

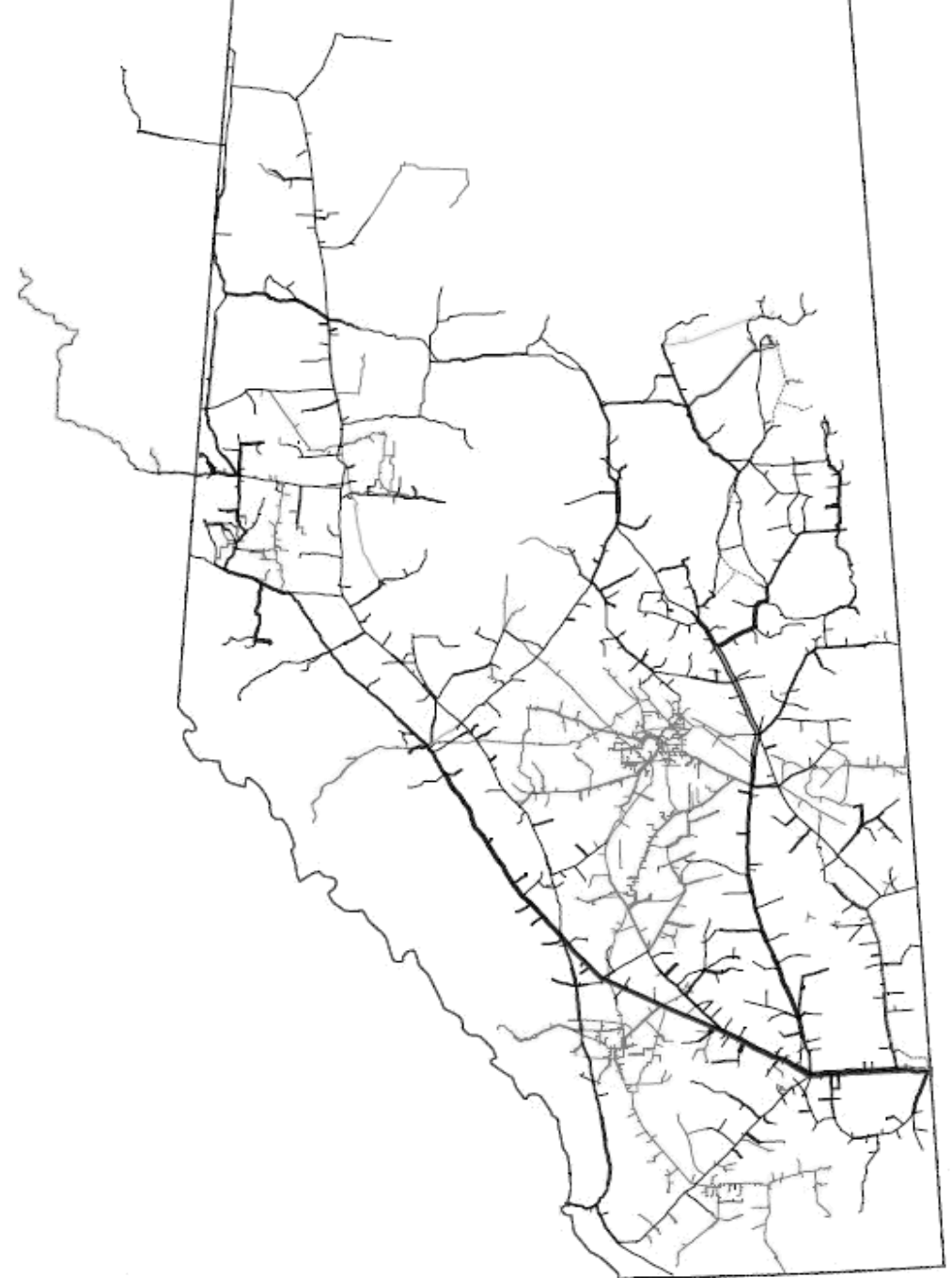
EDUCATIONAL MATERIAL

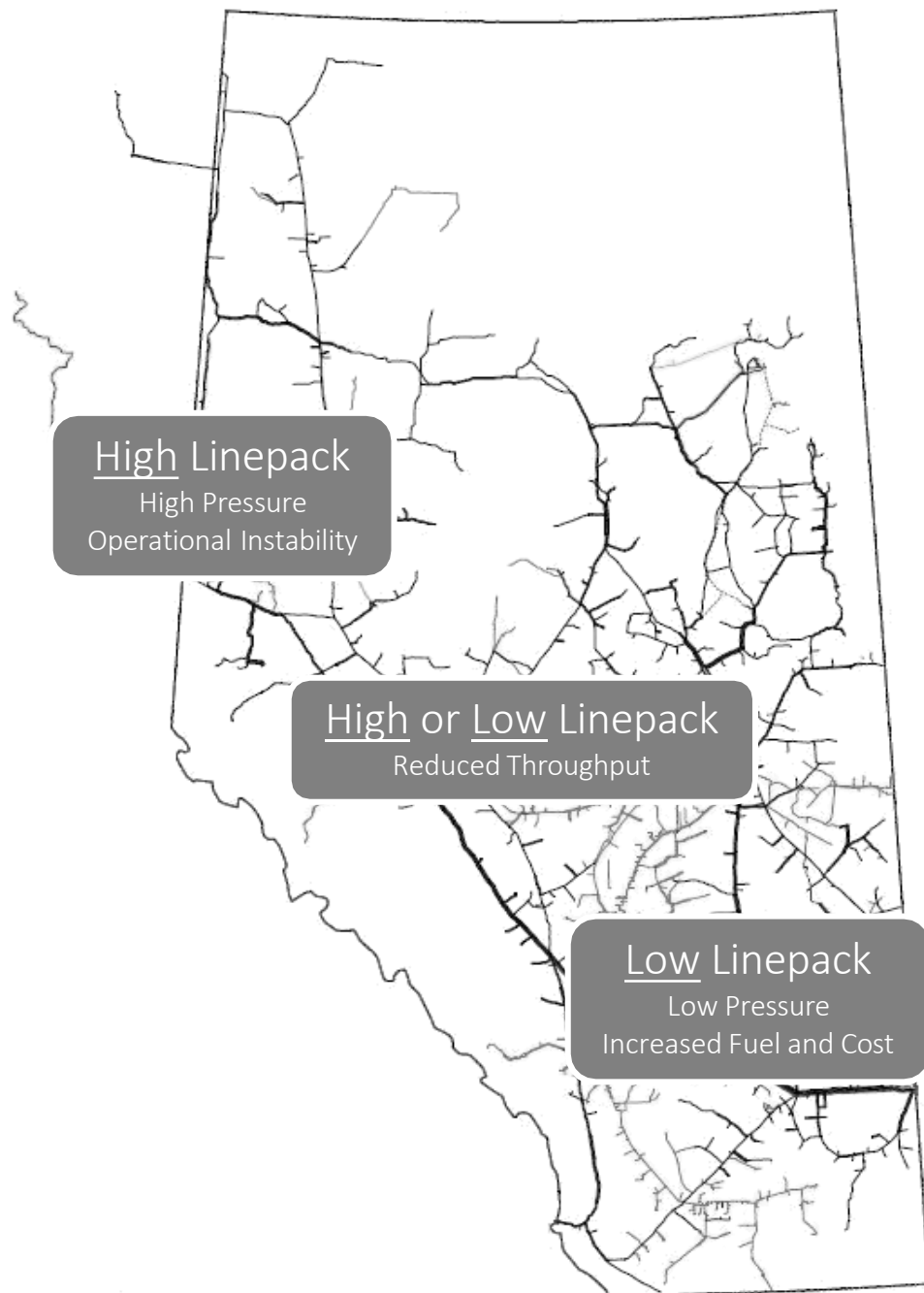
# NGTL Linepack 101



# What is linepack?

- ❖ Target Linepack – *accounting*
  - The gas owned by the pipeline for the purposes of effective and efficient operation.
- ❖ Actual Linepack – *physical*
  - The physical gas in the system at any point in time.
    - ❖ Packing: increasing linepack inventory
    - ❖ Drafting: decreasing linepack inventory
  - ❖ *Target (accounting) linepack is more static*
  - ❖ *Actual (physical) linepack is dynamic*





## Why is linepack important?

- All gas pipelines need linepack to function.
- It is important to balance linepack to operate effectively.

