



NGTL System and Foothills Pipe Lines Ltd.

Customer Operations Meeting

November 4, 2021



Welcome and Thank You for Joining Us

Participating via WebEx:

- Please sign-in through WebEx application including your full name and company
- To reduce background noise and improve audio quality, all WebEx participants will be placed on mute when entering the meeting
- Please submit your questions via using the raise hand function and coming off mute or the chat function and we will answer at the best possible opportunity

Forward Looking Information

This presentation includes certain forward-looking information. Statements that are forward-looking are based on certain assumptions and on what we know and expect today and generally include words like anticipate, expect, believe, may, will, should, estimate or other similar words.

The information provided is for informational purposes only and is not to be relied upon for any other purpose whatsoever. The information is based upon certain assumptions that may or may not be accurate, and therefore is subject to various risks and uncertainties. TC Energy shall not be liable for damages sustained as a result of any use or reliance on such information.

The outages listed in this presentation are not an exhaustive list. Outage date, duration, and impact may be subject to change. Refer to the Daily Operating Plan (DOP) for all planned outages with potential service impact.

**No
impact to FT**

Refers to outage periods where FT impact is not expected

**Potential
impact to FT**

Refers to outage periods where there is potential of FT impact

**Partial
impact to FT**

Refers to outage periods where FT impact is expected

Important Notes



Outage information in this presentation may not be accurate beyond the November 4, NGTL/Foothills Customer Operations (WebEx only) meeting



For current outage information, please refer to the most recent Daily Operating Plan (DOP) on my.TC Customer Express



This meeting will only cover operational topics related to the NGTL and Foothills systems. For information on Commercial and Regulatory topics, please contact your Marketing Representative

Winter Tires

- Better braking
- Greater grip
- Freeze free
- Snow traction
- Accident prevention

Change your tires when the temperature dips below 7°C

Winter Tires have 4x more traction than summer tires allowing you to stop sooner and more predictably



Quebec and certain highways in B.C. require winter tires by law for winter months

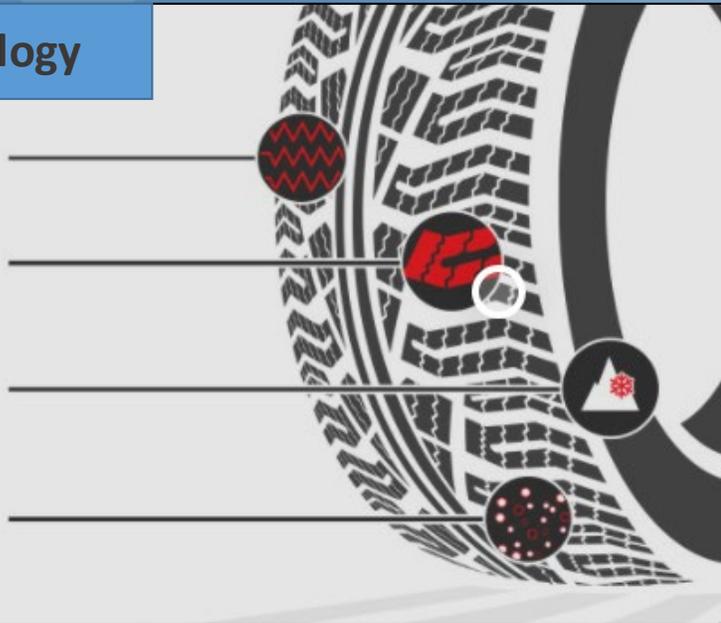
Winter Tire Analogy

Slats benefits the grip on snow & ice

Tread bars provides a better interlocking with the underground in deep snow

The snowflake symbol is a label for certified winter tyres

Winter tyres compound will not freeze even in lower temperatures



Agenda

- 1 Lookback October 2021 Outages and USJR Restrictions
- 2 Review of Upcoming DOP Outages
- 3 Initial 2022 Maintenance Program



October 2021 Outages and USJR Restrictions

Review of October Outages and USJR Restrictions

↑ Increase in USJR Receipt Flows

- Prior to October 1 max receipts of 309 e⁶m³/d
- During October receipts reached 320 e⁶m³/d



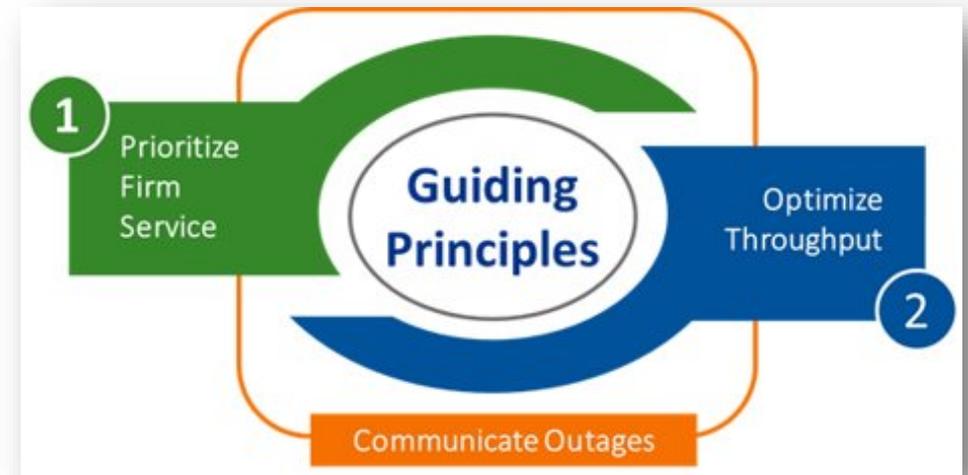
Planned maintenance reduced receipt capability



Unplanned maintenance events also occurred



Some outages were not completed on schedule



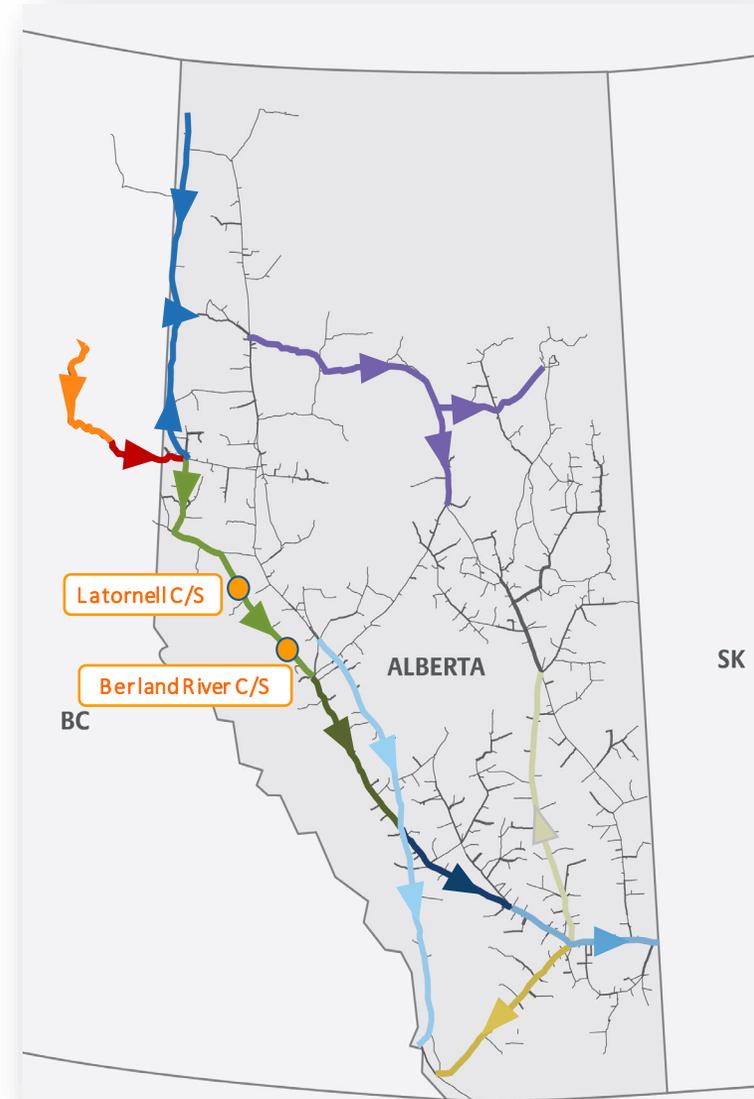
Latornell & Berland River Compressor Station Outages



