



NGTL System and Foothills Pipelines Ltd.

CUSTOMER

DECEMBER 8, 2022

FOR INFORMATIONAL PURPOSES ONLY

Welcome and Thank You for Joining Us

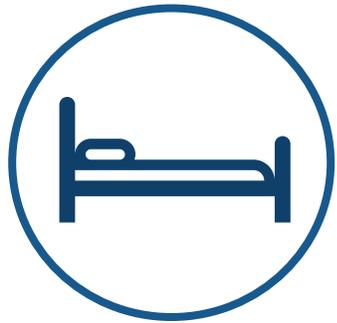
Participating via WebEx:

- 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



Reducing Holiday Stress

The holidays are a happy and exciting time of year with family gatherings and well-deserved time off. While enjoyable, the holidays can also be a stressful time that increases feelings of anxiety and depression. Holiday stress may be common, but it can be managed with healthy coping mechanisms.



Sleep. Get enough rest. Prioritize sleep and recharging. Remember, 7-9hrs is the optimal amount.



Exercise causes a natural release in endorphins, combating stress and feelings of anxiety.



Self-Care schedule time for activities that you enjoy. Focus on yourself this holiday!



Ask for help from your friends and family. You don't have to do this alone. If you are feeling overwhelmed reach out to a professional.



Take time off. Disconnect, rest, and recharge! Connect with loved ones and do things you enjoy.



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

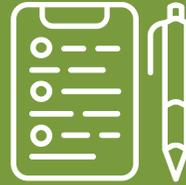
Refers to outage periods where FT impact is expected



Important Notes



Outage information in this presentation may not be accurate beyond the December 8, 2022 NGTL/Foothills Customer Operations (WebEx only) meeting

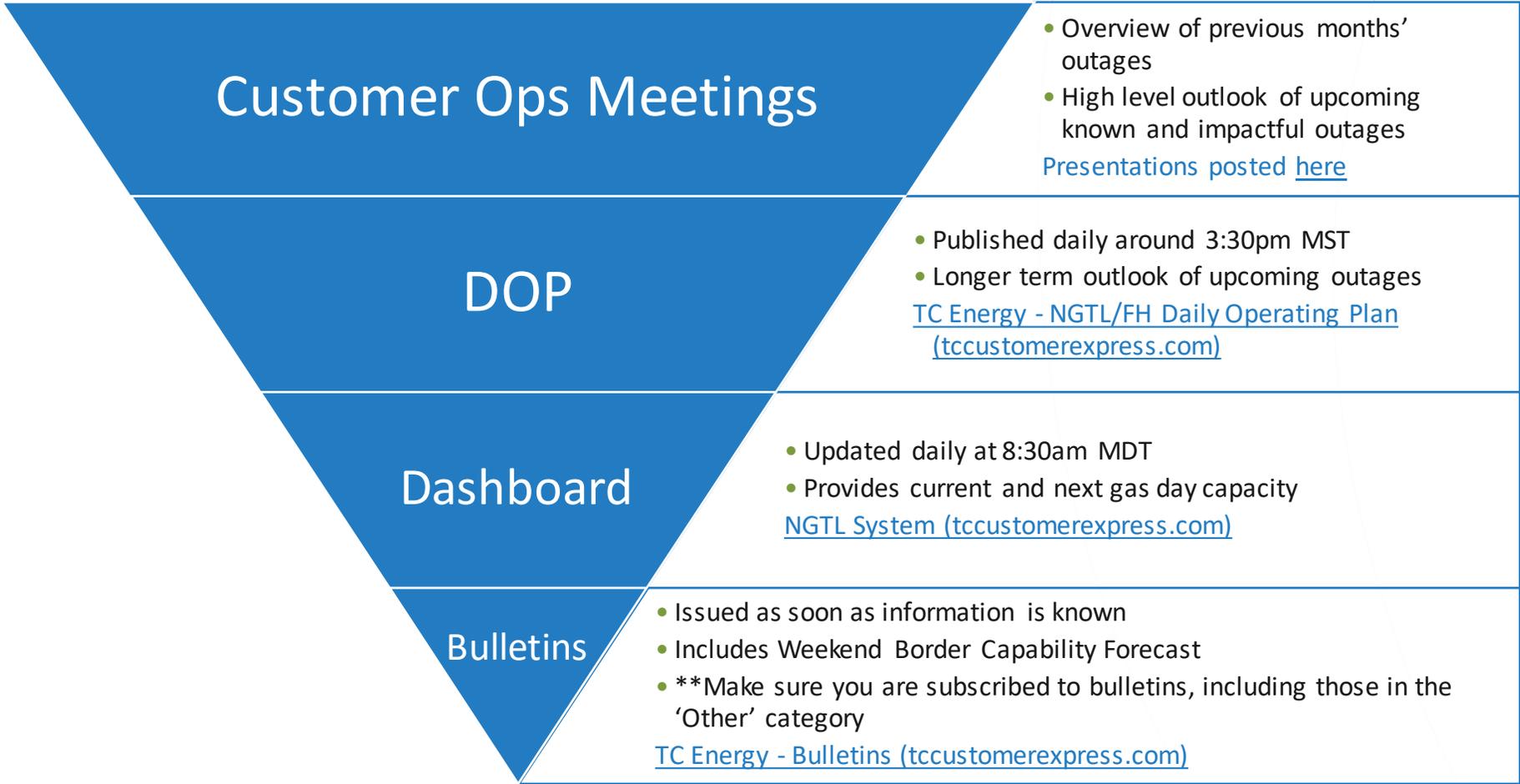


For current outage and capability information, please refer to the most recent Daily Operating Plan ([DOP](#)), the [Dashboard](#) and [bulletins](#).



This meeting covers operational and project-related topics that impact operations on the NGTL and Foothills systems. For information on focused Commercial and Regulatory topics, please contact your [Marketing Representative](#)

Outage Communication Tools – Order



Each level of communication supersedes all information provided in communications above it.



Agenda

1. Project Updates
2. 2022 System Operations Year in Review
3. Review of November Operations
4. Review of DOP Outages
5. Plant Turnaround General Information Session



Project Updates

FOR INFORMATIONAL PURPOSES ONLY

2021 Expansion Project Update – ISD Summary (since Nov. 10, 2022 update)



Note: EDML/Clearwater/West Path 2022 capacity requires 100% of NGTL 2021 Expansions to be in service

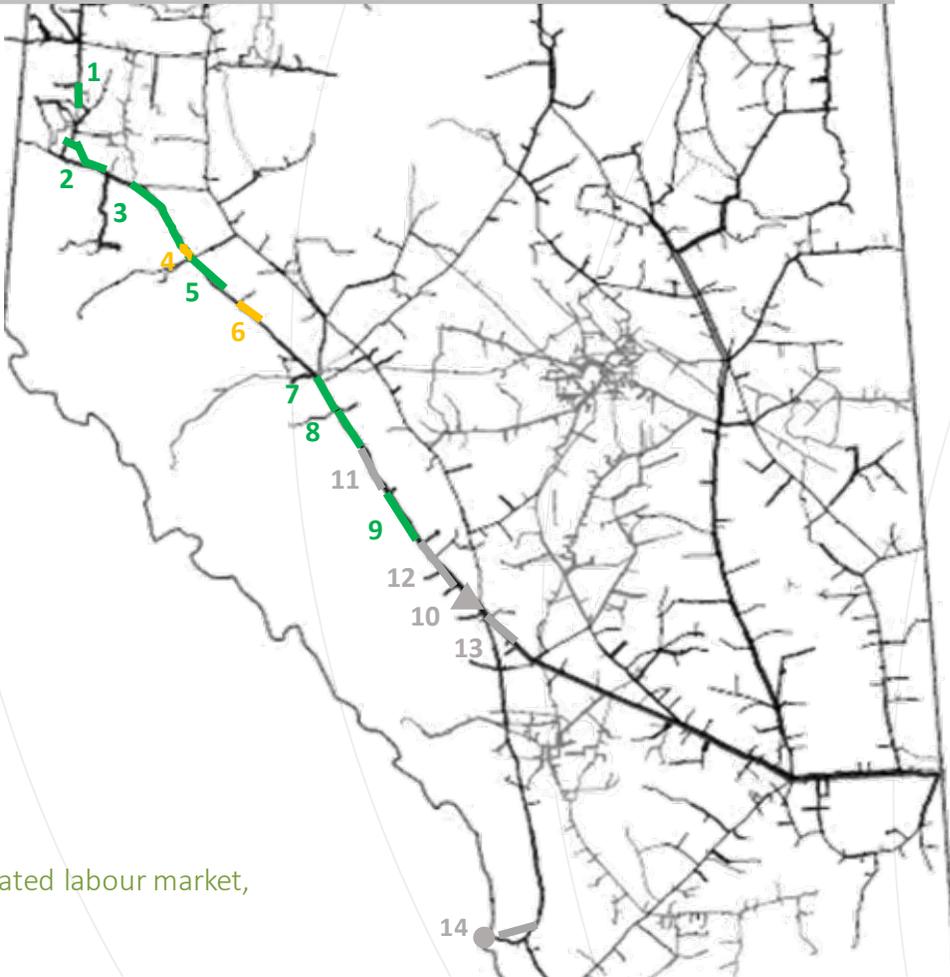


2021 Expansion Project Update (since Nov. 10, 2022 update)

Facilities already in-service (Map I.D.# 1, 2, 3, 4, 5, 8, 9)

- ISD expected latter half of Q1 2023

<p>Colt <small>(Map I.D.#6)</small></p>	<p><u>Activities remaining:</u> ~ 9 km of mainline</p> <ul style="list-style-type: none"> • Frost packing activities have commenced • Trenchless activities have commenced
<p>3 km of Pipe Adjacent to Little Smoky River that connects DVN/DVS <small>(Map I.D.#4)</small></p>	<p><u>Activities remaining:</u> ~ 3 km of mainline</p> <ul style="list-style-type: none"> • February 15th Caribou Restricted Activity Period (RAP) • Frost packing activities have commenced • Mobilized drill rig to cross under wetland area • Proactive discussions with interested parties in preparation for request to continue limited work scope within Caribou RAP. Initial submission targeted before mid-December. Final decision by CER not expected until early February.