### High Linepack

- High linepack in receipt areas may lead to reduced ability to receive gas onto the system (producer impact)
- Reduced flexibility at compressor stations leads to unstable operation

### Low Linepack

- Low linepack in delivery areas may lead to reduced ability to delivery gas off the system (consumer impact)
- Reduced pipeline efficiency and loss of system capability.



# Where can I find linepack info?

## NGTL Dashboard

(current & historical linepack)

TC Customer Express > Pipelines > NGTL System



## Current System Report

(current linepack & other operational values)

TC Customer Express > Pipelines > NGTL System > Current System Report

Current System at: Jan 11, 2021 10:30:47 MST				
Parameter	Value - SI	Units - SI	Value - Imp.	Units - Imp.
NGTL Linepack Current	533456	e3m3	18832	MMcf
NGTL Linepack 4Hour ROC	-3178	e3m3	-112	MMcf
NGTL - Field Receipts	320756	e3m3/d	11323	MMcf/d
NGTL - Intra-Delivery Flow w/o Storage	169227	e3m3/d	5974	MMcf/d
NGTL - Flow Differential (Receipts - Deliveries)	-21967	e3m3/d	-775	MMcf/d
NGTL - Instantaneous Delivery Flow	397037	e3m3/d	14016	MMcf/d
NGTL - Receipt Flow	375069	e3m3/d	13240	MMcf/d
NGTL - Net Storage Flow (Receipts - Deliveries)	47092	e3m3/d	1662	MMcf/d

## Gas Day Summary Report

(end of day snapshot of linepack & detailed operational values)

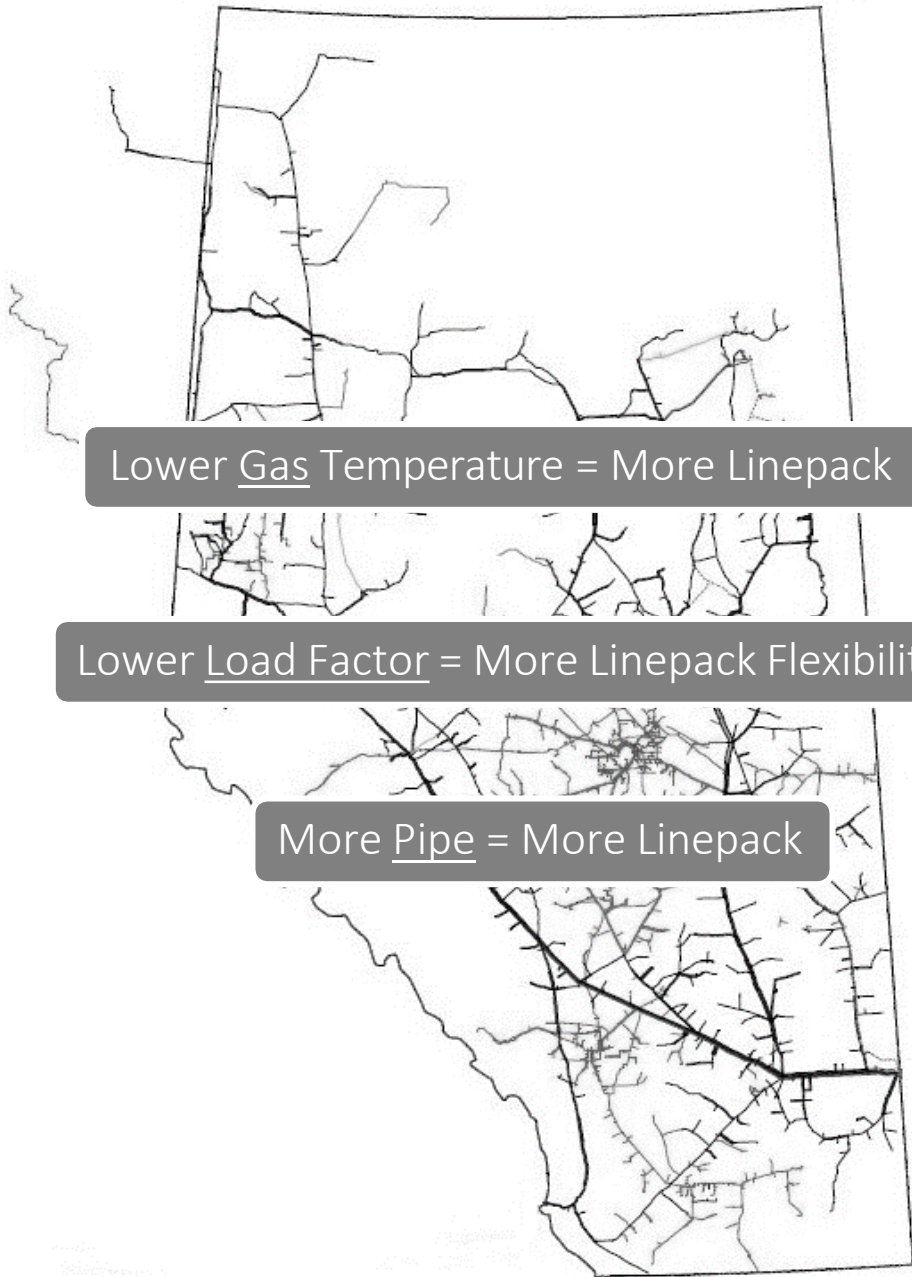
TC Customer Express > Pipelines > NGTL System > Gas Day Summary Report