Background:

- Unplanned Berland River A1 outage October 7th – 17th
- Planned Latornell Station (A1 & A2) Outage October 12th – October 18th
 - Latornell A2 outage continued to Oct. 25th
 - Hidden Lake Station Outage started October 18th
- Reduced capability for southbound flow

Bulletin Date	Effective Date	Service Allowable	Comments
October 12	October 13	0% IT-R USJR Partial IT-D L-EGAT	Start of Latornell Station
October 13	October 14	0% IT-R USJR 0% IT-D L-EGAT	
October 14	October 15	0% IT-R & 67% FT-R USJR	L-EGAT IT-D restriction lifted
October 17	October 17	0% IT-R & 100% FT-R USJR	Berland River A1 Complete
October 18	October 19	100% IT-R & 100% FT-R USJR	Latornell Station Complete



Alces River and Paul Lake Compressor Station Outages



Background:

- Planned Station Maintenance October 25th – October 31st
- Reduced capability across NCC results in need for higher NLAT flow
 - Results in reduced receipt capability in USJR
 - Results in more specific risk to the NEDA area

Bulletin Date	Effective Date	Service Allowable	Comments
October 20	October 25	0% IT-R USJR Partial IT-D G-EGAT	IT-R restriction was already in place for October 21
October 21	October 22	0% IT-R USJR Partial IT-D G-EGAT	Restriction started in advance of start of outages
October 26	October 27	0% IT-R & 67% FT-R USJR 0% IT-D NEDA	Greater EGAT excluding NEDA unrestricted
Oct 29 – Nov 1	N/A	0% IT-R & 67% FT-R USJR 0% IT-D NEDA	Updates to Alces River Status
November 1	November 2	0% IT-R & 69% FT-R USJR 0% IT-D NEDA	
November 3	November 3	0% IT-R & 100% FT-R USJR	



We Want to Hear From You

Your feedback is critical to help us improve our outage communications and ability to get you the information needed to make business decisions





Review of Upcoming DOP Outages

From DOP as of Wednesday, November 3

All Operational Areas – Balance of November

No
impact to FT

Potential
impact to FT

Partial
impact to FT

AREA	Outage Description	Start	End	Outage Capability (10 ⁶ m ³ /d)	Impact (10 ⁶ m ³ /d)	Area Outage Capability (10 ⁶ m ³ /d)	Outage Area Typical Flows (10 ⁶ m ³ /d)	Service Allowable Location/Area
USJR	Hidden Lake – Compressor Station Maintenance	18-Oct-21	7-Nov-21	319	6	194	145-180	Potential impact to FT-R USJR U/S of Latornell
	Meikle River D5 - Compressor Station Maintenance	7-Nov-21	11-Nov-21	306	20	N/A	260-310	Potential impact to FT-R USJR
WGAT / FHBC	Currently No Outages Planned for WGAT or FHBC							
EGAT / FHSK	Amber Valley – Compressor Station Maintenance	22-Sep-21	30-Nov-21	140-135	0-5	N/A	N/A	No impact to FT-D anticipated: Empress/McNeill Borders Segments 6, 10 - 20, partial 21, 23, 24, partial 28
	Monchy 1 – Compressor Station Maintenance	4-Oct-21	26-Nov-21	69		FH SK		No impact to FT anticipated: McNeill Border
	Crawling Valley – Compressor Station Maintenance	15-Nov-21	28-Nov-21	138	2	NGTL		No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
OSDA / NEDA	Meikle River D5 - Compressor Station Maintenance	7-Nov-21	11-Nov-21	130	N/A	N/A	N/A	No impact to FT-D anticipated NEDA



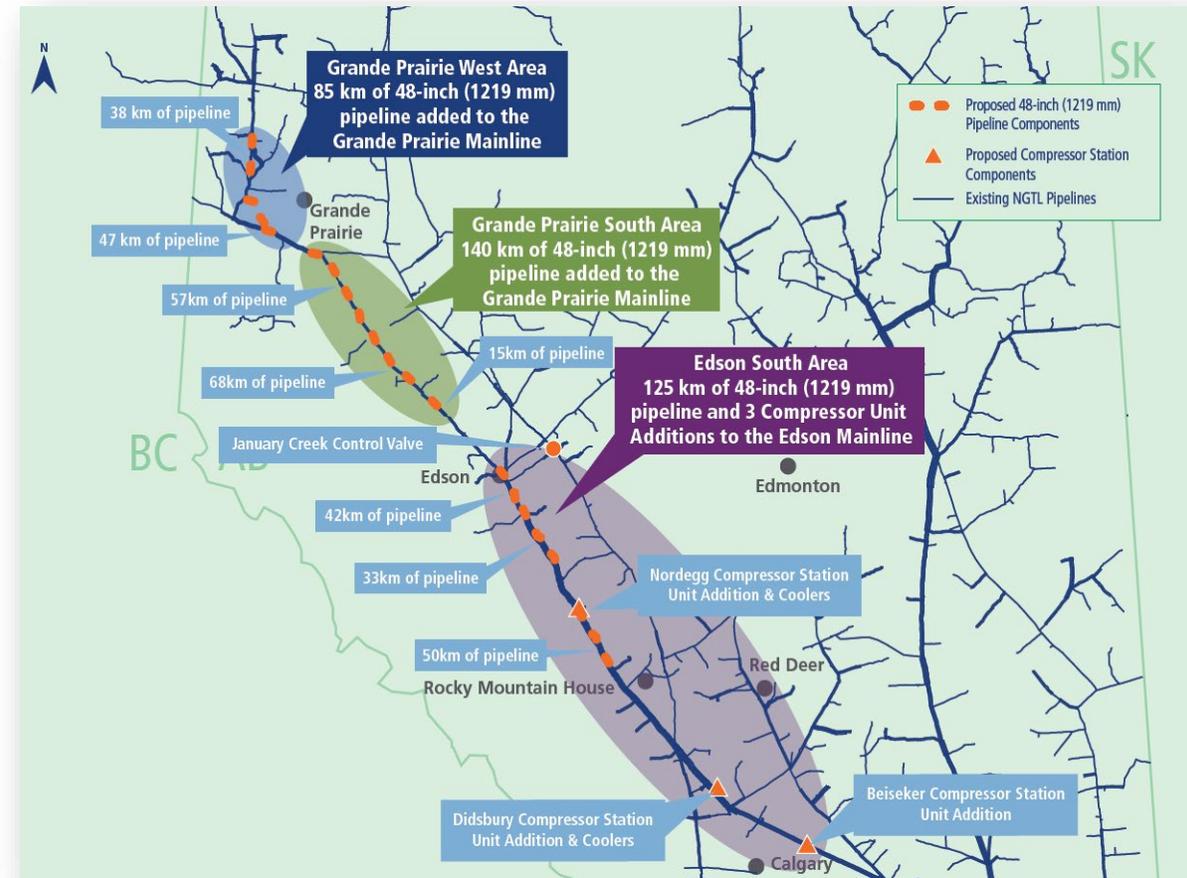
2022 Operational Outlook

Basis for 2022 Operational Outlook

- Includes outages with the most significant impact to throughput capability
- The remaining outages that are known and impactful will be communicated by mid-December
- Operational Base Capabilities – Capability assuming no outages with known and expected operational constraints – includes facilities planned to be placed in service
- Capability information, start and end dates, and area of impact may be revised as new information becomes available. Updates will be published in the Daily Operating Plan (DOP)