Availability of capacity remains subject to: Ground conditions, weather & road access/conditions, heated labour market, environmental and regulatory requirements and LTO approval by the CER

Project team continues to evaluate opportunities to expedite construction safely and in compliance with applicable regulatory requirements



Other Project Updates – ISD Summary (since Nov. 10, 2022 update)

NGTL Projects:	
Edson Mainline Expansion	In Service
North Corridor Expansion	Bear Canyon, North Star, Hidden Lake North U/A, Red Earth (ISD Apr 2023)
Intra-Basin Expansion	Sunrise (ISD Apr 2023) Saturn (ISD Nov 2023) Saddle Hills U/A (ISD April 2024) Emerson Creek C/S (ISD April 2024)
WestPath 2022/2023	Raven (In Service) ABC (In Service) <i>*change since last update</i> Turner Valley, Lundbreck and Longview (ISD Nov 2023)
FH Projects:	
Yahk Section Loop	ISD likely late Feb/early Mar 2023 <i>*change since last update</i>
Elko Section Loop	ISD Nov 2023

Availability of capacity remains subject to: Ground conditions, weather & road access/conditions, heated labour market, environmental and regulatory requirements and LTO approval by the CER



Other Project Updates – NGTL (since Nov. 10, 2022 update)

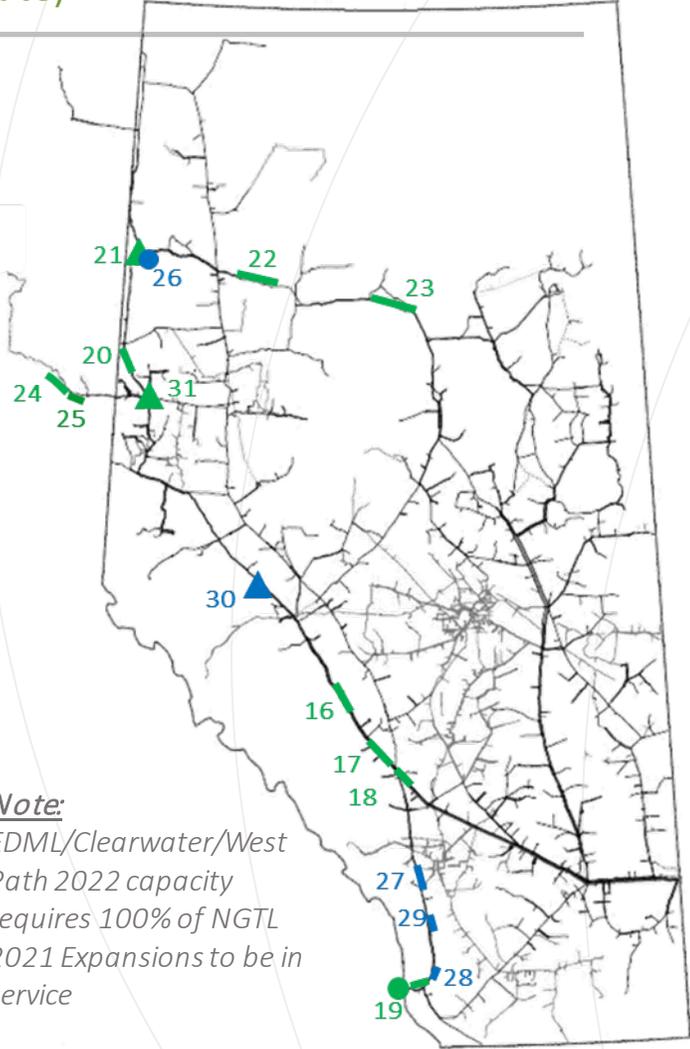
Edson Mainline Expansion

- Facilities already in-service (Map I.D. # 16, 17, 18)

North Corridor Expansion

- ISD April 2023

Bear Canyon (Map I.D. #20)	Frost packing and trenchless crossings are in progress and stringing has commenced
North Star (Map I.D. #22)	LTO filed December 6 Hydrotests are complete. Caliper runs are in progress
Hidden Lake North U/A (Map I.D. #21)	75% construction complete, on track.
Red Earth (Map I.D. #23)	Construction plans continue to be assessed to mitigate risks around February 15th Caribou RAP on sections of Red Earth. <ul style="list-style-type: none"> • All sections are required to be in service for full NCE capacity • Clearing and access preparation is complete. Frost packing continues and preparing for mainline welding to commence • HDD is in progress • Proactive discussions with interested parties in preparation for request to continue limited work scope within Caribou RAP. Initial submission targeted before mid-December. Final decision by CER not expected until early February.



Note:
 EDML/Clearwater/West Path 2022 capacity requires 100% of NGTL 2021 Expansions to be in service



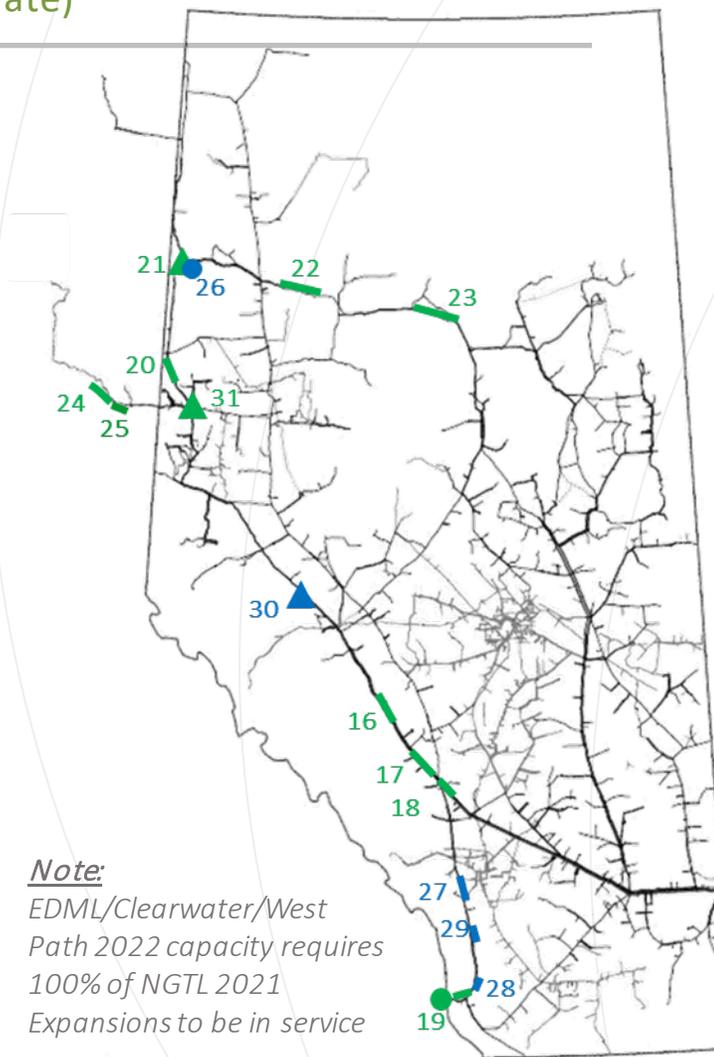
Other Project Updates – NGTL (since Nov. 10, 2022 update)

Intra-Basin Expansion

Sunrise (Map I.D. # 24) ISD April 2023	Stringing, bending and mainline welding is complete. All other mainline activities ongoing. HDD is on going
Saturn (Map I.D. # 25) ISD November 2023	Pending BC OGC permits – continue consultation with Rightsholder. Mainline construction deferred to summer 2023 due to outstanding permits.
Emerson Creek C/S (Map I.D. #30) ISD April 2024	Construction progressing on schedule. Piling and compressor unit concrete blocks are complete. Installation of aerial coolers are in progress
Saddle Hills U/A (Map I.D. #31) ISD April 2024	Prime contractor has been awarded. Fabrication and construction commences in Q1.

