

Connection tariffs 2016-2019

A. TARIFF CONDITIONS FOR GRID USERS DIRECTLY CONNECTED TO THE ELIA GRID AND FOR DISTRIBUTION GRID OPERATORS, EXCEPTED FOR DISTRIBUTION GRID OPERATORS CONNECTED AT TRANSFORMER OUTPUT TO MEDIUM VOLTAGE

The tariff conditions for each connection to the Elia-grid as stipulated by the decision of the CREG of December 3rd 2015 are applicable from January 1st 2016 until December 31st 2019. These conditions are:

- the tariff for the orientation study;
- the tariff for a detail study ;
- the tariff for the use of the first connection bay ;
- the tariff for the use of other connection equipments: lines or cables and their requisites, equipments for transformation, compensation of reactive power and filtering of the voltage wave ;
- the tariff for the use of supplementary protection-equipments, supplementary equipments for alarm signalisation, metering ;
- particular terms.

1. The tariff for the orientation study

The tariff for an orientation study for either a new connection or for the adaptation of an existing connection is a one-shot tariff whose amount depends on the nominal power to connect. The amounts of the tariff are published in the table below.

Nominal power to connect (P)	Tariff for an orientation study			
	2016	2017	2018	2019
P < 25 MVA	2.530 €	2.565 €	2.601 €	2.638 €
25 MVA < P < 50 MVA	5.060 €	5.131 €	5.203 €	5.276 €
50 MVA <= P	10.120 €	10.262 €	10.405 €	10.551 €

2. The tariff for the detail study

2.1. Detail study in view of connection of new equipments or modification of existing equipments

The tariff for a detail study for either a new connection or for the adaptation of an existing connection is a one-shot tariff whose amount depends on the type and the voltage level of the investment object of the detail study.

For a study concerning both a bay and a connection, the invoiced amount is the sum of the amount for the study of the bay(s) and the amount for the study of the connection.

This tariff will be applicable for each required variant.

The tariffs for the detail study figure in the table below. For production units, an incremental factor of 33% will be applied to these tariffs, only for the part concerning the connection bay(s), in order to cover the costs resulting from the fact that a detailed study for production units encompasses several additional elements.

Study type	Tariff detail study 1 bay	Tariff detail study 2 bays	Tariff detail study 1 connection* (on top of the detail study for 1 or 2 bays)
2016			
Minor changes (changes low voltage)	5.060 €	7.590 €	10.120 €
36-70	10.120 €	15.180 €	15.180 €
150-220	15.180 €	20.240 €	20.240 €
380	25.300 €	30.360 €	40.480 €
2017			
Minor changes (changes low voltage)	5.131 €	7.696 €	10.262 €
36-70	10.262 €	15.393 €	15.393 €
150-220	15.393 €	20.523 €	20.523 €
380	25.654 €	30.785 €	41.047 €
2018			
Minor changes (changes low voltage))	5.203 €	7.804 €	10.405 €
36-70	10.405 €	15.608 €	15.608 €
150-220	15.608 €	20.811 €	20.811 €
380	26.013 €	31.216 €	41.621 €
2019			
Minor changes (changes low voltage)	5.276 €	7.913 €	10.551 €
36-70	10.551 €	15.827 €	15.827 €
150-220	15.827 €	21.102 €	21.102 €
380	26.378 €	31.653 €	42.204 €

* for each track

2.2. "Power Quality" evaluation for connection or modification of disturbing installations or of compensation installations ("pre-assessment")

In order to deliver a voltage according to the specifications intended by the article 47 of the Technical Code, the permitted level of the caused disturbance on the grid, intended by the article 46 of the Technical Code, has to be respected.

On this subject, the article 54 of the Technical Code imposes the grid user to communicate on his own initiative at Elia all information concerning his installations that have an impact on the quality, the reliability and the efficiency of the grid.

The grid user will verify if the levels of disturbances emanating from his installations respect de Stage 1 emission limits described in the Synergrid C10/17 procedure, based on the voltage level at the connection point and the yearly peak¹. He will present these evaluations as well as a description of these installations (nature and nominal power) to Elia for acceptance.

If the Stage 1 emission limits are transgressed, even after considering supplementary steps for limiting the levels of perturbation, the grid user must ask Elia to apply the approach for Stage 2 or Stage 3. In this case, the following tariffs will be applicable:

Study relative to the calculation of emission limits Stage 2 **	2.250 €
Study relative to the calculation of emission limits Stage 3 **	3.000 €

** *In accordance to the instructions Synergrid C10/17 "Power Quality instructions for the users connected to the high voltage grids".*

The invoiced amounts for the studies relative to the calculation of emission limit Stage 2 or 3 cannot be reclaimed when the connection is ordered.