Anticipated Facility Additions 2022 Operational Outlook

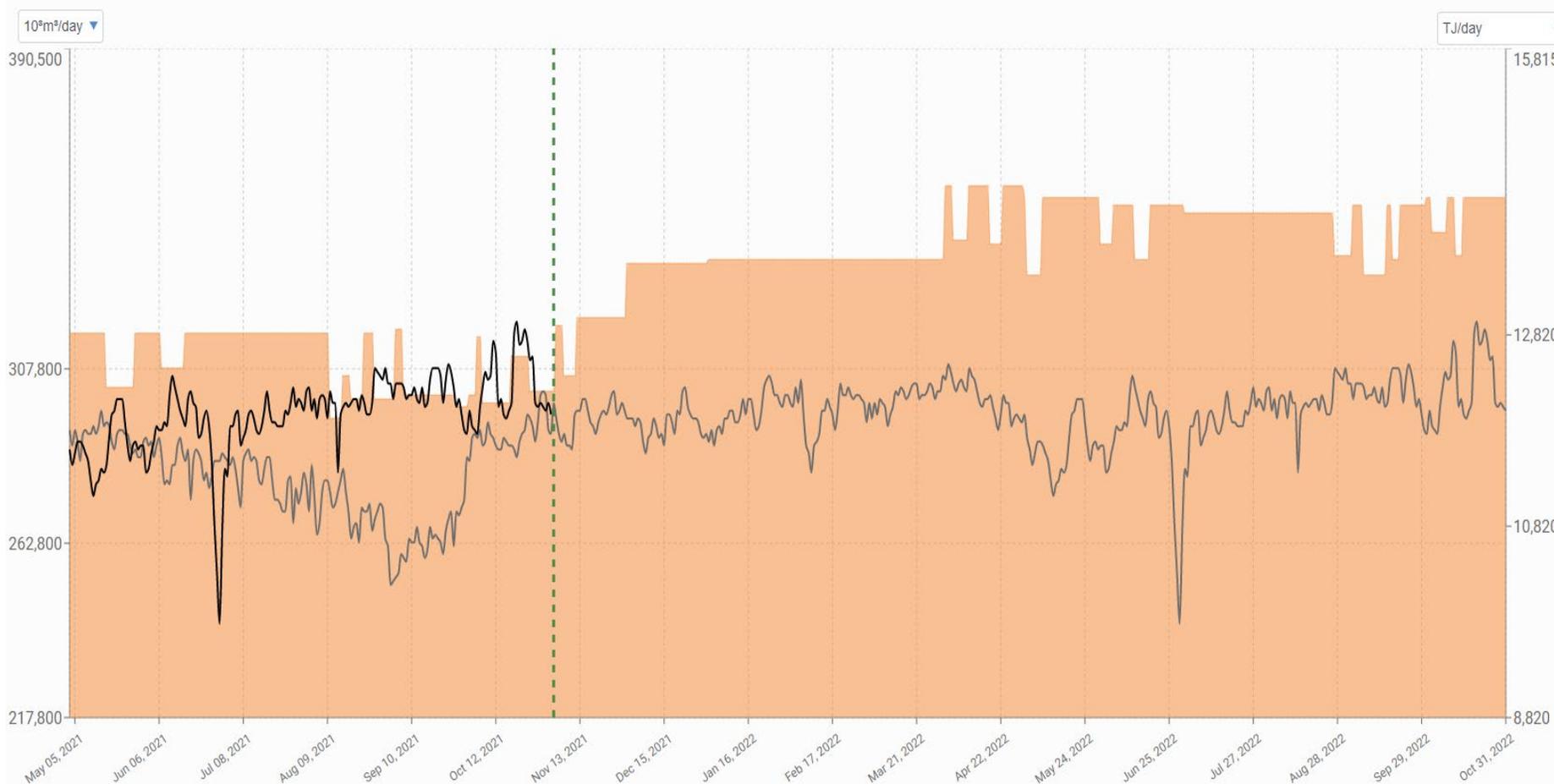
- 2022 Operational Outlook includes facilities in the 2021 NGTL System Expansion Project
 - Compression facilities (Nordegg, Beiseker, Didsbury and Clearwater) are included
 - The Elmworth, Valhalla and Brewster Pipeline Sections will be included in December 2021
 - For the purposes of the 2022 Operational Outlook the balance of facilities are assumed to be in-service for April 2022
 - Subject to change based on project completion
 - Updates provided in DOP assumptions
- Other Expansion projects will be added closer to anticipated in-service dates



Operational Capability Outlook – Upstream James River (USJR)

Upstream James River

Capability Actual Flow Historical Flow



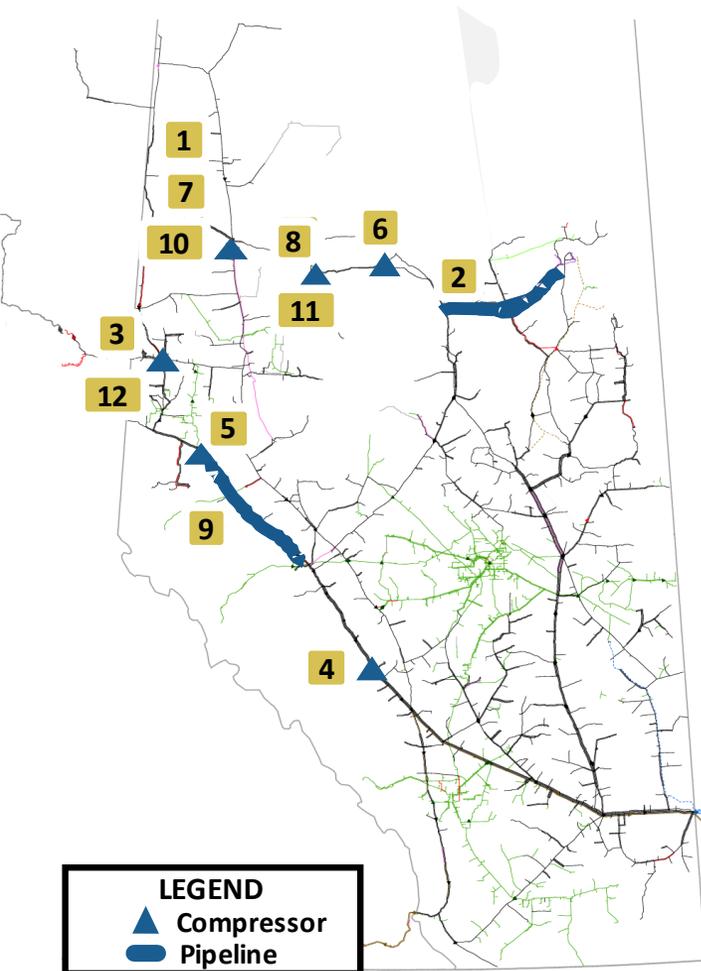
mm-yy	USJR $10^6 \text{m}^3/\text{d}$
Apr-21	324
May-21	317
Jun-21	317
Jul-21	317
Aug-21	317
Sep-21	318
Oct-21	325
Nov-21	326
Dec-21	335
Jan-22	336
Feb-22	336
Mar-22	336
Apr-22	355
May-22	352
Jun-22	350
Jul-22	348
Aug-22	348
Sep-22	350
Oct-22	352

Outage Highlights – Upstream James River (USJR)