West Path 2022/2023

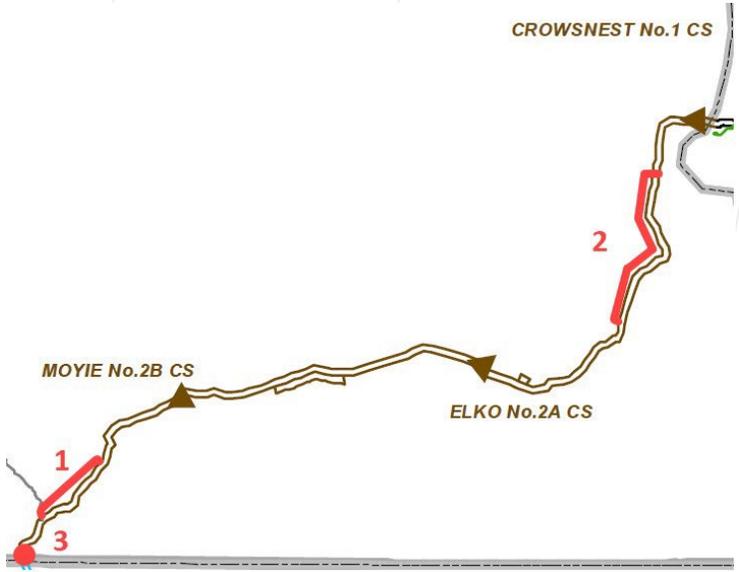
ABC (Map I.D. # 19) – In Service	LTO approved November 16 and placed into service November 24, 2022.
Turner Valley (Map I.D. # 27) Lundbreck (Map I.D. # 28) Longview (Map I.D. # 29) ISD November 2023	CER issued Recommendation report in May 2022. Following a 90 day delay, on November 30, 2022, the Governor in Council (GIC) approved the Certificate of Public Convenience and Necessity for the NGTL West Path 2023 projects. The CER issued the Certificate and Order on December 1, 2022. GIC delay has increased execution schedule risk. On-going risk associated with condition compliance and outstanding municipal and federal permits and land rights.



Other Project Updates – FH (since Nov. 10, 2022 update)

West Path 2022/2023

<p>Yahk (Map I.D. #1) ISD likely late February/early March 2023</p>	<p>Grade and blasting has progressed slowly due to high amounts of rain and snow in Q4.</p> <p>Mainline welding 70% complete, final hydrotest planned in February</p>
<p>Elko (Map I.D. #2) ISD November 2023</p>	<p>Contractor demobilized for season 1. Remobilization is planned for end of April/early May 2023.</p> <p>Our crossings were referred to the Department of Fisheries and Oceans (DFO) by the CER. We continue to work with DFO on approval of our crossings.</p> <p>Execution risk associated with delayed approvals and other outstanding municipal and federal permits and land rights (ancillary sites, access road widening and additional workspace)</p>



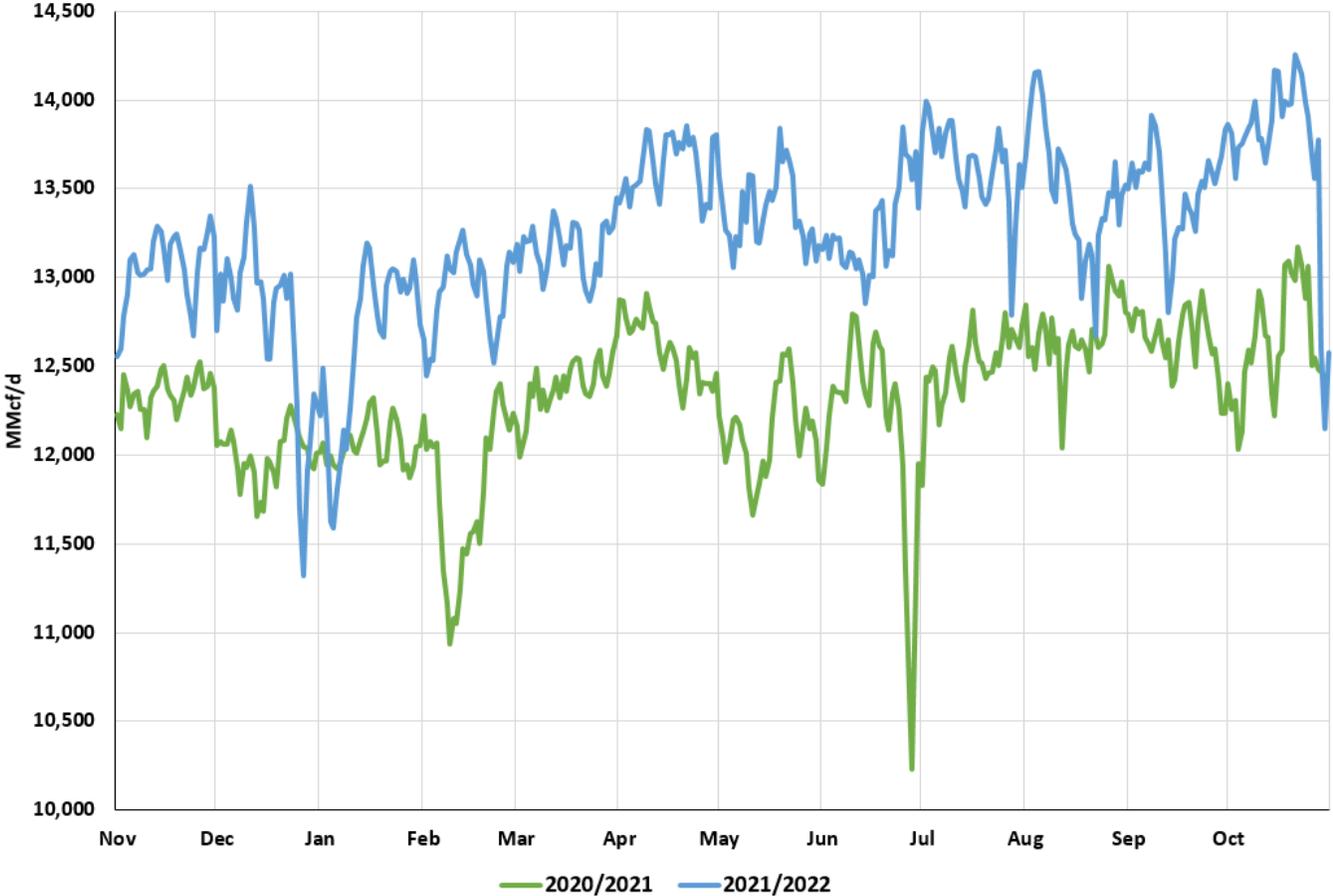
Note: NGTL WestPath 2022 capacity requires 100% of NGTL 2021 Expansions to be in service



2022 System Operations Year in Review

System Throughput | Gas Year Comparison

Total NGTL Receipts (excluding Storage)



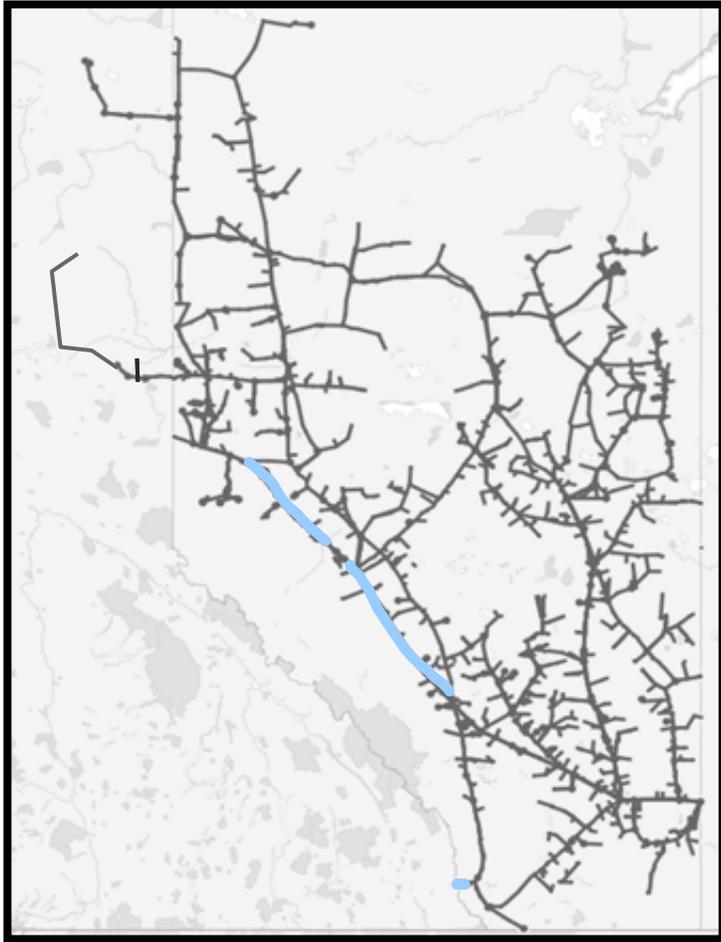
Receipts increasing
• 2022 average total receipts ~13.3 Bcf/d

Intra Deliveries increasing
• 2022 average intra delivery ~5.8 Bcf/d

Major Export Deliveries increasing
• 2022 average EGAT delivery ~4.5 Bcf/d
• 2022 average WGAT delivery ~2.5 Bcf/d



New Facilities | 2021/2022 Gas Year Capacity Additions



~355 km of new pipe

- 90% of the 2021 System Expansion (~246 km)
- West Path Delivery 2022 (~24 km)
- Edson Mainline Expansion (~85 km)

NGTL Restricted Days | 2021 and 2022



2022*	Area	FT Restricted Days	IT Restricted Days	Unrestricted Days
	USJR	11	114	240
	EGAT	-	127	238
	WGAT	32	5	328
	NEDA	-	27	338

*Up to and including November 30



2021	Area	FT Restricted Days	IT Restricted Days	Unrestricted Days
	USJR	11	46	308
	EGAT	-	87	278
	WGAT	13	2	350
	NEDA	2	48	315



