The resulting amount shall be the amount for which security shall be provided.
4. On observance that the highest net transaction volume on which the size of the security is based is exceeded more than occasionally, the party with balance responsibility shall increase the security at the first written request of the network operator of the national high-voltage network, whereby the new size shall be based on the highest net transaction volume recorded in one period of 24 hours in the six preceding weeks.
5. On observance that the actual highest net transaction volume on a 24-hour basis is structurally lower than the highest net transaction volume on which the size of the security is based, the network operator of the national high-voltage network shall at the written request of the party with balance responsibility give permission to reduce the security, whereby the new size shall be based on the average of the highest daily net transaction volumes in the preceding six weeks, subject to a lower limit of 50 MW.

II Full accreditation

1. The size of the security required from a fully accredited party with balance responsibility shall be obtained by reference to:
 - a. the party's highest net transaction volume in MWh with any other party with balance responsibility during one period of 24 hours, and;
 - b. the total transmission capacity of the connections of consumers, other than captive consumers, for which the party has balance responsibility.
2. The provisions made at I for a party with balance responsibility with trade accreditation shall apply *mutatis mutandis* to determination of the element referred to under II.1, item a, for determination of the size of the required security, except that multiplication by a factor of 2 mentioned at I.3 shall not be applied. The resulting amount shall be indicated under II .7 by the letter "A".
3. The transmission capacity referred to under II.1, item b, shall be determined based on the disclosures made by the other network operators to the network operator of the national high-voltage network, whereby the other network operators shall state once per month, for each fully accredited party with balance responsibility, how many connections fall into the following classes:
 - a. 2-10 MW;
 - b. 11-25 MW;
 - c. 26-50 MW;
 - d. higher than 50 MW, stating the capacity of each connection in this class.
4. For each party with balance responsibility, the number of connections in each class mentioned under II.3, items a, b and c, shall be multiplied by the lowest capacity of that class. For the class mentioned at II.3, item d, the total factual capacity shall be taken of the connections in that class.
5. The element referred to at II.1, item a, for determination of the size of the security required from a party with balance responsibility shall be based on the capacity determined in accordance with II.3 and II.4 for that party with balance responsibility, multiplied by 24, subject to a lower limit of 50 MW.
6. The product referred to under II.5 shall be multiplied by the average market price of energy over a period of three months preceding determination of the size of the required security. The resulting amount shall be identified under II.8 by the letter "B".

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7. Notwithstanding the provisions made at 11.6, if and while a fully accredited party with balance responsibility owes only the incentive component of the imbalance price, the product referred to under 11.5 shall be multiplied by the current amount of the incentive component, with the proviso that the amount of the required security shall never be lower than EUR 25,000, regardless of whether the calculation according to 11.8 comes to a lower amount.
 8. The amount for which a fully accredited party with balance responsibility shall provide collateral shall then be determined in the following way:
 - a. if $(2 * A) > B$, the amount of the required security shall be: $2 * A$;
 - b. if $(2 * A) < B$, the amount of the required security shall be: $A + B$.

The provisions made under 1.4 and 1.5 shall apply *mutatis mutandis*, with the proviso that those provisions concern the transaction volumes of the party with balance responsibility and also the transmission capacity of the connections for which that party has balance responsibility, while additionally if in any month the total capacity of the connections for which balance responsibility exists is increased by more than 50 MW, the party with balance responsibility shall immediately inform the network operator of the national high-voltage network of this.

Annex 6: Data to be recorded by network operators for reconciliation purposes

A network operator may provide in two ways the data required for reconciliation, i.e. (1) by saving the basic data so as to work out everything later, and (2) by saving the process data so as to calculate, at the time of awarding of consumptions, the data ultimately necessary for reconciliation. (The formulas stated in annex 7 are based on the second method).

The table below presents the data necessary for both methods.

For configuration of the network operator's systems, it is important to make a distinction between:

Group I: profile/mathematical data; this data will not be kept per network connection.

Group II: connection-dedicated data

1	Basic data	Group I	Group II
A	Profile fractions of the profiles (currently 9)	X	
B	Definitive metering correction factor per programme time unit of 15 minutes in its area (or sub-area).	X	
C	Definitive total consumption of profile consumers per programme time unit of 15 minutes in its area (or sub-area)	X	
D	Connections register history concerning the following items:		
D1	Standard annual consumptions with starting date and (if applicable) finishing date		X
D2	Profile category with starting date and (if applicable) finishing date		X
D3	Supplier and party with balance responsibility with starting date and (if applicable) finishing date		X
E	Meter reading at the start of the reconciliation period		X
F	Recorded meter readings, stating the date in each instance		X
G	Meter readings already reconciled must be recognisable		X

2	Process data	Group I	Group II
A	Definitive corrected profiled consumption per day per tariff period per consumer per tariff regime		X
B	Supplier and party with balance responsibility to whom the profiled consumptions were allocated	X	
C	Allocation of actual consumption per month per tariff period per consumer per supplier and party with balance responsibility		X
D	Meter readings already reconciled must be recognisable		X

The data necessary for reconciliation shall be kept for each party with balance responsibility and for each supplier. The data shall be sent only to parties with balance responsibility.