No impact to FT

Potential impact to FT

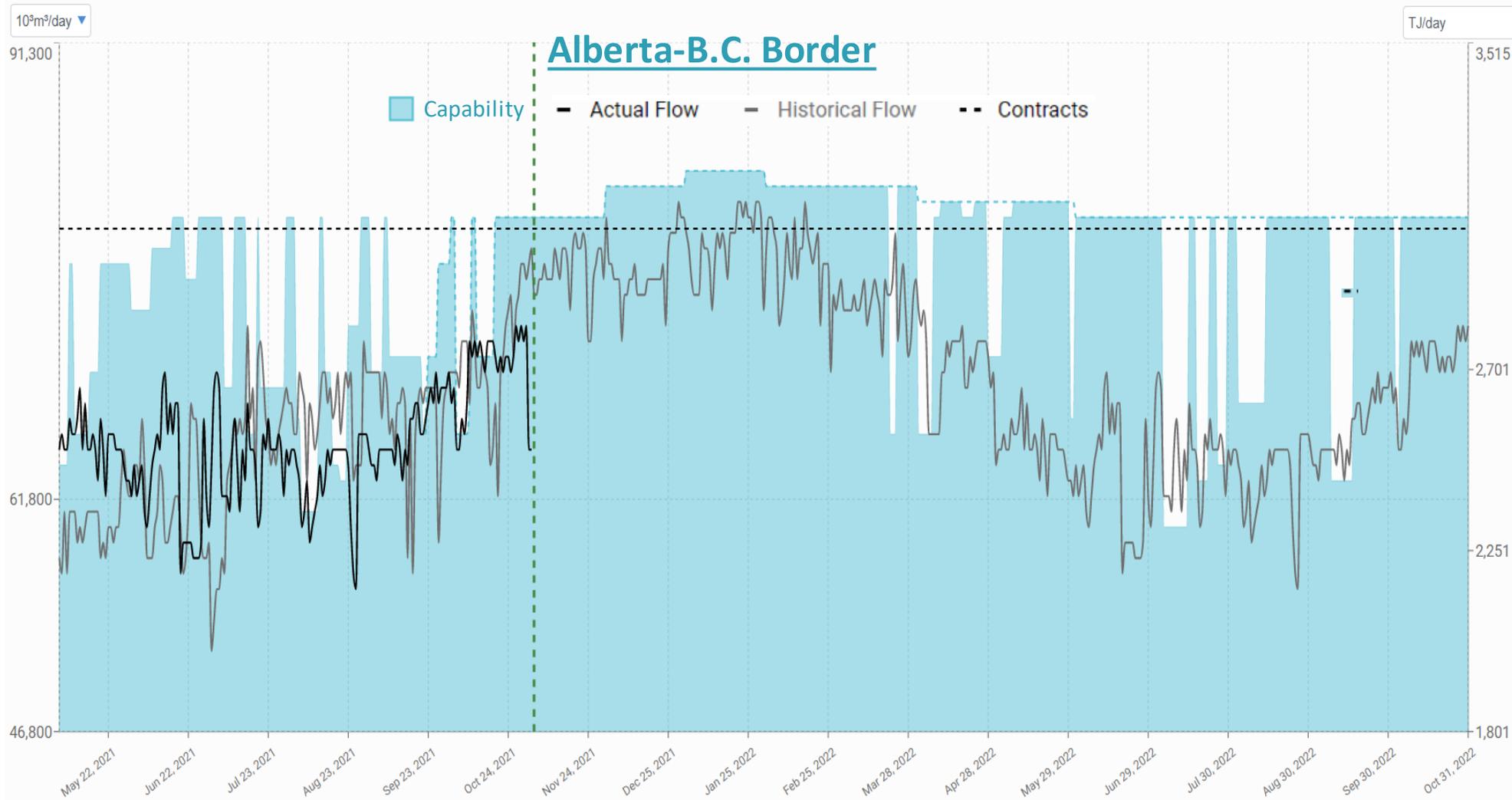
Partial impact to FT



*Impact to base capability

Facility Outage	Start Date	Duration	Capability	Impact*	Typical Flow	Area Outage Capability	Area
			10 ⁶ m ³ /d				
1. Meikle River D5 Compressor Station Maintenance	Apr-04	5 days	341	14	165 – 205	231	Upstream Berland C/S
2. NPS 36 NCC Loop & Fort McKay Pipeline Maintenance	Apr-05	5 days	341	14	165 – 205	231	Upstream Berland C/S
3. Saddle Hills B3 Compressor Station Maintenance	Apr-18	5 days	340	15	160 – 190	217	Upstream Latornell C/S
4. Clearwater C/S Compressor Station Maintenance	May-02	2 days	332	20	280 – 320	N/A	Upstream James River
5. Gold Creek C/S Compressor Station Maintenance	May-02	6 days	332	20	280 – 320	N/A	Upstream James River
6. Goodfish C/S Compressor Station Maintenance	May-30	5 days	340	10	280-320	N/A	Upstream James River
7. Meikle River C Compressor Station Maintenance	Jun-12	6 days	336	14	165 – 205	226	Upstream Berland C/S
8. Otter Lake A1 Compressor Station Maintenance	Aug-27	7 days	337	11	280 – 320	N/A	Upstream James River
9. NPS 48 – GPML Loop 2 Pipeline Maintenance	Sep-07	9 days	332	18	280 – 320	N/A	Upstream James River
10. Meikle River D5 Compressor Station Maintenance	Sep-18	3 days	336	14	165 – 205	226	Upstream Berland C/S
11. Otter Lake C/S Compressor Station Maintenance	Oct-03	6 days	343	9	280 – 320	N/A	Upstream James River
12. Saddle Hills B3 Compressor Station Maintenance	Oct-12	3 days	337	15	160 – 190	214	Upstream Latornell C/S

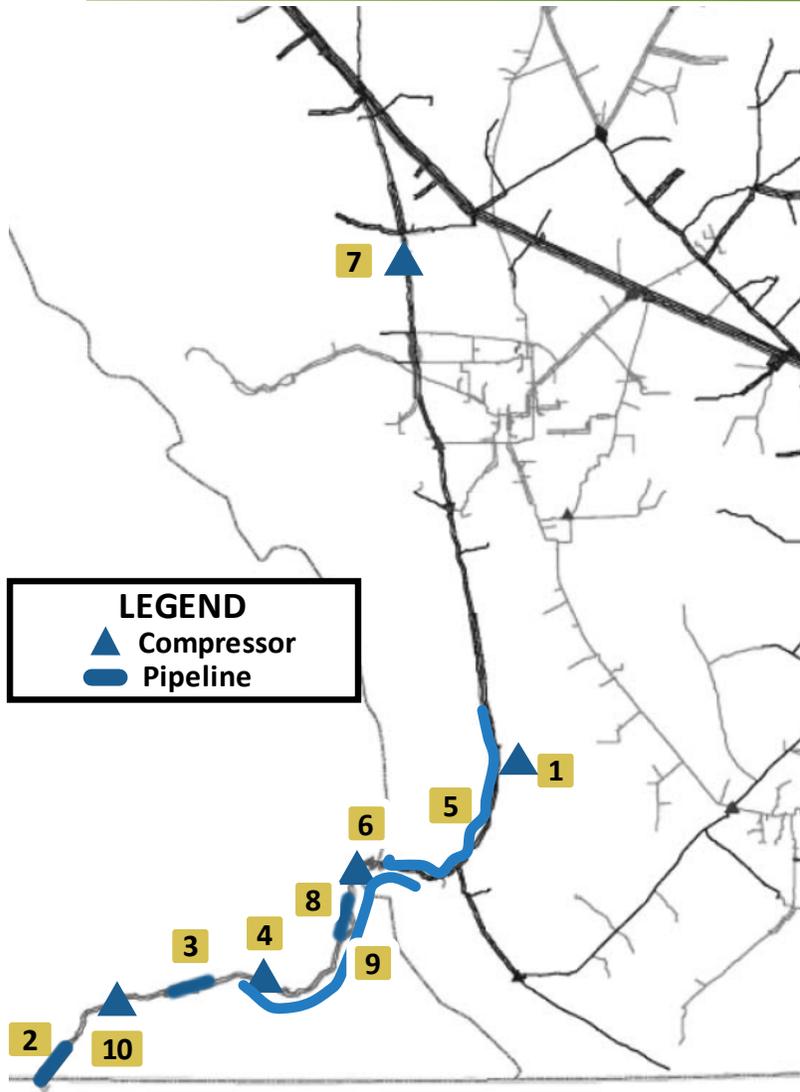
Operational Capability Outlook – Alberta-British Columbia Border (ABC)



mm-yy	ABC $10^6 \text{m}^3/\text{d}$
Apr-21	81
May-21	80
Jun-21	80
Jul-21	80
Aug-21	80
Sep-21	80
Oct-21	80
Nov-21	81
Dec-21	82
Jan-22	83
Feb-22	82
Mar-22	82
Apr-22	81
May-22	81
Jun-22	80
Jul-22	80
Aug-22	80
Sep-22	80
Oct-22	80

This slide may not be accurate beyond the November 4, NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

Outage Highlights – Alberta-British Columbia Border (ABC)