Summary



Increased throughput and high utilization in 2022



Significant capacity additions in 2022



Similar number FT restricted days in 2022 as 2021 for USJR but higher for WGAT

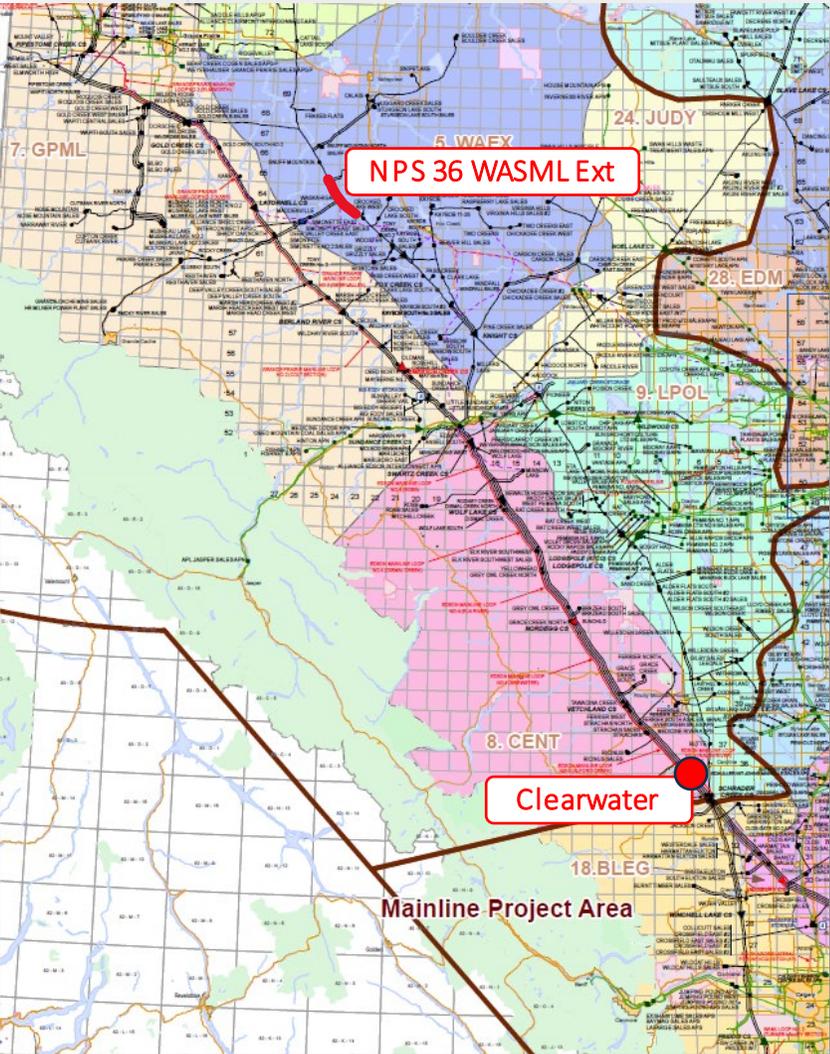
Review of November Operations

Clearwater – Compressor Station Maintenance NPS 36 WASML Extension – Pipeline Maintenance



Background:

- **Planned:**
 - Clearwater Compressor Station Maintenance: November 21 - 25
 - NPS 36 WASML Extension Pipeline Maintenance: November 22 - 28
- **Capability communicated in DOP:**
 - USJR: 339 10⁶m³/d (Clearwater), 345 10⁶m³/d (NPS 36 WASML Ext)
- **Service Allowable:**
 - USJR: 0% IT-R, 77% FT-R (November 21 – 25)
 - USJR: 0% IT-R, 80% FT-R (November 26 – 28)



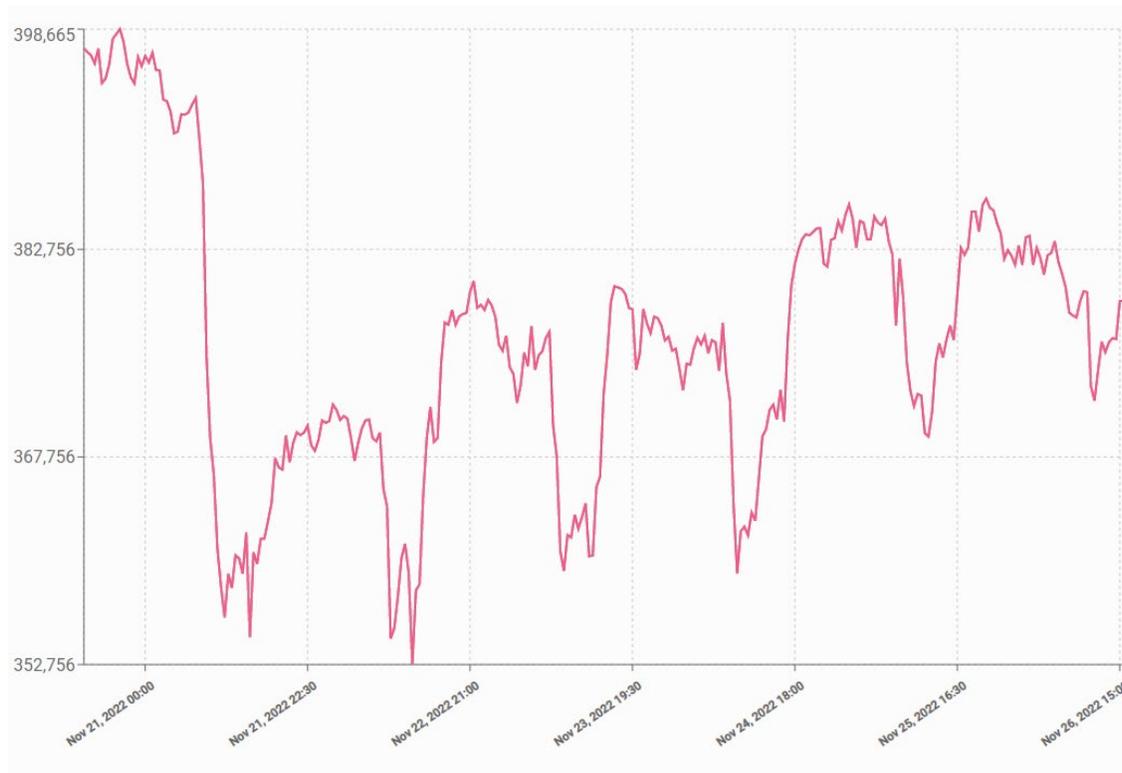
Bulletin Date	Effective Date	Service Allowable	Comments
Nov 16	Nov 21 (08:00 MST)	USJR: 0% IT-R, 68% FT-R	Initial Bulletin*
Nov 17	Nov 21 (08:00 MST)	USJR: 0% IT-R, 77% FT-R	Revised bulletin*
Nov 24	Nov 26 (08:00 MST)	USJR: 0% IT-R, 80% FT-R	Clearwater outage on schedule to be completed Nov 25
Nov 28	Nov 29 (08:00 MST)	USJR: 0% IT-R, 100% FT-R	NPS 36 WASML Extension outage on schedule to be completed Nov 28

*Bulletin originally issued stating 68% FT-R allowable was incorrect due to an error in the contract total used to derive the service allowable percentage. A revised bulletin was issued to correct to 77% FT-R allowable.



USJR Authorization Level

Why wasn't the USJR FT-R allowable increased when USJR flows appeared to be lower than the stated capability during the outages?



NGTL Field Receipts (Current System Report)

Unsteady Flows

- Cycle of daytime lows and overnight peaks
- DOP chart only shows a daily average flow

Increasing utilization

- 77% FT-R allowable on day 1 of the outage was not fully utilized
- Utilization increased each day over the duration of the 5 day Clearwater outage

Review of DOP Outages (2022)

From DOP as of Wednesday December 7

2023 Outages

- Outages with the most significant impact to system capability were added to the DOP on November 9, 2022
- All known outages planned for Q1 have now been added
- Start and End Dates, Durations, Capability, Area of impact may be revised as new information becomes available

Outages and/or maintenance work is posted to the DOP if there is reasonable expectation that the event could or will result in a change to service authorization levels.

Optimization efforts are on going and we will continue to focus on safety, optimizing system capacity, and minimizing outage impacts.

