LANDSNET

Tariff for the Transmission of Electricity and Ancillary Services

 $\begin{array}{c} \text{No. 28} \\ \text{Effective as of July 1}^{\text{st}} \ 2018 \end{array}$

This tariff applies to the transmission of electricity through Landsnet's transmission system.

The tariff also applies to producers connected to Landsnet's transmission system through a distribution system.

Article 2

The following definitions apply and are used in this tariff:

Delivery/supply voltage: The standard voltage (nominal voltage) at which Landsnet delivers/supplies electricity:

Point of delivery: A point in a transmission or distribution system where electricity is taken out.

Calendar year: 1 January - 31 December each year.

Transmission system: Electrical lines and connected facilities needed to transmit electricity from producers to power intensive users and to distribution system operators. It extends from the ingoing switch in the transmission system operators switchyard, to the outgoing switch for a distribution company/power intensive user in the transmission companys switchyard.

Curtailable transmission: Electricity which Landsnet is permitted to curtail due to circumstances in accordance to paragraph 5.1 in Landsnets terms for curtailable transmission. This does no apply to curtailments and rationing according to the ninth paragraph of Art. 9 of the Electricity Act.

In-feed: Electricity which is supplied to the transmission system or the distribution system.

Power intensive user: A user who uses in one place and within three years of startupa minimum of 80 GWh annually.

Out-feed: Electricity delivered to customers out of Landsnet's transmission system, together with the electricity produced in power stations connected to Landsnet through a distribution system.

The points of delivery and supply and voltage for the in-feed and out-feed of electricity are as follows:

Points of (<i>In-feed</i>) supply,	Supply voltage:
Andakílsvirkjun	
Blöndustöð	
Búðarhálsstöð	
Búrfellsstöð	
Fljótsdalsstöð	
Hellisheiðarvirkjun	
Hrauneyjafossstöð	
Írafossstöð	
Kröflustöð	
Lagarfossvirkjun	
Laxárstöð	
Ljósafossstöð	
Mjólkárvirkjun	
Nesjavellir	
Reykjanesvirkjun	
Sigöldustöð	
Steingrímsstöð	
Sultartangastöð	
Svartsengi	
Vatnsfellsstöð	220 kV
Þeistareykir	220 kV
Points of (Out-feed) delivery,	220 kV <u>Delivery voltage</u>
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Points of (Out-feed) delivery, To Power intensive users:	<u>Delivery voltage</u>
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN	<u>Delivery voltage</u> 220 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN	<u>Delivery voltage</u> 220 kV 220 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag	Delivery voltage 220 kV 220 kV 220 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál Switchyard Járnblendifélag Switchyard Norðurál	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 220 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC Switchyard Becromal	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC. Switchyard Becromal Switchyard Ásbrú.	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC Switchyard Becromal Switchyard Ásbrú To Distribution system operators:	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV 33 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC Switchyard Becromal Switchyard Ásbrú To Distribution system operators: Akranes	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV 132 kV 33 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC. Switchyard Becromal Switchyard Ásbrú. To Distribution system operators: Akranes Bakki	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV 33 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC Switchyard Becromal Switchyard Ásbrú To Distribution system operators: Akranes Bakki Blanda	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 33 kV 132 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC. Switchyard Becromal Switchyard Ásbrú. To Distribution system operators: Akranes Bakki Blanda Bolungarvík	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV 132 kV 131 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC. Switchyard Becromal Switchyard Ásbrú. To Distribution system operators: Akranes Bakki Blanda Bolungarvík Breiðadalur	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV 132 kV 131 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC Switchyard Becromal Switchyard Ásbrú. To Distribution system operators: Akranes Bakki Blanda Bolungarvík Breiðadalur Brennimelur	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV 33 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC Switchyard Becromal Switchyard Ásbrú. To Distribution system operators: Akranes Bakki Blanda Bolungarvík Breiðadalur Brennimelur Búrfell	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 132 kV 132 kV 11 kV and 33 kV11 kV66 kV11 kV66 kV11 kV
Points of (Out-feed) delivery, To Power intensive users: Switchyard ALCAN Switchyard Fjarðaál. Switchyard Járnblendifélag Switchyard Norðurál Switchyard PCC Switchyard Becromal Switchyard Ásbrú. To Distribution system operators: Akranes Bakki Blanda Bolungarvík Breiðadalur Brennimelur	Delivery voltage 220 kV 220 kV 220 kV 220 kV 220 kV 33 kV 132 kV

