



NGTL System and Foothills Pipelines Ltd.

CUSTOMER OPERATIONS MEETING

AUGUST 11, 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



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

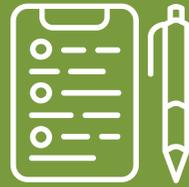
Refers to outage periods where FT impact is expected



Important Notes



Outage information in this presentation may not be accurate beyond the August 11, 2022 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 covers operational and project-related topics on the NGTL and Foothills systems. For information on focused Commercial and Regulatory topics, please contact your Marketing Representative



Sun Awareness

Sun protection is important every day regardless of weather or time of year. Anyone can be at risk for skin cancer and sun damage to their skin if proper protection measures are not taken.

5 ways you can stay safe in the sun



Wear protective clothing (long sleeve shirts, hats).



Use sunscreen - the more protection the better! Apply it throughout the day.



Limit your time in the sun between 10 a.m. and 4 p.m. as these are peak hours.



Wear sunglasses.



Sit in the shade at regular intervals.

Agenda

1. Projects Update
2. Review of July Operations
3. Review of DOP Outages
4. Verbal Updates / Q&A



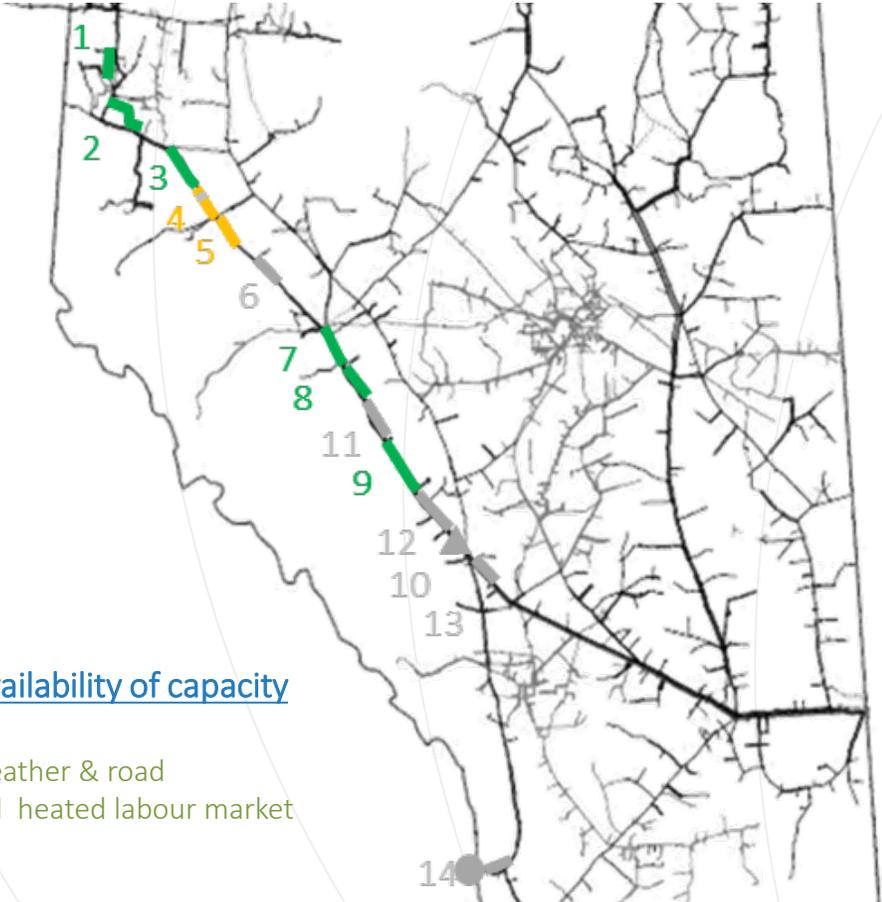
Project Updates

FOR INFORMATIONAL PURPOSES ONLY

2021 Expansion Project Update – ISD Summary

There are **no changes** to the estimated in-service dates of the capacity scenarios since last update.