Daily Operating Plan (DOP) – Facility Assumptions

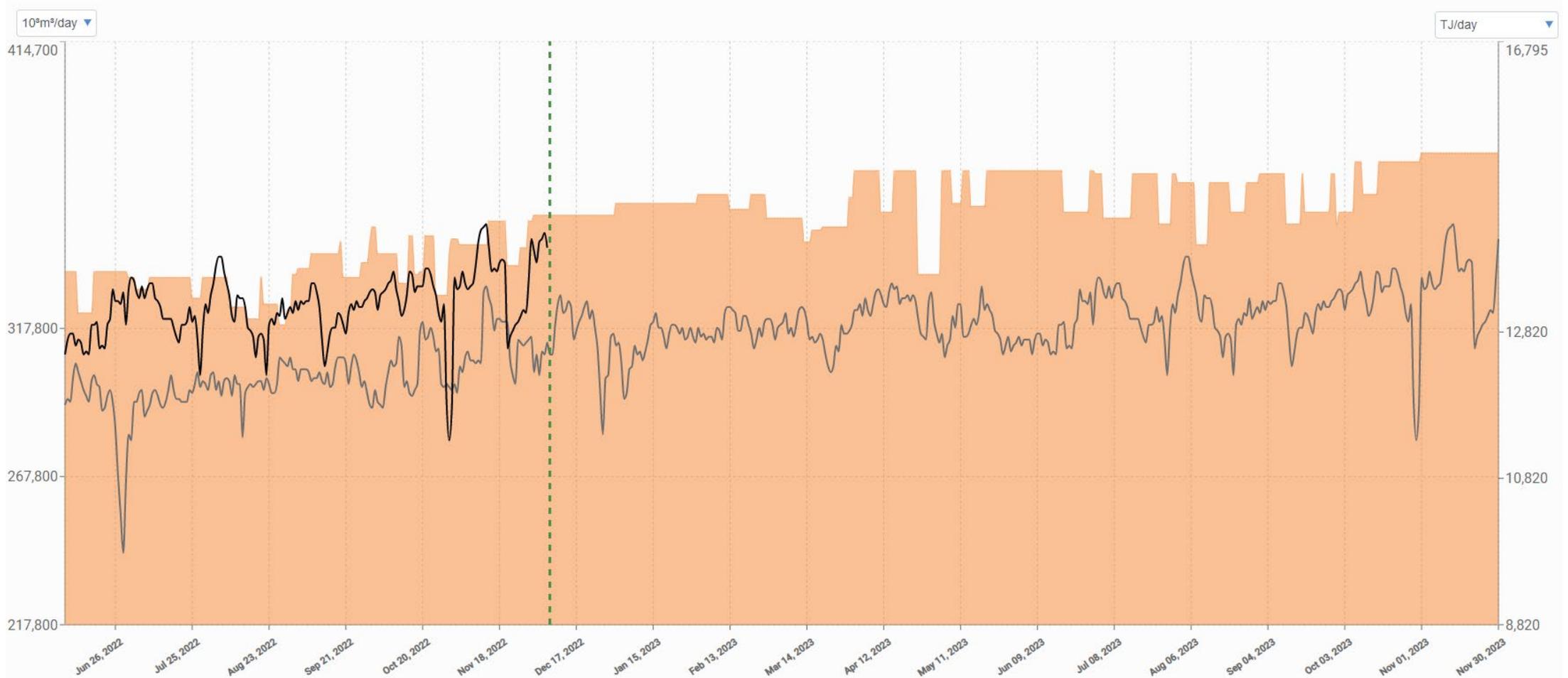
Date	Expansion Facilities
Current	90% scenario of 2021 expansion
February 1, 2023*	Foothills BC Expansion: <ul style="list-style-type: none"> • BC Mainline Loop 2 (Yahk)
March 1, 2023	2021 Expansion: <ul style="list-style-type: none"> • GPML Loop 2 (3km section adjacent to Little Smoky River that connects to DVN/DVS)
April 1, 2023	2021 Expansion: <ul style="list-style-type: none"> • GPML Loop 2 (Colt section) North Corridor Expansion: <ul style="list-style-type: none"> • NWML Loop 2 (Bear Canyon), NCC Loop (North Star 2), NCC Loop (Red Earth 3), Hidden Lake North Unit Addition Intra-basin Expansion: <ul style="list-style-type: none"> • Groundbirch Mainline Loop (Sunrise)
November 1, 2023	Intra-basin Expansion: <ul style="list-style-type: none"> • Groundbirch Mainline Loop (Saturn) 2023 West Path: <ul style="list-style-type: none"> • WASML Loop 2 (Turner Valley), WASML Loop 2 (Lundbreck), WASML Loop 2 (Longview) Foothills BC Expansion: <ul style="list-style-type: none"> • BC Mainline Loop 2 (Elko)

Note: The NPS 48 BC Mainline Loop (Yahk section) is no longer expected to be in-service February 1, 2023. However, for the purposes of the operational capability charts and outage impacts in the DOP, the in-service date is still assumed to be February 1, 2023 and will remain this way until there is enough certainty to communicate an updated in-service date.



Upstream James River

Capability - Actual Flow - Historical Flow



This slide may not be accurate beyond the December 8 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information



Upstream James River Receipt Area (USJR)

No impact to FT

Potential impact to FT

Partial impact to FT

Outage Description	Start	End	USJR Outage Capability (10 ⁶ m ³ /d)	USJR 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
NPS 36 WAS Mainline Extension – Pipeline Maintenance	13-Feb-23	20-Feb-23	358	5	N/A	310 - 340	Potential impact to FT-R USJR
Wolf Lake A2 – Compressor Station Maintenance	27-Feb-23	12-Mar-23	355	8	N/A	310 - 340	Potential impact to FT-R USJR
Alces River – Compressor Station Maintenance	13-Mar-23	16-Mar-23	351	11	223	180 - 220	Potential impact to FT-R USJR U/S Latornell
Meikle River D5 – Compressor Station Maintenance	13-Mar-23	15-Mar-23	347	15	219	180 - 220	Potential impact to FT-R USJR U/S Latornell
Hidden Lake North – Compressor Station Maintenance	20-Mar-23	29-Mar-23	352	10	224	180 - 220	Potential impact to FT-R USJR U/S Latornell
Goodfish – Compressor Station Maintenance	20-Mar-23	29-Mar-23	352	10	224	180 - 220	Potential impact to FT-R USJR U/S Latornell
NPS 48 Edson Mainline Loop 4 – Pipeline Maintenance	11-Apr-23	15-Apr-23	357	14	N/A	310 - 340	Potential impact to FT-R USJR
NPS 42 North Central Corridor – Pipeline Maintenance	25-Apr-23	3-May23	336	35	208	180 - 220	Potential impact to FT-R USJR U/S Latornell
Gold Creek – Compressor Station Maintenance	8-May-23	11-May-23	360	11	248	200 - 230	Potential impact to FT-R USJR U/S Berland*
Swartz Creek – Compressor Station Maintenance	15-May-23	20-May-23	359	12	N/A	310 - 340	Potential impact to FT-R USJR

*Risk to FT-R expected to be within a subset of USJR only. If adequate downstream IT-D/IT-S exists to offset an FT-R curtailment, area of IT-D/IT-S curtailment could include portions of segments 7, 8, and 9 based on hydraulic equivalency analysis and location of the bottleneck

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Upstream James River Receipt Area (USJR)