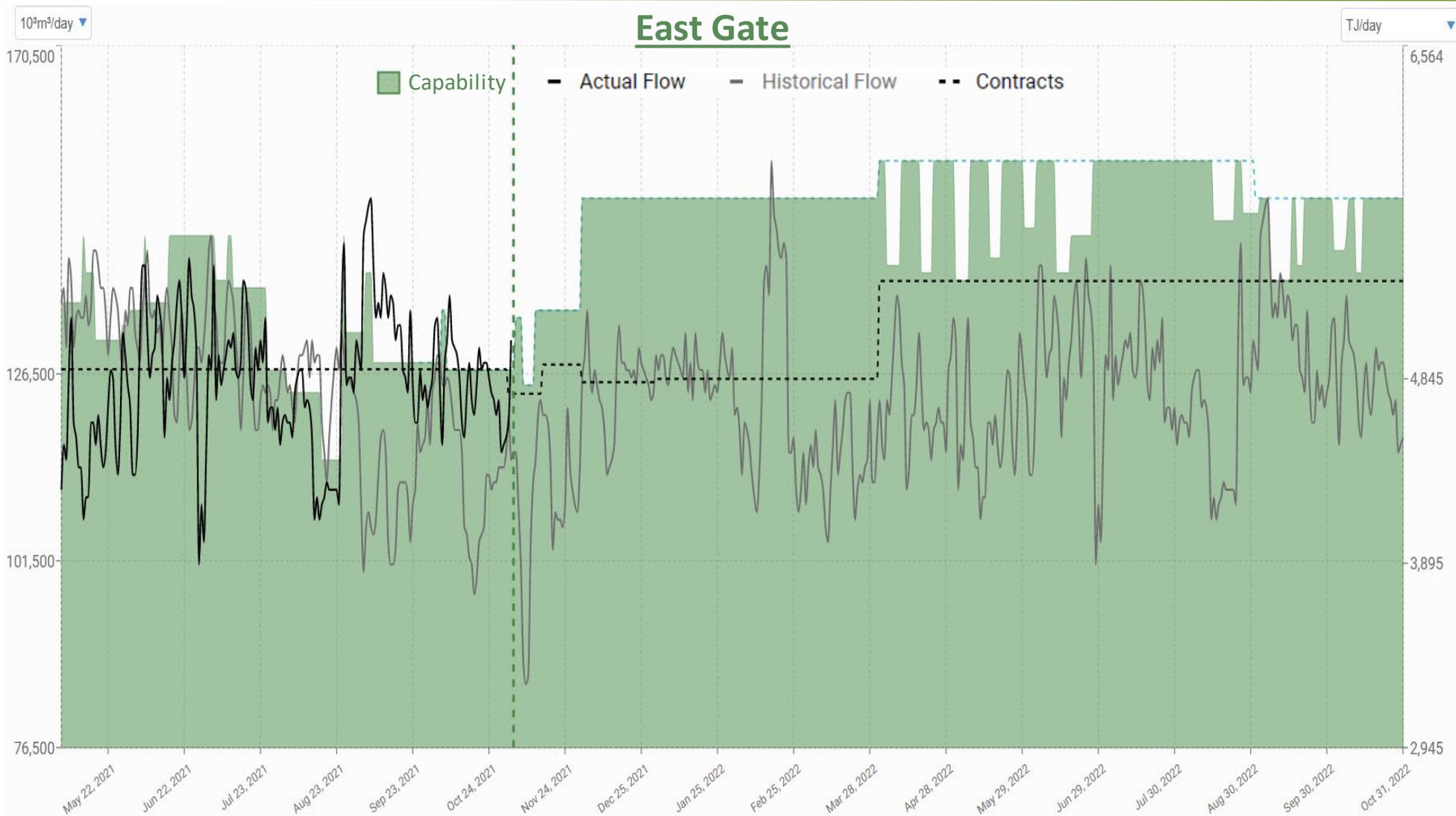
No impact to FT
Potential impact to FT
Partial impact to FT

Outage Description	Start Date	Duration	Base	Outage Capability	Impact	Area
			10 ⁶ m ³ /d	10 ⁶ m ³ /d	10 ⁶ m ³ /d	
1. Burton Creek C/S Compressor Station Maintenance	Mar-21	3 days	80	66	14	Alberta BC & Alberta Montana Borders
2. NPS 36 FPL Zone 8 Segment 4 Pipeline Maintenance	Apr-1	6 days	80	66	14	Foothills BC
3. NPS 36 FPL Zone 8 Segment 3 Pipeline Maintenance	Apr-28	6 days	80	71	9	Foothills BC
4. Elko C/S Compressor Station Maintenance	May-30	2 days	80	67	13	Foothills BC
5. NPS 42 WAS Mainline Loop Pipeline Maintenance	Jul-5	10 days	80	60	20	Alberta BC & Alberta Montana Borders
6. Crownsnest A C/S Compressor Station Maintenance	Jul-18	5 days	80	63	17	Foothills BC
7. Winchell Lake C/S Compressor Station Maintenance	Jul-26	4 days	80	64	16	Greater WGAT (22 & partial 21)
8. NPS 48 BC Mainline Loop Pipeline Maintenance	Aug-3	11 days	80	68	12	Foothills BC
9. NPS 36 ANG Mainline Pipeline Maintenance	Sep-8	9 days	80	63	17	Foothills BC
10. Moyie C/S Compressor Station Maintenance	Oct-03	2 days	80	66	14	Foothills BC

Note: We work to align planned maintenance schedules with downstream operators in order to minimize customer impact

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Please refer to the DOP on TC Customer Express for current outage information

Operational Capability Outlook – Empress/McNeill Border (EGAT)



mm-yy	EGAT 10 ⁶ m ³ /d
Apr-21	140
May-21	145
Jun-21	145
Jul-21	145
Aug-21	145
Sep-21	140
Oct-21	140
Nov-21	140
Dec-21	150
Jan-22	150
Feb-22	150
Mar-22	150
Apr-22	155
May-22	155
Jun-22	155
Jul-22	155
Aug-22	155
Sep-22	150
Oct-22	150

For information purposes only

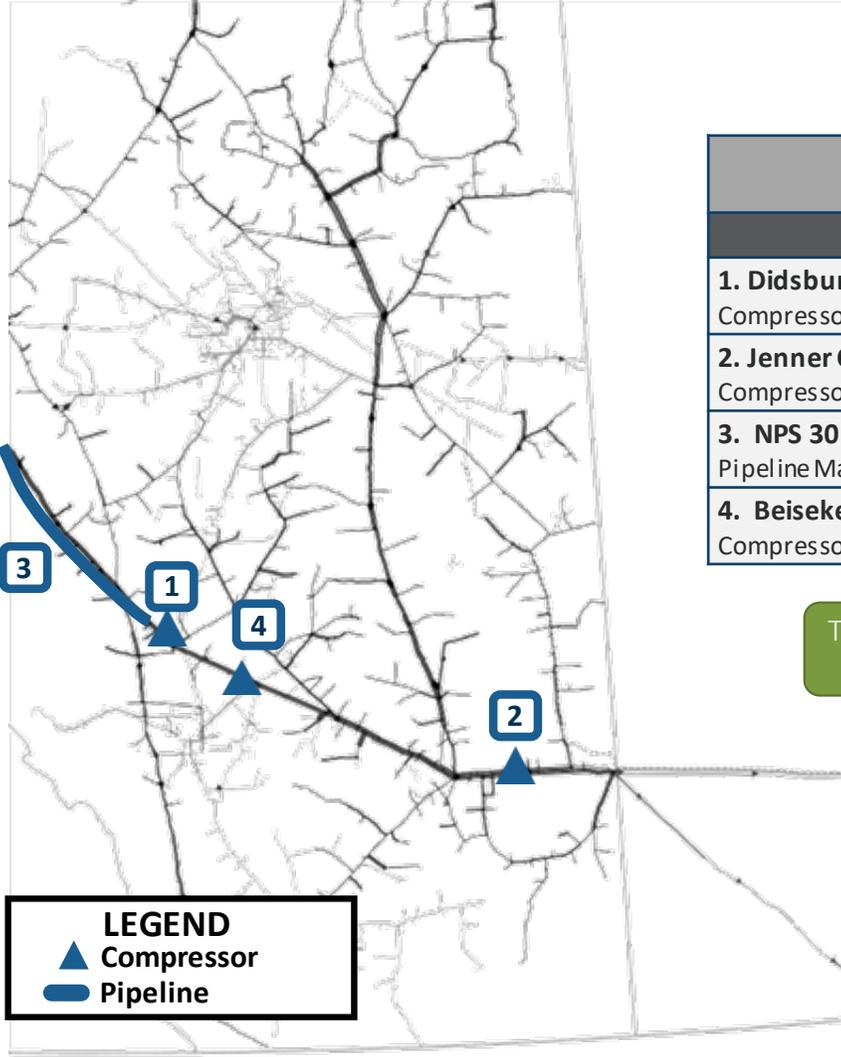
This slide may not be accurate beyond the November 4, NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

Outage Highlights – Empress/McNeill Border (EGAT)