At the end of the study, Elia delivers a report to the grid user encompassing the adapted emission limits. The grid user will verify if his installations respect these authorised emission limits. The result of this verification will have to be submitted in writing to Elia for acceptance.

¹ The yearly peak used in this framework is defined as the maximum of the monthly peaks of the previous 12 months, i.e. the ongoing invoicing month and the 11 preceding months without taking into account the tariff period for annual peak. This yearly peak corresponds to the yearly peak used in the framework of the "tariff for additional offtake of reactive energy" and is therefore different from the yearly peak used in the context of the "tariff for yearly peak".

3. The tariff for the use of the first connection bay

The tariff for the use of the first connection bay consists of:

- a yearly charge to realize or modify in a substantial way the connection bay
- a yearly charge to operate and to maintain the connection bay.

These yearly charges, whose amounts are mentioned in the summary table under section 5, give the grid user a right to use the total functionality of the connection bay including preservation and replacement. The first connection bay includes one metering equipment for invoicing.

Regarding the existing connection bays, the charges for putting a connection bay at disposal of the grid user are proportionally adapted in order to reflect the "financial interventions by the clients" in the past. This adaptation is applicable until the date of replacement of the connection bay and not longer than 33 years after the date the connection has been put into service.

4. The tariff for the use of other connection equipments: lines or cables and their requisites, equipments for transformation, compensation of reactive power and filtering of the voltage wave

4.1. For a new connection (or the adaptation of an existing connection): charge to realize or modify in a substantial way

The amount, representing the total investment amount, is determined according to specification.

4.2. Charges to put existing equipments at disposal

The annual charge for putting at disposal is the one as mentioned in the summary table under section 5, which has to be des-indexed on basis of the consumption price index until the date when the concerned equipment has been put into service. If there were financial interventions in the past, those charges have to be reduced on a proportional basis.

4.3. Charges to operate and maintain the connection equipments (new or existing ones)

The charge to operate and maintain the « other » connection equipments is mentioned in the summary table under section 5.

For the transformers that have a capacity that differs from those indicated in the table above, following formula is applied to determine the charges:

$$K = K_0 \left[0,25 + 0,75 \cdot \frac{MVA}{MVA_0} \right]^{0,75}$$

with

- K is the charge to put the concerned transformer at disposal and to operate and maintain it;
- MVA is the transformer capacity of the concerned transformer;
- K_0 and MVA_0 are respectively the charge to put the reference transformer at disposal and to operate and maintain it and the transformer capacity of the reference transformer, chosen in the list of the summary table so that the primary voltage equals the one of the concerned transformer and the transformer capacity is nearest to the one of the concerned transformer.

4.4. Tariff applicable in case of "light" management by Elia of the connection equipments

This tariff is applied in case the grid user operates and maintains himself the connection equipments other than the connection bay.

The tariff is expressed under the form of an annual charge per connection bay.

Connection bay	Annual charge per bay			
	2016	2017	2018	2019
380 kV	4.972 €/bay	5.041 €/bay	5.112 €/bay	5.184 €/bay
220 kV	2.007 €/bay	2.035 €/bay	2.063 €/bay	2.092 €/bay
150 kV	1.828 €/bay	1.854 €/bay	1.880 €/bay	1.906 €/bay
70 kV	1.170 €/bay	1.187 €/bay	1.203 €/bay	1.220 €/bay
36 kV or 30 kV	585 €/bay	593 €/bay	601 €/bay	609 €/bay
Medium voltage	292 €/bay	296 €/bay	301 €/bay	305 €/bay

5. Summary table

In case of a short connection (line or cable), the charge to operate and maintain can, per connection, not be smaller than the charge applicable in case of "light" management by Elia as described in section 4.4 of this document.

When a Distribution System Operator uses a connection bay of Elia for connecting its equipment for injection of centralized remote control and this connection bay is at the same time used for the transmission of electrical energy by Elia, the charges for the connection bays of the injection of centralized remote control will be limited to 50% of the yearly charges for realisation or modification in a substantial way and to 25% of the charge for operation and maintenance of a connection bay as a consequence of simultaneous use , while for cables 100% of the charges will be invoiced following their unique use for the transmission of the signals.