NOVA Gas Transmission Ltd. Gas Day Summary Report (E6M3) For: 2021-Jan-10 as of 2021-Jan-11 09:00			
Pipeline System:	NGTL		
Gas Day:	2021-Jan-10		
VOLUME SUMMARY	Prorated NOM	Extrapolated VOL	08:00 NOM
EMPRESS BORDER	104.0	103.0	102.5
MCNEILL BORDER	24.1	23.9	24.3
ALBERTA-B.C. BDR	76.9	77.1	76.9
GORDONDALE BORDER	-1.2	-1.2	-1.2
GROUND BIRCH EAST	-5.7	-5.7	-6.2
*OTHER BORDERS	8.6	8.5	8.8
<b>Total Export Deliveries (Gross)</b>	<b>213.6</b>	<b>212.5</b>	<b>212.5</b>
Intraprovincial	284.2	171.1	271.6
Total Storage + Intraprovincial	354.7	171.1	325.5
**Total Net Storage	-44.1	-46.0	-61.1
Total Storage Deliveries	70.5	0.0	53.9
Total Storage Receipts	-114.6	-46.0	-115.0
Total NGTL Deliveries	568.4	383.6	538.0
Total NGTL Receipts	685.4	389.0	686.5
***NGTL Field Receipts		336.1	
End of Day Linepack		534.3	
Linepack Rate of Change		4.7	
Linepack Change (Last 24 hours)		6.7	
Linepack Target		535.0	
Tolerance		-1/1 (%)	
Tolerance Last Changed		2021-Jan-06 at 08:00	
Total SD Account (TJ)		208.6	
Total OBA Account (TJ)		-214.0	

# What factors affect linepack?

- Gas temperature and system average gas pressure – *air temperature, soil temperature, system operation*
- Supply & demand distribution and load factor – *volume of flow and where*
- The amount of pipeline in service – *size of the bottle*

*A system operating at or near maximum capability must have linepack tightly controlled to maximize throughput*



# How do you manage linepack?

**Purchase and Sale:** Preposition linepack in a range that is required for the expected operation.

- Seasonal, expansion facilities, and outage related adjustments.