100% scenario	All 2021 SXP facilities including Colt and 3km of pipeline adjacent to Little Smoky River that connects to DVN/DVS	Q1 2023
90% scenario	Both Deep Valley North and Deep Valley South (no Colt)	Expected October 2022
65% scenario	One of Deep Valley North or South and no Colt	Likely during September-October
30% scenario	No Deep Valley North or South and no Colt	In Service



All scenarios and availability of capacity remains subject to:
 Ground conditions, weather & road access/conditions, and heated labour market

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



2021 Expansion Project Update

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

Deep Valley North (DVN) (Map I.D. # 4)

- Section 4 in service
- Section 1 & 3 completed
- Section 2 continue to work on anomaly digs
 - Section 2 mobilized July 15 (inside Caribou Zone)
- Leave To Open CER filing late August
- ISD September 2022/early October 2022

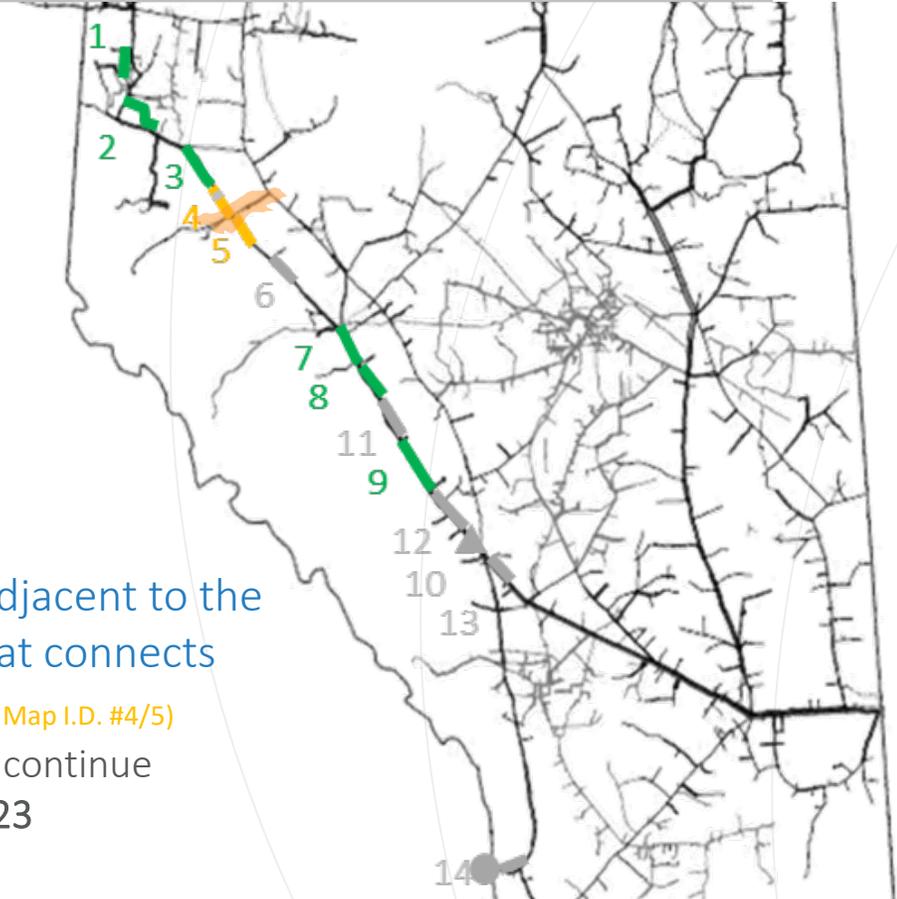
Deep Valley South (DVS) (Map I.D. # 5)

- **Activities remaining:** Hydrotest, caliper, anomaly digs and commissioning
 - Remediation of obstructions ongoing
 - Hydrotest to commence late August
- ISD expected October 2022

Availability of capacity remains subject to: Ground conditions, weather & road access/conditions, and heated labour market

Colt & 3km of Pipe adjacent to the Little Smoky River that connects DVN/DVS (Map I.D. # 5 and Map I.D. #4/5)