		Charge to realise or modify in a substantial way ***			
		2016	2017	2018	2019
Bay 380 kV	k€/bay	147,24	149,30	151,39	153,51
Bay 220 kV	k€/bay	59,42	60,26	61,10	61,95
Bay 150 kV	k€/bay	54,14	54,90	55,67	56,45
Bay 70 kV	k€/bay	34,66	35,15	35,64	36,14
Bay 36 or 30 kV	k€/bay	17,31	17,55	17,80	18,05
Bay Medium voltage	k€/bay	8,66	8,78	8,90	9,02
Line 380 kV – 1 circuit	k€/km	36,31	36,82	37,34	37,86
Line 220 kV – 1 circuit	k€/km	15,19	15,40	15,61	15,83
Line 150 kV – 1 circuit	k€/km	15,52	15,73	15,95	16,18
Line 70 kV – 1 circuit	k€/km	11,03	11,18	11,34	11,50
Line 36 or 30 kV – 1 circuit	k€/km	7,20	7,30	7,40	7,50
Line 380 kV – 2 circuits	k€/km	55,07	55,84	56,62	57,41
Line 220 kV – 2 circuits	k€/km	25,09	25,44	25,80	26,16
Line 150 kV – 2 circuits	k€/km	23,44	23,77	24,10	24,44
Line 70 kV – 2 circuits	k€/km	16,70	16,94	17,18	17,42
Line 36 or 30 kV – 2 circuits	k€/km	10,89	11,05	11,20	11,36
Cable 380 kV	k€/km	111,92	113,49	115,08	116,69
Cable 220 kV	k€/km	71,37	72,37	73,38	74,41
Cable 150 kV	k€/km	49,52	50,21	50,92	51,63
Cable 70 kV	k€/km	34,33	34,81	35,30	35,80
Cable 36 or 30 kV	k€/km	16,51	16,74	16,97	17,21
Cable Medium voltage	k€/km	8,40	8,52	8,64	8,76
Tfo 380/70 kV (220 MVA)	k€/transformer	190,40	193,07	195,77	198,51
Tfo 220/MS (50 MVA)	k€/transformer	68,18	69,13	70,10	71,08
Tfo 150/MS (50 MVA)	k€/transformer	60,43	61,27	62,13	63,00
Tfo 150/36 kV (125 MVA)	k€/transformer	101,98	103,41	104,86	106,33
Tfo 70/MT (40 MVA)	k€/transformer	54,90	55,67	56,45	57,24
Tfo 36-30/MT (25 MVA)	k€/transformer	34,81	35,29	35,79	36,29

*** to put at disposal in case of an existing connection

		Charge to operate and maintain			
		2016	2017	2018	2019
Bay 380 kV	k€/bay	49,72	50,41	51,12	51,84
Bay 220 kV	k€/bay	20,07	20,35	20,63	20,92
Bay 150 kV	k€/bay	18,28	18,54	18,80	19,06
Bay 70 kV	k€/bay	11,70	11,87	12,03	12,20
Bay 36 or 30 kV	k€/bay	5,85	5,93	6,01	6,09
Bay Medium voltage	k€/bay	2,92	2,96	3,01	3,05
Line 380 kV – 1 circuit	k€/km	15,94	16,16	16,39	16,62
Line 220 kV – 1 circuit	k€/km	6,67	6,76	6,85	6,95
Line 150 kV – 1 circuit	k€/km	6,81	6,91	7,00	7,10
Line 70 kV – 1 circuit	k€/km	4,84	4,91	4,98	5,05
Line 36 or 30 kV – 1 circuit	k€/km	3,16	3,20	3,25	3,29
Line 380 kV – 2 circuits	k€/km	24,17	24,51	24,85	25,20
Line 220 kV – 2 circuits	k€/km	11,01	11,17	11,32	11,48
Line 150 kV – 2 circuits	k€/km	10,29	10,43	10,58	10,73
Line 70 kV – 2 circuits	k€/km	7,33	7,44	7,54	7,65
Line 36 or 30 kV – 2 circuits	k€/km	4,78	4,85	4,92	4,99
Cable 380 kV	k€/km	15,12	15,33	15,54	15,76
Cable 220 kV	k€/km	9,64	9,77	9,91	10,05
Cable 150 kV	k€/km	6,69	6,78	6,88	6,97
Cable 70 kV	k€/km	4,64	4,70	4,77	4,83
Cable 36 or 30 kV	k€/km	2,23	2,26	2,29	2,32
Cable Medium voltage	k€/km	1,13	1,15	1,17	1,18
Tfo 380/70 kV (220 MVA)	k€/transformer	64,29	65,19	66,11	67,03
Tfo 220/MS (50 MVA)	k€/transformer	23,02	23,34	23,67	24,00
Tfo 150/MS (50 MVA)	k€/transformer	20,40	20,69	20,98	21,27
Tfo 150/36 kV (125 MVA)	k€/transformer	34,44	34,92	35,41	35,90
Tfo 70/MT (40 MVA)	k€/transformer	18,54	18,80	19,06	19,33
Tfo 36-30/MT (25 MVA)	k€/transformer	11,75	11,92	12,08	12,25

6. The tariff for the use of supplementary protection-equipments, supplementary equipments for alarm signalisation, metering

The tariff for the use of supplementary protection-equipments, supplementary equipments for alarm signalisation, metering will be determined case-by-case, taking into account the specificity of the concerned equipments. A replacement of existing equipments belonging to the first connection bay, but with a supplementary functionality, comes under this arrangement.

