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B A L T I C   G R I D

**Inčukalns underground gas storage  
withdrawal capacity  
congestion management**

November 29, 2021

# Regulation

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58. If the system operator detects a physical capacity congestion by 15:00 on the gas day D-1:

58.1 during the withdrawal of natural gas from the storage facility, the system operator shall, within the framework of congestion management, allocate the natural gas withdrawal capacity among the system users by prioritizing the bundled capacity product and the two-year bundled capacity product and in **proportion to their booked storage capacity**, first providing the system user which supplies natural gas to protected customers and only in the amount natural gas to be provided to protected customers;

59. If the system operator detects a physical capacity congestion after 15:00 on the gas day D1:

59.1. during the withdrawal of natural gas from the storage facility, the system operator shall, within the framework of congestion management, allocate the natural gas withdrawal capacity among the system users **in the order of receipt of trade notifications** and by prioritizing the bundled capacity product and the two-year bundled capacity product indicated in the trade notification, first providing the system user which supplies natural gas to protected customers and only in the amount of natural gas to be provided to protected customers;

## Inčukalns underground storage withdrawal capacity congestion management

Each NU is entitled to MWDC on each product for gas day D, based on following calculation:

$MWDC(\text{product}) = (\text{NU booked product capacity} / (\text{Total IPGK1YP capacity} + \text{Total IPGK2YP capacity})) * \text{daily withdrawal};$

Nominations have to be received before D-1 15:00 EET for each product;

Confirmed amount will be calculated as:

if product nomination is less or equal than MWDC – all nominated amount will be confirmed even in congestion situation.

if product nomination is higher than MWDC – all nominated amount in congestion situation will be confirmed either in full or partially between MWDC and nominated amount using pro-rata allocation between all NU nominations higher than their corresponding MWDC by proportion between these NU based on nominated product booked amount proportion between these NUs.

After D-1 15:00 all nominations will be processed on FCFS basis only when there is available withdrawal capacity.

NU – Network user

MWDC - minimum (GUARANTEED) withdrawal daily capacity

IPGK1YP, IPGK2YP – BUNDLED capacity products

FCFS – first come first serve

EXAMPLE ON NEXT SLIDES

# Inčukalns congestion management – MWDC calculation EXAMPLE

Total booked storage capacity values (in kWh):

Two year bundled capacity product (IPGK2YP)	5 226 000 001
Bundled capacity product (IPGK1YP)	16 293 699 999
Daily withdrawal capacity (kWh/d)	196 700 000

NUs with booked storage capacity:

NU	Product	Booked	MWDC calculation
NU1	IPGK1YP	1 000 000 000	9 140 462
NU1	IPGK2YP	2 000 000 000	18 280 924
NU2	IPGK1YP	500 000 000	4 570 231
NU3	IPGK1YP	500 000 000	4 570 231
NU3	IPGK2YP	200 000 000	1 828 092

NU1 (IPGK1YP) calculation example –

$$\text{MWDC} = 196\,700\,000 * \frac{1\,000\,000\,000}{(5\,226\,000\,001 + 16\,293\,699\,999)} = \underline{\underline{9\,140\,462}}$$

NU – Network user

MWDC - minimum (GUARANTEED) withdrawal daily capacity

IPGK1YP, IPGK2YP – BUNDLED capacity products

FCFS – first come first serve

# Inčukalns UGS congestion management – nomination processing EXAMPLE

Daily withdrawal capacity (kWh/d)

196 700 000

NUs with booked storage capacity:

NU	Product	Booked	MWDC	Nominated	Confirmed
NU1	IPGK1YP	1 000 000 000	9 140 462	100 000 000	93 850 000
NU1	IPGK2YP	2 000 000 000	18 280 924	9 000 000	9 000 000
NU2	IPGK1YP	500 000 000	4 570 231	150 000 000	46 925 000
NU3	IPGK1YP	500 000 000	4 570 231	50 000 000	46 925 000
NU3	IPGK2YP	200 000 000	1 828 092	--	-- (0)

NU – Network user

MWDC - minimum (GUARANTEED) withdrawal daily capacity

IPGK1YP, IPGK2YP – BUNDLED capacity products

FCFS – first come first serve

NU1 (IPGK1YP) confirmed value calculation example –

$$\text{Confirmed} = 9\,140\,462 + \frac{1\,000\,000\,000}{(1\,000\,000\,000 + 2 * 500\,000\,000)} * (196\,700\,000 - 9\,140\,462 - 9\,000\,000 - 2 * 4\,570\,231)$$

$$\text{Confirmed} = 9\,140\,462 + 0.5 * 169\,419\,076 = \underline{93\,850\,000}$$

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