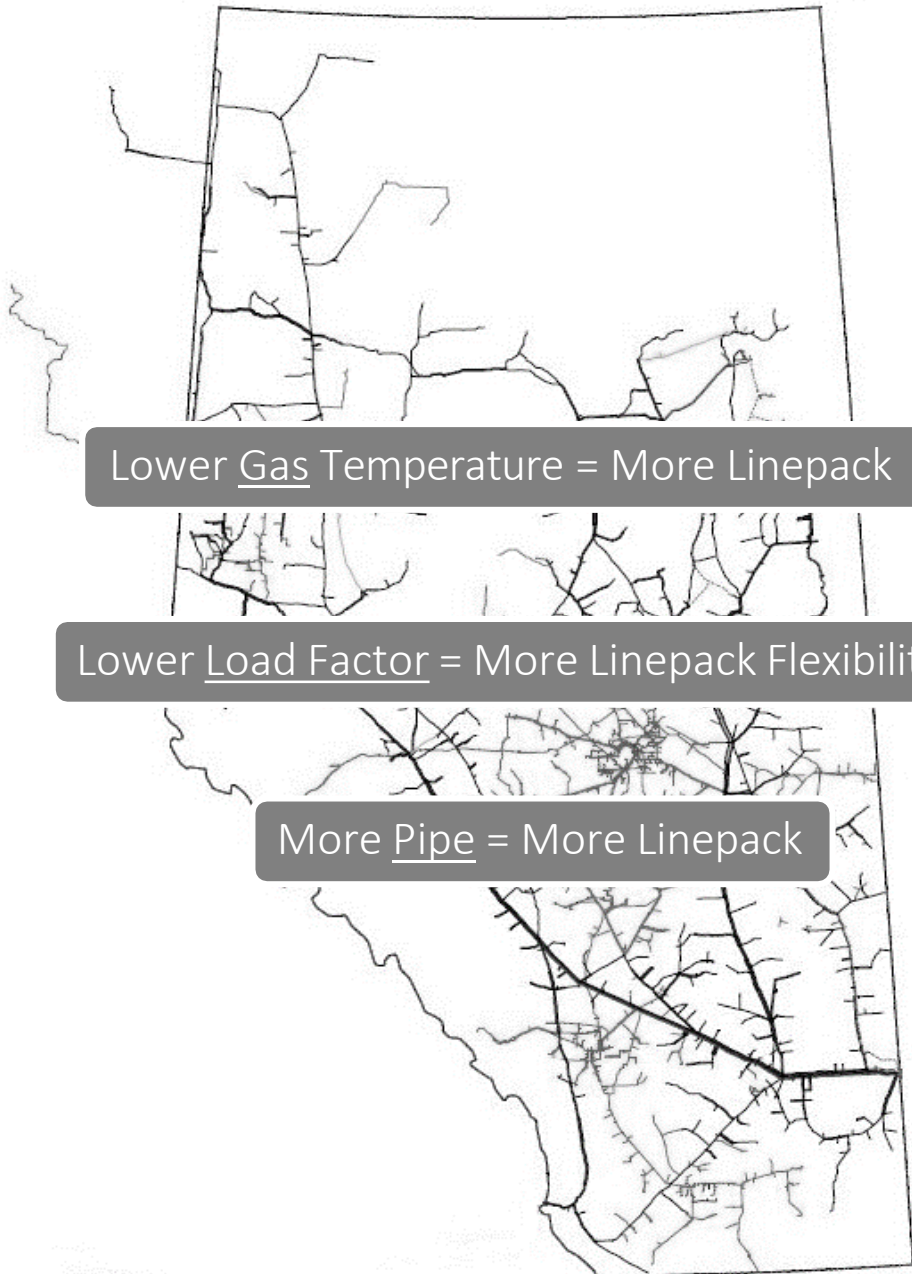
**Operator Balancing Agreements (OBA):** Imbalance management with connected pipelines and storage operators

- Daily review and refinement based on interconnect ability to support.

**Daily Supply Demand Balancing:** Adjust customer tolerance band based on anticipated system flexibility.

- Daily review and notification through bulletin, text, and/or phone call.

*Variability of receipts, deliveries, and system operation makes linepack and linepack requirements uncertain*



# CONTACTS



## MARKETING REPS

[Customer Express Contacts  
\(tccustomerexpress.com\)](https://tccustomerexpress.com)

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