The putting at disposal of new metering equipment is done according to specifications.

The annual charge for operation and maintaining of these metering equipments is provided in the table below

	Annual charge for operation and maintaining metering equipment
2016	491,26 €
2017	498,14 €
2018	505,12 €
2019	512,19 €

"Power Quality" reception tests

While installations are put into service or after modification of these installations, Elia has the right to realise reception tests in order to control the level of perturbation caused by these installations.

If the verification of these levels can be done on basis of measures of the voltage at the connection point of the grid user, the tariff for the reception tests equals 2.600 €.

At the end of these tests, Elia delivers a report to the grid user with the most important measuring results and the conclusions of the tests.

For grid users with emission limits of « Stage 3 » as well as for the cases that require more complex measures, an extra charge of 4.000 € will be imposed (the total for those cases is thus 6.600 €).

7. Particular terms

7.1. Reduction coefficients if several users use simultaneously the same connection bays

All costs covered by a one-shot tariff relative to (a part of) the equipments that are used by 2 or more grid users, except for the costs for the equipments for metering, can be divided under those grid users. The equipments for metering have to be installed separately for each user. The division is done proportionally to the power of connection as stipulated in the Connection contract, or according to any other agreement between all concerned parties.

All costs covered by a periodically applied tariff relative to (a part of) the equipments that are used by 2 or more grid users, will first be multiplied by a coefficient k_1 ($1+0,05$) and then be divided proportionally to the power of connection as stipulated in the Connection contract, or according to any other agreement between all concerned parties.

In order to cover the extra administrative costs of Elia, the increase of 5% will be replaced by an amount of 1.000 €/year if that increase of 5% corresponds to an amount inferior to 1.000 €/year.

7.2. Reduction coefficients on the connection tariffs for the use of connections of production units based on renewable energy sources or cogeneration units

No reduction coefficient is in application on January, 1st 2016².

² For the tenders emitted by Elia before the date of December 31st 2007, the reduction coefficients on the connection tariffs for the use of connections of production units based on renewable energy sources with limited predictability and for the use of connections of auto-production units remain in application following the former modalities. This is until the period of 10 years has expired in case the option of a periodical tariff has been chosen for putting the connection equipment at disposal.

B. TARIFF CONDITIONS FOR DISTRIBUTION GRID OPERATORS EXCEPTED FOR DISTRIBUTION GRID OPERATORS CONNECTED AT TRANSFORMER OUTPUT TO MEDIUM VOLTAGE

The tariff conditions for the connections to the Elia grid for Distribution Grid Operators encompass the annual tariffs for connection to the Elia grid for Distribution Grid Operators to whom Elia puts at disposal and/or operates and maintains infrastructure necessary for their activity.

These tariffs are structured along two axes:

- the nature of the performances, i.e. a tariff for the putting at disposal of these installations and a tariff for maintaining and operating them;
- the concerned installations, i.e. connection tariffs with respect to the concerned installations: the transformation accessories towards Medium voltage, the non-feeder Medium voltage cells, the general installations and buildings.

The Medium voltage reference post presents a reference transformation power of 80 MVA (supposed to be brought forth by 2 reference transformers de 40 MVA); it is composed of 2 connections from the transformers to the bus bar to the Medium voltage level, and 2 arrival cells of the transformers; it is also composed of a bus bar for coupling; the post is located in a building equipped with specifically its electrical infeed for heating and lighting.

The connection tariffs are multiplied by a factor, more precisely the size of Medium voltage post. The size of a Medium voltage post is defined as the ratio between the effective power of the post under consideration and the reference power. The effective power of the post under consideration is determined by the power put at disposal at this Medium voltage post.

For example, for a Medium voltage post fed by 2 transformers of 25 MVA:

- The effective power equals $2 \times 25 = 50$ MVA ;
- The size of the post is $50 \text{ MVA} / 80 \text{ MVA} = 0,625$;
- The tariffs (if applicable for this post) are multiplied by a factor 0,625.

The charges for putting at disposal and maintaining and operating connection equipments are represented in the table below.

Table 1: Connection tariffs for Distribution Grid Operators in correspondence with the reference equipment

	Annual charge 2016-2019 for putting at disposal infrastructure relative to Medium voltage posts [k€ per year]				Annual charge 2016-2019 for maintaining and operating infrastructure relative to medium voltage posts [k€ per year]			
	2016	2017	2018	2019	2016	2017	2018	2019
Connection tariffs - Transformer accessories	10,137	10,279	10,422	10,568	4,904	4,972	5,042	5,113
Connection tariffs - Non-feeder Medium voltage cells	7,321	7,424	7,528	7,633	4,613	4,678	4,743	4,810
Connection tariffs - General installations and building	18,075	18,328	18,584	18,844	8,369	8,486	8,605	8,725