A summation may be made after the final data of a month become definitive, taking into account the splitting of data relating to before and after the date of determination of meter readings, or change of party with balance responsibility, supplier, standard annual consumption or profile category.

After 17 months, the sum of the profiled consumptions in the reconciliation messages for each tariff period must equal the sum of such period in the messages of parties with balance responsibility settled up in the ultimate imbalance.

Annex 7: Formulas and mathematical models for the reconciliation process

The reconciliation process consists of the following steps:

1. Determine the volume to be reconciled based on the recorded meter readings at connection level.
2. Distribute the volume to be reconciled to the correct calendar months at connection level.
3. Sum the volume to be reconciled according to the party with balance responsibility.
4. Determine the volume to be reconciled in respect of network losses.
5. Send the network operator of the national high-voltage network a message that contains the volumes to be reconciled for each party with balance responsibility.
6. Sum the data received from the network operators according to the party with balance responsibility.
7. Calculate the average weighted APX price per month for peak and off-peak.
8. Make a financial settlement according to party with balance responsibility.

Several formulas are used in the sections that follow. The meanings of the symbols in the formulas are:

V	=	Volume
PF	=	profile fraction
TF	=	tariff correction factor (for definitions see annex 15 of the Electricity Metering Code)
SJV	=	standard annual consumption (for a definition refer to Annex 15 of the Electricity Metering Code)
MCF	=	metering correction factor (for a definition refer to Annex 15 of the Electricity Metering Code)
NV	=	network losses
LD profiles	=	national throughput of profile consumers

1. Calculate the volume to be reconciled for each consumer.
 - 1.1. The volume to be reconciled shall be determined for each party with balance responsibility for the peak and off-peak periods per month.
 - 1.2. The volume to be reconciled is the difference between the volume charged using the profiles method and the recorded consumption based on the determined volume.
 - 1.3. The charged volume may be determined using the following formula:

$$V_{\text{allocated in peak, beginning to end}} = TF_{\text{Peak}} * SJV * \sum_{\text{beginning}}^{\text{end}} (PF * MCF)_{\text{Peak, day}}$$

"Start" means the first day of the reconciliation period and "end" means the last day.

The product (PF * MCF) Peak, day Y can be calculated by:

$$(PF * MCF)_{\text{Peak, dayY}} = \left[\sum_{29}^{92} PF1c \right] * MCF_{\text{Peak, dayY}}$$

$$MCF_{\text{P, dayY}} = \frac{\sum D_{\text{inbound, P, dayY}} - \sum D_{\text{telemetry, Peak, dayY}} - \sum NV_{\text{Peak, dayY}}}{\sum P_{\text{assumed, Peak, dayY}}}$$

MCF_{Peak,day Y} can then be used for all profiled categories.

- 1.4 If consumption is recorded only for the peak and off-peak period, it must be divided into peak and off-peak. It can be divided in the following way:

$$V_{\text{calculated to Peak}} = \frac{\sum_{\text{start consumption period}}^{\text{end consumption period}} (PF * MCF)_{\text{Peak, consumption period}}}{\sum_{\text{beginning}}^{\text{end}} (PF * MCF)_{\text{peak, consumption period}} + \sum_{\text{beginning}}^{\text{end}} (PF * MCF)_{\text{off-peak, consumption period}}} * V_{\text{metered single tariff}}$$

$$V_{\text{calculated to off-peak}} = S \frac{\sum_{\text{start consumption period}}^{\text{end consumption period}} (PF * MCF)_{\text{off-Peak, consumption period}}}{\sum_{\text{beginning}}^{\text{end}} (PF * MCF)_{\text{peak, consumption period}} + \sum_{\text{beginning}}^{\text{end}} (PF * MCF)_{\text{off-peak, consumption period}}} * V_{\text{metered single tariff}}$$

- 1.5 If the consumer has a switching time that differs from the definition of peak and off-peak, the recorded consumption must be converted to the correct consumer periods.