No impact to FT

Potential impact to FT

Partial impact to FT



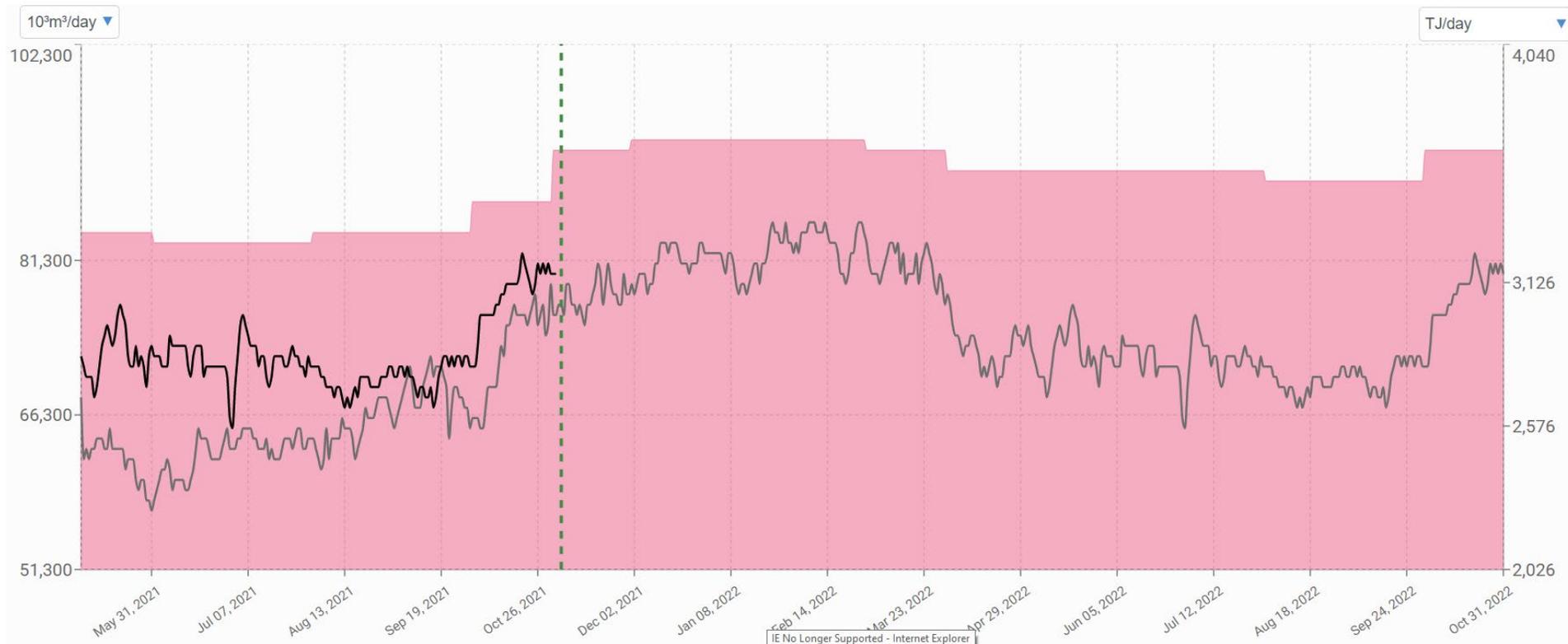
Outage Description	Start Date	Duration	Base	Outage Capability	Impact	Area
			10 ⁶ m ³ /d	10 ⁶ m ³ /d	10 ⁶ m ³ /d	
1. Didsbury C/S Compressor Maintenance	May-16	5 days	155	142	13	Lower EGAT
2. Jenner C/S Compressor Maintenance	Jun-13	14 days	155	145	10	Lower EGAT
3. NPS 30 Edson Mainline Section 1 Pipeline Maintenance	Aug-15	9 days	155	147	8	Lower EGAT
4. Beiseker B3 C/S Compressor Maintenance	Oct-3	5 days	150	143	7	Lower EGAT

This slide may not be accurate beyond the November 4, NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

Operational Capability Outlook – Oil Sands Delivery Area (OSDA)

Oil Sands Delivery Area

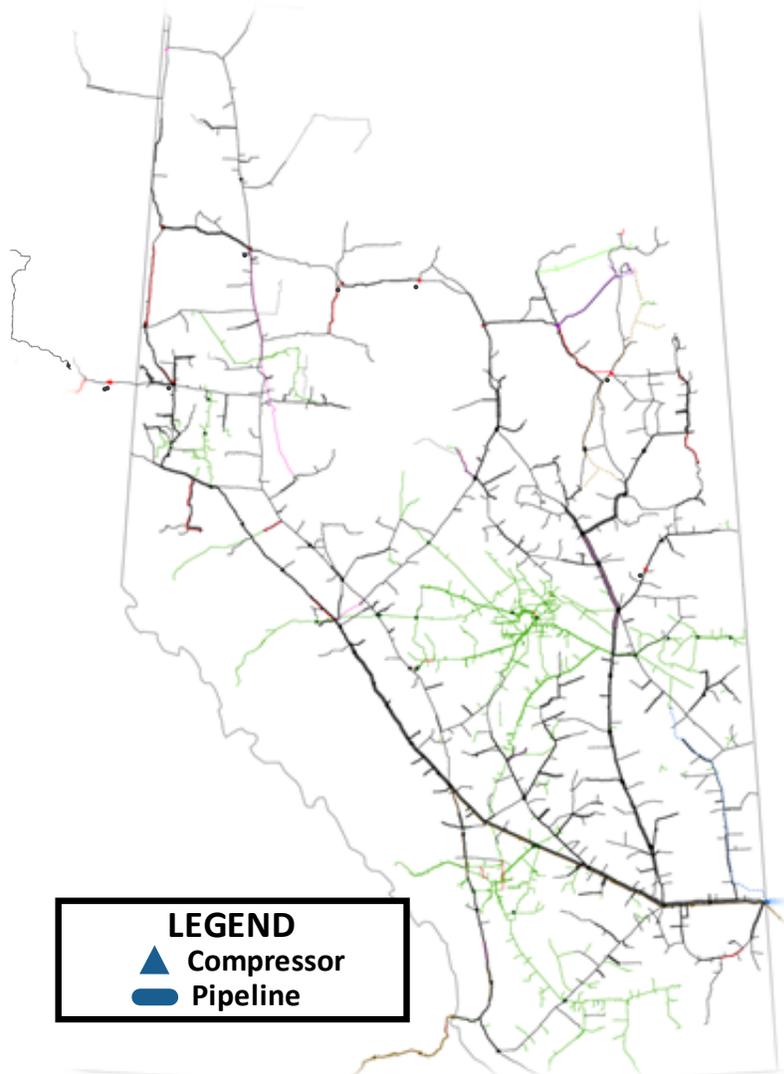
■ Capability
 — Actual Flow
 — Historical Flow



mm-yy	OSDA $10^6 \text{m}^3/\text{d}$
Apr-21	90
May-21	84
Jun-21	83
Jul-21	83
Aug-21	84
Sep-21	84
Oct-21	87
Nov-21	92
Dec-21	93
Jan-22	93
Feb-22	93
Mar-22	92
Apr-22	90
May-22	90
Jun-22	90
Jul-22	90
Aug-22	89
Sep-22	89
Oct-22	92

This slide may not be accurate beyond the November 4, NGTL/Foothills Customer Operations meeting on WebEx.
 Please refer to the DOP on TC Customer Express for current outage information

Outage Highlights – Oil Sands (OSDA) & North-East Delivery Area (NEDA)



No impact to FT

Potential impact to FT

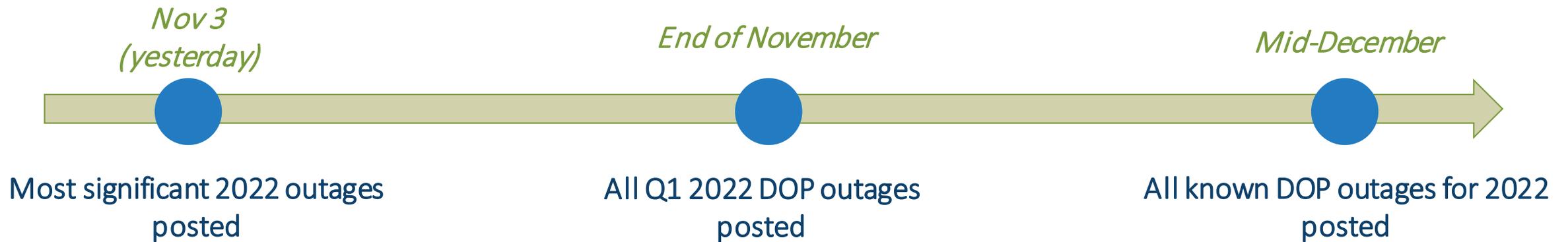
Partial impact to FT

Facility Outage	Start Date	Duration	Typical Flow	Outage Capability	Area
			10 ⁶ m ³ /d	10 ⁶ m ³ /d	
	-	-	-	-	