No impact to FT

Potential impact to FT

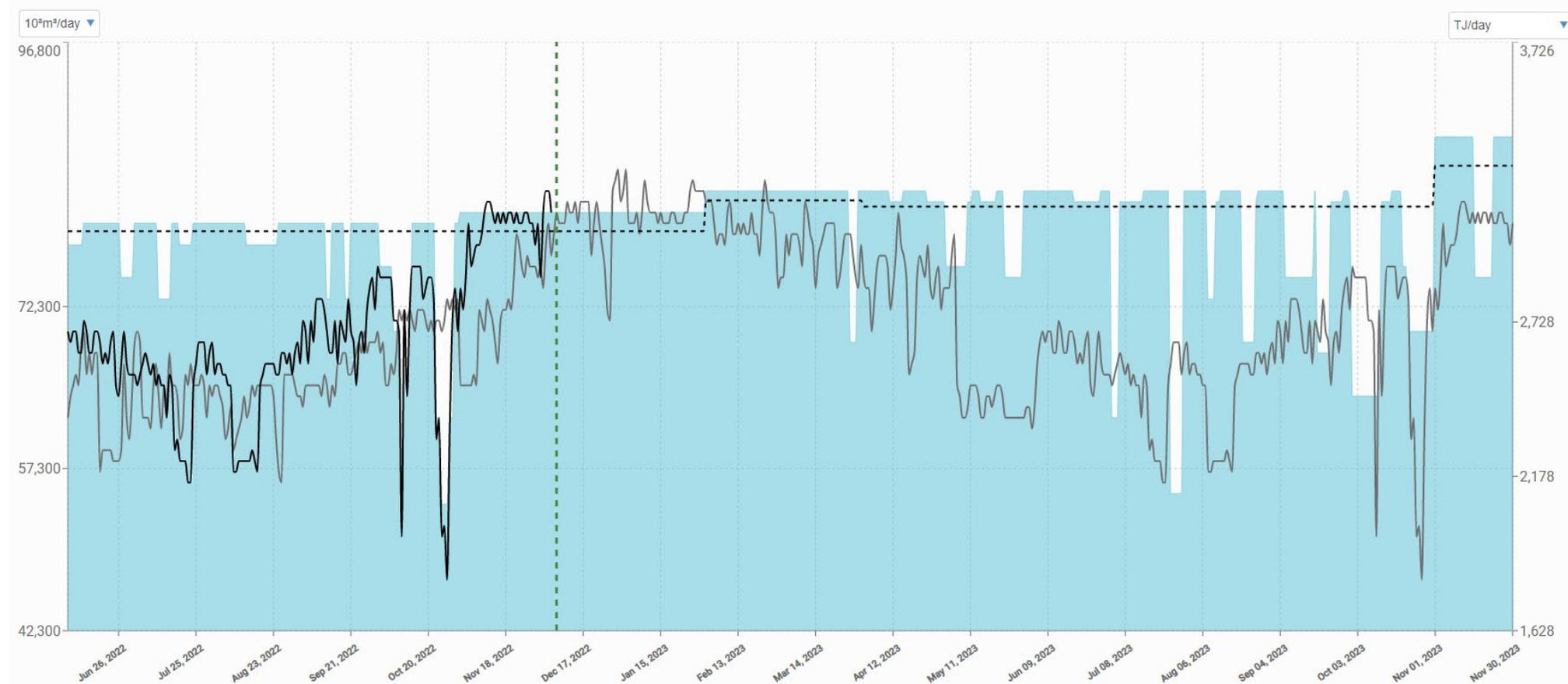
Partial impact to FT

Outage Description	Start	End	USJR Outage Capability (10 ⁶ m ³ /d)	USJR 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
Saddle Hills B3 – Compressor Station Maintenance	19-Jun-23	24-Jun-23	357	14	229	180 - 220	Potential impact to FT-R USJR U/S Latornell
NPS 48 Grande Prairie Mainline Loop 2 – Pipeline Maintenance	24-Jun-23	28-Jun-23	357	14	N/A	310 - 340	Potential impact to FT-R USJR
NPS 36 Grande Prairie Mainline – Pipeline Maintenance	4-Jul-23	14-Jul-23	355	15	N/A	310 - 340	Potential impact to FT-R USJR
NPS 36 Northwest Mainline Loop – Pipeline Maintenance	25-Jul-23	29-Jul-23	353	17	226	180 - 220	Potential impact to FT-R USJR U/S Latornell
Nordegg B3 & B5 – Compressor Station Maintenance	8-Aug-23	12-Aug-23	346	21	N/A	310 - 340	Potential impact to FT-R USJR
Alces River – Compressor Station Maintenance	21-Aug-23	26-Aug-23	357	10	230	180 - 220	Potential impact to FT-R USJR U/S Latornell
Meikle River C – Compressor Station Maintenance	11-Sep-21	16-Sep-23	353	17	226	180 - 220	Potential impact to FT-R USJR U/S Latornell
Saddle Hills B3 – Compressor Station Maintenance	18-Sep-23	27-Sep-23	357	13	230	180 - 220	Potential impact to FT-R USJR U/S Latornell
Meikle River D5 – Compressor Station Maintenance	30-Sep-23	6-Oct-23	353 (Sep) 357 (Oct)	17	226	180 - 220	Potential impact to FT-R USJR U/S Latornell
Latornell – Compressor Station Maintenance	10-Oct-23	15-Oct-23	363	11	N/A	310 - 340	Potential impact to FT-R USJR

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Alberta-B.C. Border (includes both NGTL and Foothills BC outages)



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



West Gate Delivery Area (WGAT)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

Outage Description	Start	End	Capability (10 ⁶ m ³ /d)	Impact (10 ⁶ m ³ /d)	Service Allowable Location/Area
Burton Creek – Compressor Station Maintenance	27-Mar-23	29-Mar-23	69	14	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
NPS 42 Western Alberta System Mainline Loop – Pipeline Maintenance	2-May-23	9-May-23	76	7	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders Segment 22 and Partial 21
Crowsnest K – Compressor Station Maintenance	24-May-23	30-May-23	75	8	Potential Impact to FT Foothills BC
Crowsnest A – Compressor Station Maintenance	3-Jul-23	5-Jul-23	62	21	Potential Impact to FT Foothills BC
NPS 42 Western Alberta System Mainline Loop – Pipeline Maintenance	25-Jul-23	29-Jul-23	55	28	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
Winchell Lake – Compressor Station Maintenance	8-Aug-23	10-Aug-23	73	10	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders Segment 22 and Partial 21
Moyie – Compressor Station Maintenance	21-Aug-23	25-Aug-23	69	14	Potential Impact to FT Foothills BC
NPS 36 Western Alberta System Mainline – Pipeline Maintenance	6-Sep-23	16-Sep-23	75	8	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders

Note: Outages located in the USJR area show up in the WGAT table in DOP to indicate a broad area restriction could be applied to reduce flows through the bottleneck but have been excluded from this slide to avoid duplication

This slide may not be accurate beyond the December 8 NGTL/Foothills Customer Operations meeting on WebEx.
Please refer to the DOP on TC Customer Express for current outage information



West Gate Delivery Area (WGAT)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

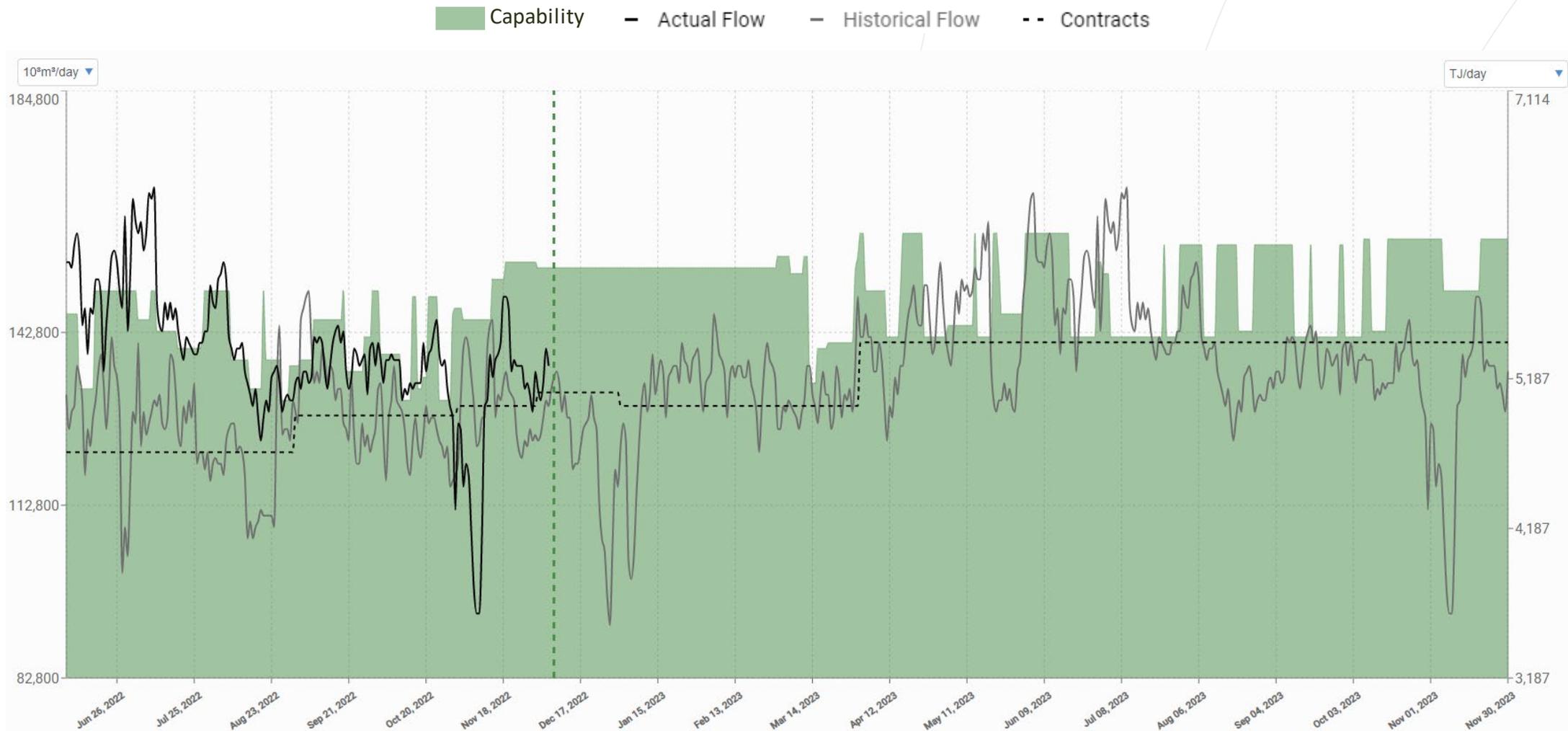
Outage Description	Start	End	Capability (10 ⁶ m ³ /d)	Impact (10 ⁶ m ³ /d)	Service Allowable Location/Area
Crowsnest B – Compressor Station Maintenance	11-Sep-23	13-Sep-23	75	8	Potential Impact to FT Foothills BC
Elko – Compressor Station Maintenance	18-Sep-23	22-Sep-23	68	15	Potential Impact to FT Foothills BC
NPS 36 Western Alberta System Mainline (Seg 1) – Pipeline Modifications	1-Oct-23	11-Oct-23	64	19	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders Segment 22 and Partial 21
NPS 36 Western Alberta System Mainline (Seg 2) – Pipeline Modifications	1-Oct-23	11-Oct-23	64	19	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
NPS 48 BC Mainline Loop – Pipeline Modifications	1-Oct-23	11-Oct-23	64	19	Potential Impact to FT Foothills BC
Turner Valley A1 & A2 – Compressor Station Maintenance	20-Oct-23	31-Oct-23	76	7	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
Turner Valley – Compressor Station Maintenance	22-Oct-23	31-Oct-23	70	13	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
NPS 36 Western Alberta System Mainline – Pipeline Maintenance	16-Nov-23	22-Nov-23	75	13	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders Segment 22 and Partial 21

Note: Outages located in the USJR area show up in the WGAT table in DOP to indicate a broad area restriction could be applied to reduce flows through the bottleneck but have been excluded from this slide to avoid duplication

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



East Gate



This slide may not be accurate beyond the December 8 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information



East Gate Delivery Area (EGAT)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

Outage Description	Start	End	Capability (10 ⁶ m ³ /d)	Impact (10 ⁶ m ³ /d)	Service Allowable Location/Area
Beiseker B3 – Compressor Station Maintenance	6-Mar-23	10-Mar-23	153	3	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 34 Eastern Alberta System Mainline – Pipeline Maintenance	21-Mar-23	30-Mar-23	153	3	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Jenner – Compressor Station Maintenance	3-Apr-23	16-Apr-23	150	10	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 42 Foothills Zone 6 – Pipeline Maintenance	4-May-23	13-May-23	144	16	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Beiseker A – Compressor Station Maintenance	23-May-23	27-May-23	154	6	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 42 Edson & Central Alberta System Mainline Loop – Pipeline Maintenance	24-May-23	1-Jun-23	146	14	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Crawling Valley – Compressor Station Maintenance	19-Jun-23	16-Jul-23	155 (Jun) 153 (Jul)	5	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28