Evyindará	66 141
Eyvindará	
Fáskrúðsfjörður	
Fitjar	
Flúðir	66 kV
Geiradalur	132 kV
Glerárskógar	132 kV
Grundarfjörður	66 kV
Hamranes	132 kV
Hella	66 kV
Hnoðraholt	
Hólar	
Hrútatunga	
-	
Hryggstekkur	
Húsavík	
Hveragerði	
Hvolsvöllur	
Höfn	132 kV
Ísafjörður	66 kV
Kópasker	66 kV
Korpa	132 kV
Krafla	11 kV
Lagarfoss	
Laxá	
Laxárvatn	
Lindarbrekka	
Ljósafoss	
Mjólká	
Neskaupsstaður	
Ólafsvík	
Prestbakki	
Rangárvellir	66 kV
Rauðavatn	132 kV
Rimakot	66 kV
Sauðárkrókur	66 kV
Selfoss	66 kV
Seyðisfjörður	66 kV
Sigalda	
Silfurstjarna	
Stuðlar	
Svartsengi	
Tálknafjörður	
Teigarhorn	
Varmahlíð	
Vatnsfell	
Vatnshamrar	
Vegamót	
Vestmannaeyjar	33 kV and 66 kV

Vogaskeið	66	kV
Vopnafjörður	66	kV
Þeistareykir	66	kV
Þorlákshöfn	66	kV
Öldugata í Hafnarfirði	132	kV

4.1 Transmission charges¹

In-feed:

Delivery charge per year...... ISK 6.346.925

Out-feed:

Distribution system operators:

Delivery charge per year ISK 6.346.925

Capacity charge per MW per year ISK 6.516.566

Energy charge per MWhISK 471,87

Power intensive users

Delivery charge per yearUSD 50.409

Capacity charge per MW per yearUSD 29.364

Energy charge per MWh USD 1,485

Charges for ancillary services and transmission losses are not included in the transmission charges above and are collected separately pursuant to Section 4.2.

4.2 Charge for Ancillary Services and transmission losses²

Ancillary services per MWh...... ISK 54,56

Transmission losses per MWh..................ISK 117,82

- 4.3 A discount of 5% is granted on the capacity charge and energy charge pursuant to Section 4.1 where electricity is delivered to distributors at a nominal voltage over 66 kV.
- 4.4 No power capacity charge (MW) is imposed on curtailable transmission, and such transmission shall be in accordance to Landsnets terms B5.

If an end user that fulfills Landsnet's terms B5 has a utilization time that exceeds 4500 hours/year for at least a full calendar year, an energy charge of 512,00 ISK/MWh will be charged. If the utilization time has been below 4500 hours/year for two calendar years in succession, an energy charge of 1.349,00 ISK/MWh will be charged. The utilization time of new end users shall be calculated at the end of

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¹ Number formats are used according to icelandic tradition.

² Charges for transmission losses and ancillary services will be adjusted based on Landsnet's purchases of losses and ancillary services.

the first calendar year of connection. Until then, the capacity charge shall be 1.349,00 ISK/MWh.

The discount in accordance to 4.3 is also applicable to curtailable end users. The utilization time is calculated based on the average of the four highest 60-minute monthly power-peaks of the year, the transmitted energy of that year and the time of curtailment of that year.

A discount of 17% is granted on the charge for ancillary services relating to curtailable transmission. This discount amounts to the cost incurred by Landsnet for reserve power.