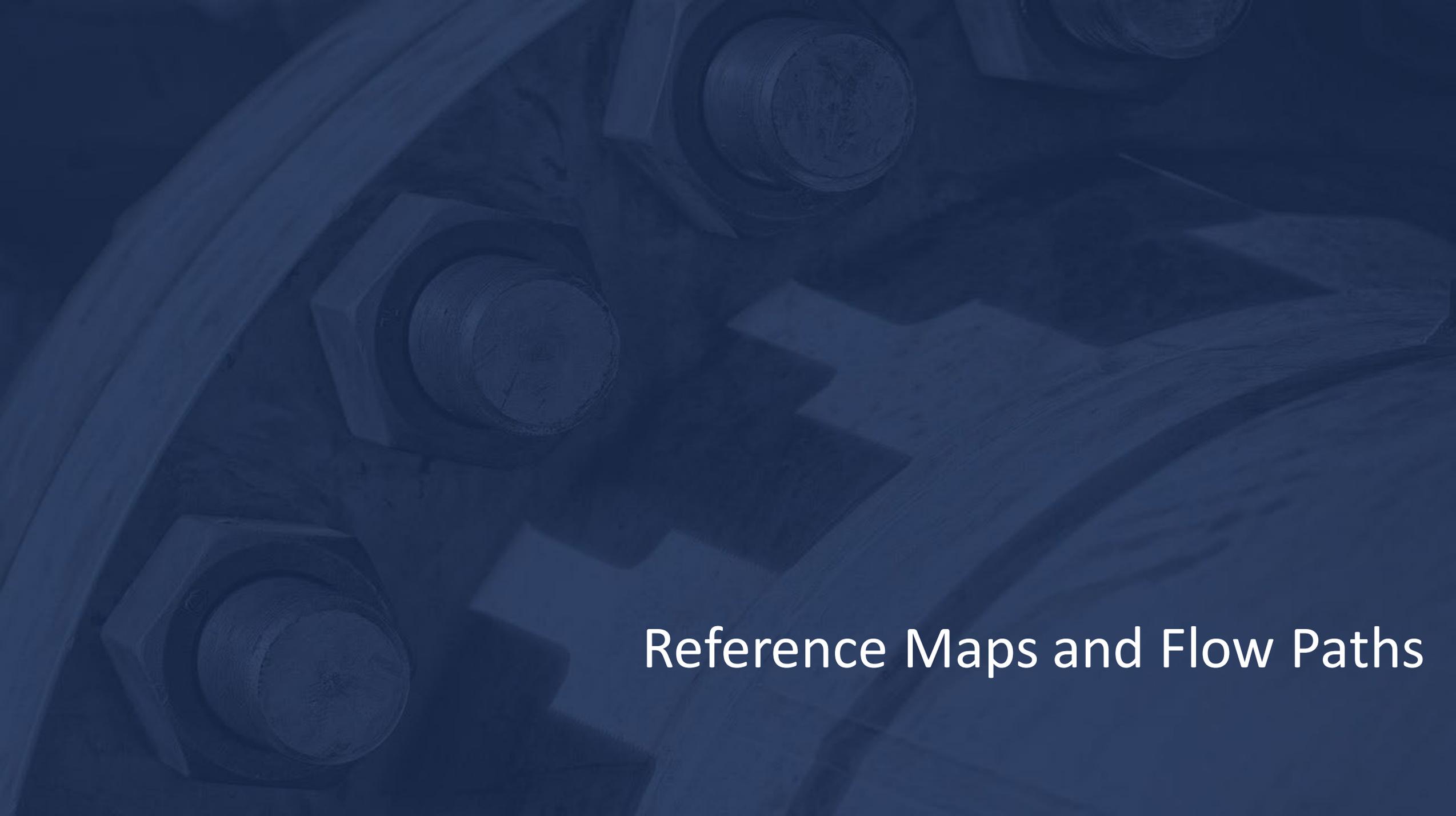
There are currently no outages planned that are specific to OSDA or NEDA

This slide may not be accurate beyond the November 4, NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