Note: Outages located in the USJR area show up in the EGAT table in DOP to indicate a broad area restriction could be applied to reduce flows through the bottleneck but have been excluded from this slide to avoid duplication

This slide may not be accurate beyond the December 8 NGTL/Foothills Customer Operations meeting on WebEx.
Please refer to the DOP on TC Customer Express for current outage information



East Gate Delivery Area (EGAT)

No impact to FT

Potential impact to FT

Partial impact to FT

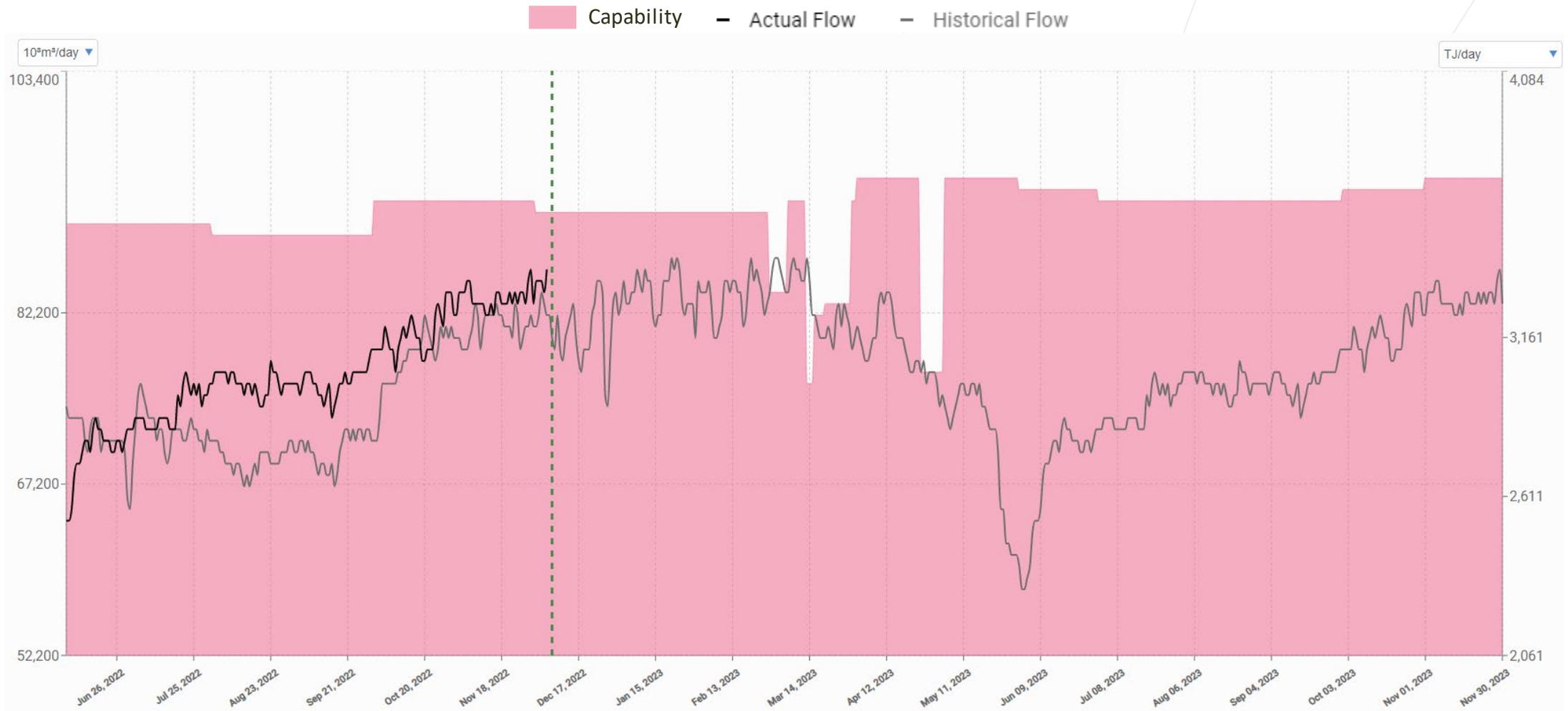
Outage Description	Start	End	Capability (10 ⁶ m ³ /d)	Impact (10 ⁶ m ³ /d)	Service Allowable Location/Area
NPS 36 EAS Mainline Loop 2 – Pipeline Maintenance	5-Jul-23	14-Jul-23	153	5	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 48 Edson, Central Alberta System, and Eastern Alberta System Mainline Loop 3 and 4 – Pipeline Maintenance	15-Jul-23	23-Jul-23	142	16	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Clearwater A6 – Compressor Station Maintenance	6-Nov-23	19-Nov-23	150	9	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28

Note: Outages located in the USJR area show up in the EGAT table in DOP to indicate a broad area restriction could be applied to reduce flows through the bottleneck but have been excluded from this slide to avoid duplication

This slide may not be accurate beyond the December 8 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information



Oil Sands Delivery Area



This slide may not be accurate beyond the December 8 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information



Northeast Delivery Area (NEDA) Oilsands Delivery Area (OSDA)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

Outage Description	Start	End	OSDA Capability (10 ⁶ m ³ /d)	NEDA Capability (10 ⁶ m ³ /d)	Impact (10 ⁶ m ³ /d)	Service Allowable Location/Area
NPS 30 Leismer Kettle River Crossover – Pipeline Modification ¹	27-Feb-23	5-Mar-23	84	-	7	Potential impact to FT-D OSDA
Meikle River D5 – Compressor Station Maintenance	13-Mar-23	15-Mar-23	76	133	16	Potential impact to FT-D NEDA
Alces River – Compressor Station Maintenance	13-Mar-23	19-Mar-23	82	139	10	Potential impact to FT-D NEDA
Hidden Lake North – Compressor Station Maintenance	20-Mar-23	29-Mar-23	83	140	9	Potential impact to FT-D NEDA
Goodfish – Compressor Station Maintenance ²	20-Mar-23	29-Mar-23	83	140	9	Potential impact to FT-D NEDA
NPS 42 North Central Corridor – Pipeline Maintenance ³	25-Apr-23	3-May-23	77	120	17	Potential impact to FT-D NEDA

¹Winter access required – subject to change if during a period of extreme cold and ground conditions permit deferral

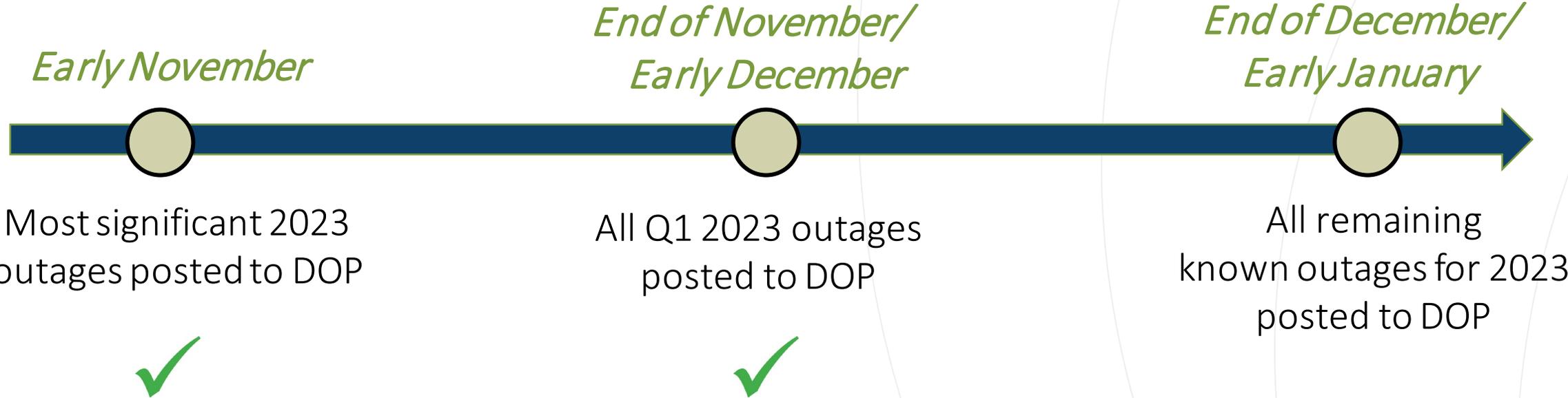
²Requires work to be completed within the Caribou RAP – CER approval granted on December 5, 2022

³Collecting plant turnaround schedules and will make best efforts to schedule and align with periods of lower flow to reduce impacts

This slide may not be accurate beyond the December 8 NGTL/Foothills Customer Operations meeting on WebEx.
Please refer to the DOP on TC Customer Express for current outage information



2023 Outage Communication Schedule | Next Steps



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



Plant Turnaround – General Info

NGTL Outage Planning Process

NGTL regularly meets with interconnecting pipelines to share outage information

- Best efforts to coordinate outages to minimize impact to customers
 - ie. Aligning our maintenance work with GTN down the entire west path so NGTL/FH was not the restricting pipeline
- Meet in-person every 6 months to share next year's outage program

NGTL has weekly meetings with the large border interconnects to review upcoming outages

The goal is to maintain a safe pipeline system while minimizing impact to customers



OUTAGES IMPACTING LOCALIZED METER STATIONS

- NGTL will reach out to producer directly to coordinate outage if a meter station will be impacted by outage work.
- Flexibility to adjust timing based on communication with producer.