- 4.5 A capacity charge for out-feed is calculated based on the average of the four highest 60-minute monthly power-peaks of the year for each delivery point.
- 4.6 A power intensive user can apply to have electricity delivered at less than 132 kV. The Tariff for such transmission is according to Landsnets terms B9.
- 4.7 Charges for running the Balance Power Market is 2% of the balancing energy and is charged to the balance responsible party
- 4.8 If energy is transmitted directly to a power intensive user from a power plant connected to the transmission system, the energy is not transmitted through the transmission system, and the transmission system does not contribute to connecting costs of the power intensive user, the Out-feed charge shall be 60% of the Power intensive Out-feed transmission charge. A higher discount is permitted if the power intensive users out-feed is totally reliant on energy coming from the power plant.

Article 5

Charges for ancillary services and transmission losses are imposed on all out-feed, with the exception provided for in Section 8.3.

Article 6

Points of delivery shall, as a rule, be metered separately. However, points of delivery within an interconnectably operated distribution network area shall be metered collectively provided that each point of delivery can handle at least 1/(n-1)*100% of the total consumption of the distribution network area, where "n" is the number of points of delivery.

Article 7

- 7.1 Each customer will be charged a delivery charge for each point of supply and for each point of delivery when the customer is connected to the transmission system at more than one connection point within the point of supply or point of delivery and at different voltage, cf. Article 3.
- 7.2 A discount is granted on the out-feed delivery charge if the maximum power out-feed is as follows:

In the range of 3.0 - 6.0 MW the discount is 40%.

In the range of 1.0 - 3.0 MW the discount is 70%.

For out-feed less than 1.0 MW the out-feed delivery charge can be omitted if Landsnets direct costs for the out-feed is charged. This cost is variable between points of delivery and is calculated for each point of delivery.

Maximum power is the highest 60 minute power peak at each point of delivery.

- 7.3 At each point of delivery as specified in art. 3, Landsnet will provide customers with one connection point for the delivery voltage specified in Article 3. Customers shall pay all costs of any requested additional connection point; the same applies to connection points for a different voltage than that specified in Article 3.
- 7.4 Buyers of curtailable transmissionshall pay any and all cost of a special connection point for such electricity.

- 8.1 Distribution system operators shall pay out-feed charges pursuant to Article 4 for electricity produced in power plants connected to Landsnet through a distribution system, as follows:
 - 1. For energy produced in power plants under 1,42 MW, no out-feed charge is paid.
 - 2. For electricity produced in power plants in the size range of 1,42-3.1 MW, no out-feed charge is paid at the lower limit of the range, but the charge then increases proportionally up to 60% of the full out-feed charge at the upper limit.
 - 3. For energy from power plants of 3.1 10 MW, 60% of the full out-feed charge is paid.
- 8.2 Distribution system operators shall pay a charge for ancillary services pursuant to section 4.2 for electricity which is produced in power plants connected to Landsnet through a distribution system and does not enter the Landsnet transmission system.
- 8.3 Charges pursuant to article 8 shall be settled separately.

Article 9

- 9.1 This tariff assumes a minimum average power factor of cosφ 0.9 at the out-feed for distribution system operators and power intensive users at each point of delivery, except as otherwise specified in Landsnets Grid-Code or separate contracts between Landsnet and the customer.
- 9.2 In the event that the average power factor of a single month falls below the above limit the energy charge and capacity charge pursuant to Article 4 shall increase by 2% for each 1% that the power factor falls below the limit.

Article 10

The price of balancing power is variable as determined by the market price at any time and will be posted on the website of Landsnet www.landsnet.is.

Article 11

This tariff is established by Landsnet hf. in compliance with the income revenue cap determined by Orkustofnun for Landsnet hf. and is effective as of July 1 st 2018.

Article 12

Orkustofnun (the National Energy Authority) supervises the compliance of Landsnet with the provisions of the Electricity Act No. 65/2003 with later amendments and with conditions applicable to its activities pursuant to statutory law and government regulations.