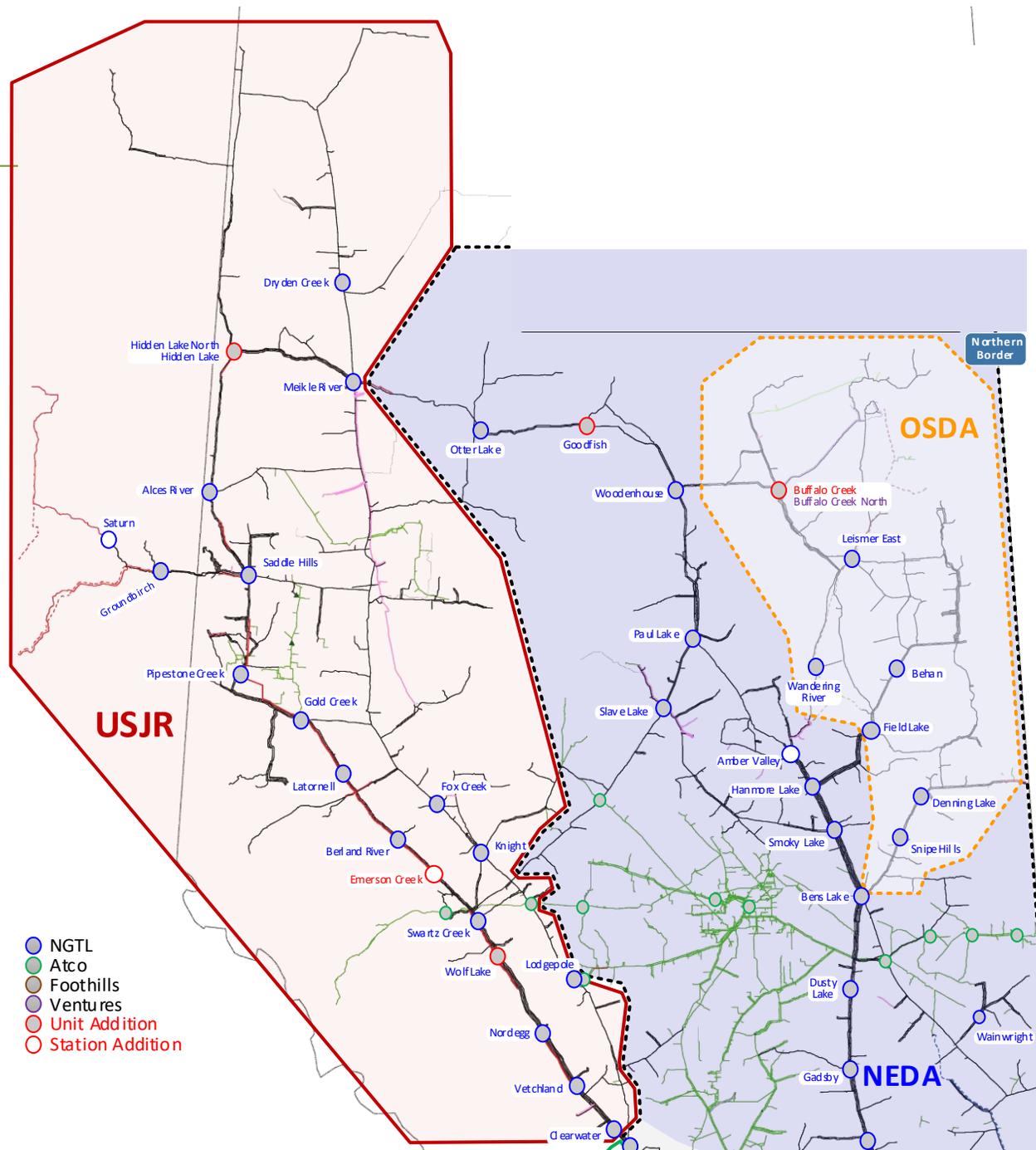
Communication Schedule | 2022 Outages



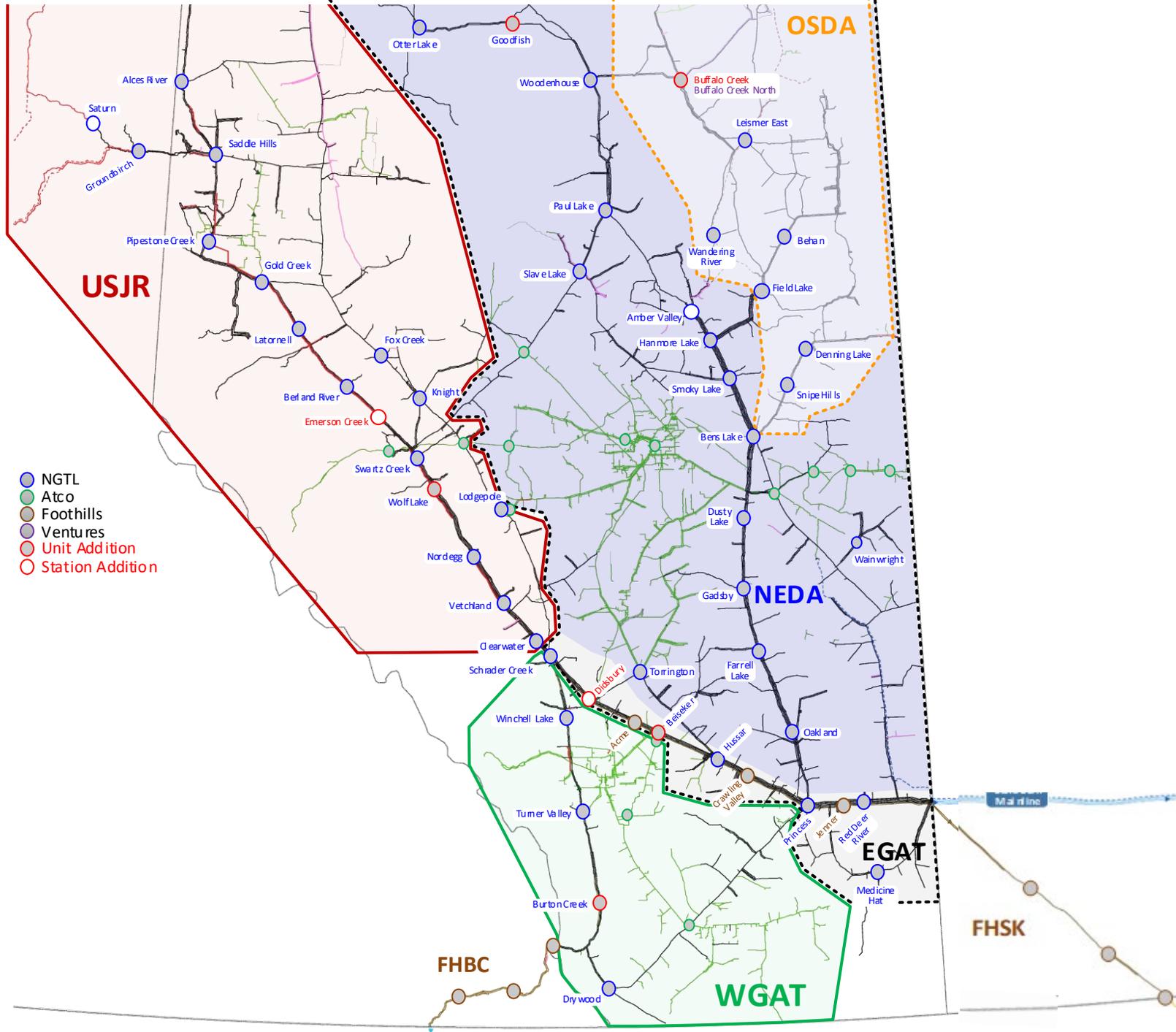
Refer to the Daily Operating Plan (DOP) for the most current outage information



Reference Maps and Flow Paths

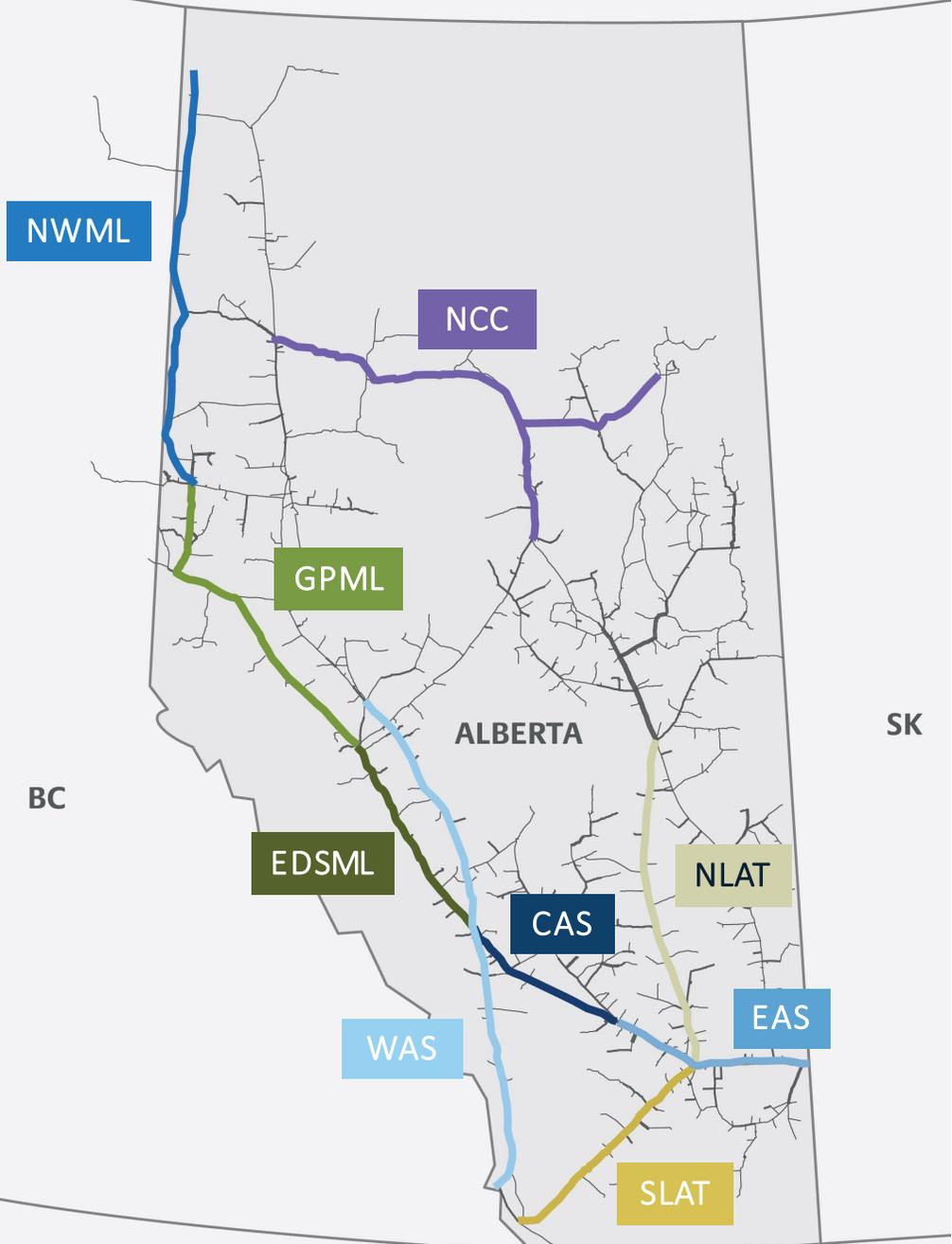


- NGTL
- Atco
- Foothills
- Ventures
- Unit Addition
- Station Addition



- NGTL
- Atco
- Foothills
- Ventures
- Unit Addition
- Station Addition

Commonly Referenced Flow Paths



- Northwest Mainline (NWML)
- Grande Prairie Mainline (GPML)
- Edson Mainline (EDSML)
- Western Alberta System Mainline (WAS)
- Central Alberta System Mainline (CAS)
- Eastern Alberta System Mainline (EAS)
- South Lateral (SLAT)
- North Lateral (NLAT)
- North Central Corridor (NCC)

Click [HERE](#) to access this information on Customer Express