OUTAGES IMPACTING BROAD AREA

- Without PTA information, we have no other means to coordinate broad area outages with customers.
- No ability to target specific producers to contact and coordinate outages
- Next year's major outages will be shared, and producers will have the opportunity to align with NGTL's outages
- Limited ability to revise outage dates after it is planned and in DOP



How to submit PTA information

- Customers can use the Plant Turnaround Information Form or send us an email to provide us with their turnaround details.
- We accept plant turnaround information any time throughout the year.

Where to send the form:

ab_bc_ops_planning@tcenergy.com

PLANT TURNAROUND INFORMATION FORM



Date:

Email to: ab_bc_ops_planning@tcenergy.com

Your Contact Information:

Your Name:

Company Name:

Phone:

Secondary Phone (Optional):

Email:

Please select one of the following:

Information for new Plant Turnaround

Update to existing Plant Turnaround information

Plant Turnaround Information:

NGTL Meter Station Name:

NGTL Meter Station Number:

Start Date:

End Date:

Start Time:

End Time:

Type of Plant Turnaround:

Complete Turnaround (Zero Flow)

Partial Turnaround:

Expected Flow during turnaround: 10³m³/d

Typical Flow: 10³m³/d

Additional Comments:

Email this form to: ab_bc_ops_planning@tcenergy.com.
Direct any questions to the Pipeline @ (403) 920-7473.

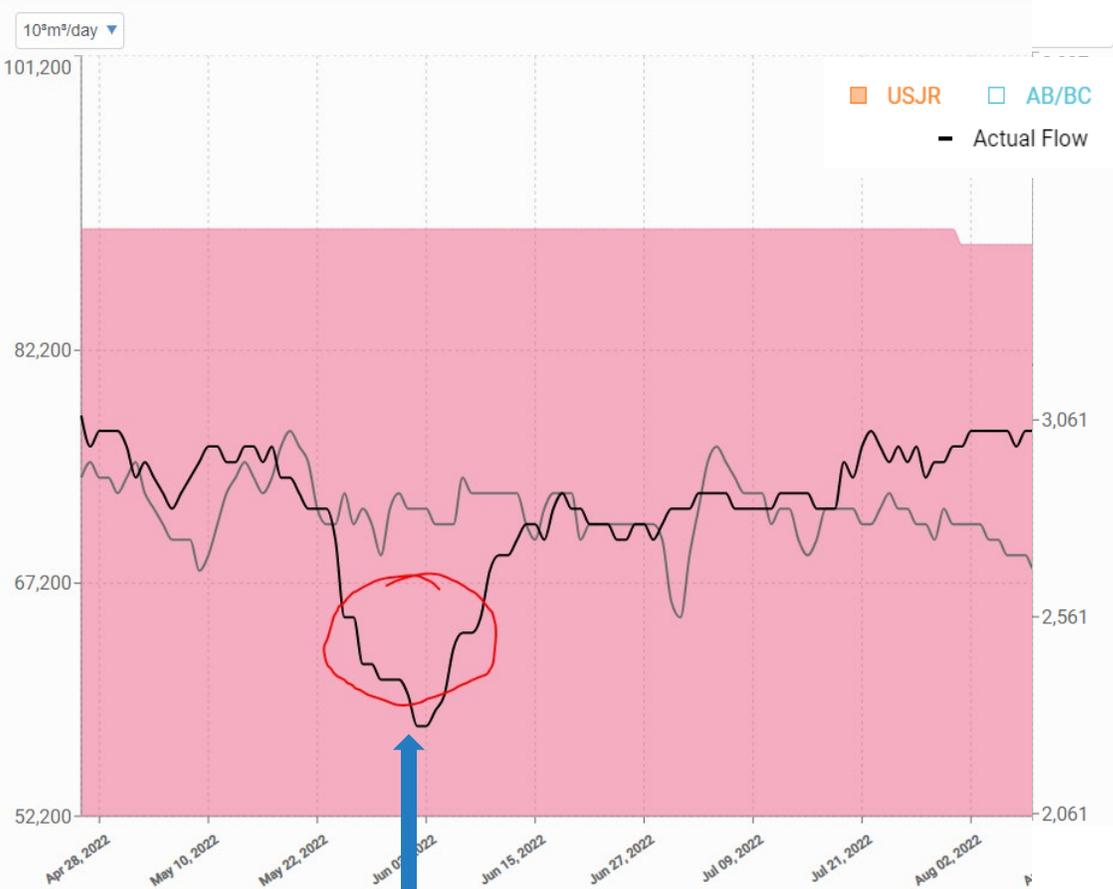
Why is PTA info important?

- Open 2-way communication
- Informed outage planning
- Minimize impact to customers
- Provide more visibility into flow conditions expected during an outage
- No surprises -> allows NGTL to be proactive instead of reactive to flow situations

By communicating and working together as an industry, we can ensure outages have as little disruption in the market as possible.

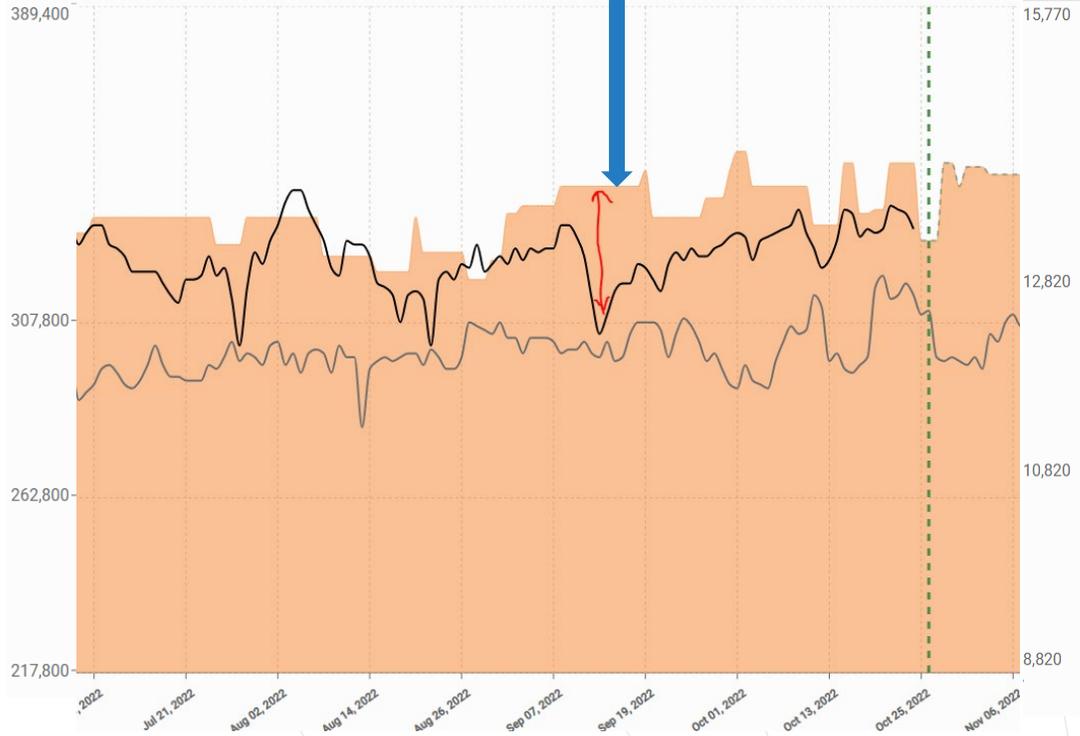


Why is PTA info important?



Lost opportunity to bundle this PTA with an impactful NWML or NCC outage

~1200 TJ left on the table over a 4-day period



PTA Reporting Statistics 2022 Outage Year

5 Receipt Stations

/651

Reported Turnarounds
All of which were Low
Utilization Stations

8 Delivery Stations

/430

Reported Turnarounds

4

Large High
Utilization
Facilities

Able to coordinate
2 outages to these
plant turnarounds
(valve integrity work and ILI)



Confidentiality

- Customer specific information is not shared publicly
 - Plant name not shared
 - Location of plant on turnaround not displayed on DOP map

What else can we do to increase the response rate from customers?

Receipt

Plant Turnaround Activity

- 0 Nov 02, 2022
- 1 Next 30 days
- 0 After 30 Days

*Plant Turnaround not displayed on the map

[Download CSV](#)

OCT 31, 2022

CHANGED

Duration	Start	End	Impact
1 day <small>Previously: 4 days</small>	Oct 31, 2022 <small>Previously: Oct 28, 2022</small>	Oct 31, 2022	3,640 10 ³ m ³ /day

NEXT 30 DAYS

Duration	Start	End	Impact
4 days	Nov 01, 2022	Nov 04, 2022	1,800 10 ³ m ³ /day

AFTER 30 DAYS

Duration	Start	End	Impact
18 days	Apr 11, 2023	Apr 28, 2023	425 10 ³ m ³ /day

NOTES
*Includes known plant turnaround activity (within the next 6 months) at the time of publication

Delivery

Plant Turnaround Activity

- 1 Nov 02, 2022
- 0 Next 30 days
- 1 After 30 Days

*Plant Turnaround not displayed on the map

[Download CSV](#)

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