$$V_{\text{peak corr}} = V_{\text{high evening metered}} + \frac{\sum_{\text{start consumption period}}^{\text{end consumption period}} (PF * MCF)_{\text{Peak, consumption period}} - \sum_{\text{start consumption period}}^{\text{end consumption period}} (PF * MCF)_{\text{high evening,}}}{\sum_{\text{start consumption period}}^{\text{end consumption period}} (PF * MCF)_{\text{high evening, consumption period}}} * V_{\text{low evening, metered}}$$

The following applies to off-peak:

$$V_{\text{off peak corrected}} = V_{\text{off peak metered}} - (V_{\text{peak corrected}} - V_{\text{high evening metered}})$$

- 1.6 After determining the allocated volume and recorded usage, it is possible to determine the volume to be reconciled by:

$$V_{\text{reconciliation, Peak, consumption period}} = V_{\text{allocated, Peak, consumption period}} - V_{\text{current, Peak, consumption period}}$$

$$V_{\text{reconciliation, off Peak, consumption period}} = V_{\text{allocated, off Peak, consumption period}} - V_{\text{current, off Peak, consumption period}}$$

- 2 Divide the volume to be reconciled at connection level to the correct calendar months

- 2.1 The volume to be reconciled must be allocated to the months over which consumption occurred:

$$V_{reconciliation, Peak, consumption\ period} = V_{recon, Peak, start\ month} + V_{recon, Peak, start\ month+1} + \dots + V_{recon, Peak, end\ month}$$

$$V_{recon, Peak, month} = \frac{\sum_{start\ date\ month}^{end\ date\ month} (PF * MCF)_{P, month}}{\sum_{beginning}^{end} (PF * MCF)_{Peak, consumption\ period}} * V_{reconciliation, Peak, consumption\ period}$$

This must be split according to the peak and off-peak periods.

- 3 Sum volume to be reconciled according to party with balance responsibility per supplier
- 3.1 After allocation per calendar month per party with balance responsibility, determine the volume to be reconciled in each tariff period:

$$V_{recon, Peak, PR1, supplier1, month1} = V_{recon, Peak, consumer\ 1, month1} + V_{recon, Peak, consumer\ 2, month1} + \dots$$

The above calculation must be made both for peak and off-peak.

- 4 Determine the volume to be reconciled in respect of network losses.
- 4.1 After the volume to be settled up per party with balance responsibility has been determined, the network loss to be reconciled can be calculated by.

$$V_{recon, Peak, gridlosses, go1} = -[V_{recon, Peak, PR1, month1} + V_{recon, Peak, PR2, month1} + etc]$$

The above calculation must be made both for peak and off-peak.

The result of the calculations in 3.1 and 4.1 shall be sent to the network operator of the national high-voltage network (as an Edine message). The volume to be reconciled in respect of network losses shall be stated separately.

- 5 Sum received data from network operators according to party with balance responsibility

The network operator of the national high-voltage network must receive from all other network operators the overview referred to in 4. This will be followed by a summation according to party with balance responsibility. This must take place separately for peak and off-peak.

The network operator of the national high-voltage network shall make the following calculation:

$$V_{recon, Peak, PV1, month1} = V_{recon, Peak, go1, month1} + V_{recon, Peak, go2, month1} + \dots$$

- 6 Calculate the average weighted APX price per month for peak and off-peak

The network operator of the national high-voltage network shall determine each calendar month the weighted APX price for peak and off-peak. The weighting shall take place based on the consumption charged to profiled consumers on an hourly basis at national level. This will ensure that the hour with a high national load will be factored in to a greater extent than a night-time hour. The formula for this

is:

$$\text{Weighted average APX price}_{\text{Peak, month 1}} = \frac{LD_{\text{profiles, hour 1}} * APX_{\text{hour 1}} + LD_{\text{profiles, hour 2}} * APX_{\text{hour 2}} + \dots}{\sum LD_{\text{profiles, month 1}}}$$

where LD_{hour} is the national throughput of profiled consumers at a certain hour.

This calculation shall be made for peak and off-peak.

7 Financial settlement

The financial settlement can take place using this price:

$$\text{Financial settlement}_{\text{PR1}} = \text{Average weighted APX price}_{\text{Peak, month 1}} * V_{\text{recon, Peak, PR1, month 1}} \\ + \text{Average weighted APX price}_{\text{off peak, month 1}} * V_{\text{recon, off peak, PR1, month 1}} + \text{etc}$$

8 Rounding up

APX prices shall be calculated to two decimal places.

Volumes:

- only whole figures shall be used in correspondence with the network operator of the national high-voltage network;
 - at the level of party with balance responsibility, the sum must always be exactly equal to nil.
- Rounding off shall take place in step 3.