- De-risking activities continue
- ISD expected Q1 2023



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

Other Project Updates – ISD Summary

NGTL Projects: <i>No changes to estimated in-service dates since last update</i>	
Edson Mainline Expansion	ISD Nov 2022
North Corridor Expansion	Bear Canyon, North Star, Red Earth, Hidden Lake North U/A (ISD Apr 2023)
Intra-Basin Expansion	Sunrise, Saturn, Saddle Hills U/A (ISD Nov 2023) Emerson Creek C/S (ISD April 2024)
WestPath 2022/2023	ABC and Raven (ISD Nov 2022) Turner Valley, Lundbreck and Longview (ISD Nov 2023)

FH Projects: <i>Note below adjustment to Yahk Section Loop ISD. No change to Elko Section Loop</i>	
Yahk Section Loop	ISD Dec 2022, with potential for Jan 2023 ISD <i>DOP updated to reflect December 2022 ISD</i>
Elko Section Loop	ISD Nov 2023



Other Project Updates – NGTL

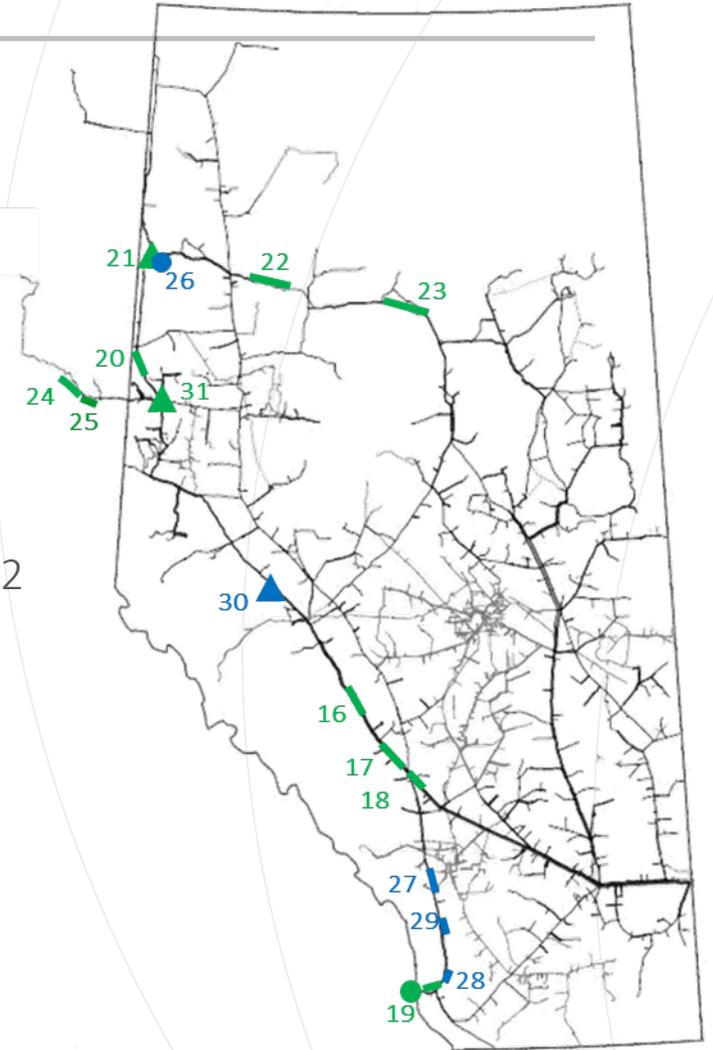
Edson Mainline Expansion

- Elk River (Map I.D. # 16) – mainline construction on track to meet ISD
- Alford Creek (Map I.D. # 17) – mainline construction on track to meet ISD
- ISD November 2022

North Corridor Expansion (Bear Canyon (Map I.D. # 20), North Star (Map I.D. # 22), Red Earth (Map I.D. # 23), Hidden Lake North U/A (Map I.D. #21))

- Camp site preparation ongoing, mainline construction commencing in Q3 2022
- Construction plans continue to be assessed to mitigate risks around Caribou Restrictive Activity Period (RAP) on sections of Red Earth
 - All sections are required to be in service for full NCE capacity
- Hidden Lake North Unit Addition on track
- ISD April 2023

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



Other Project Updates – NGTL

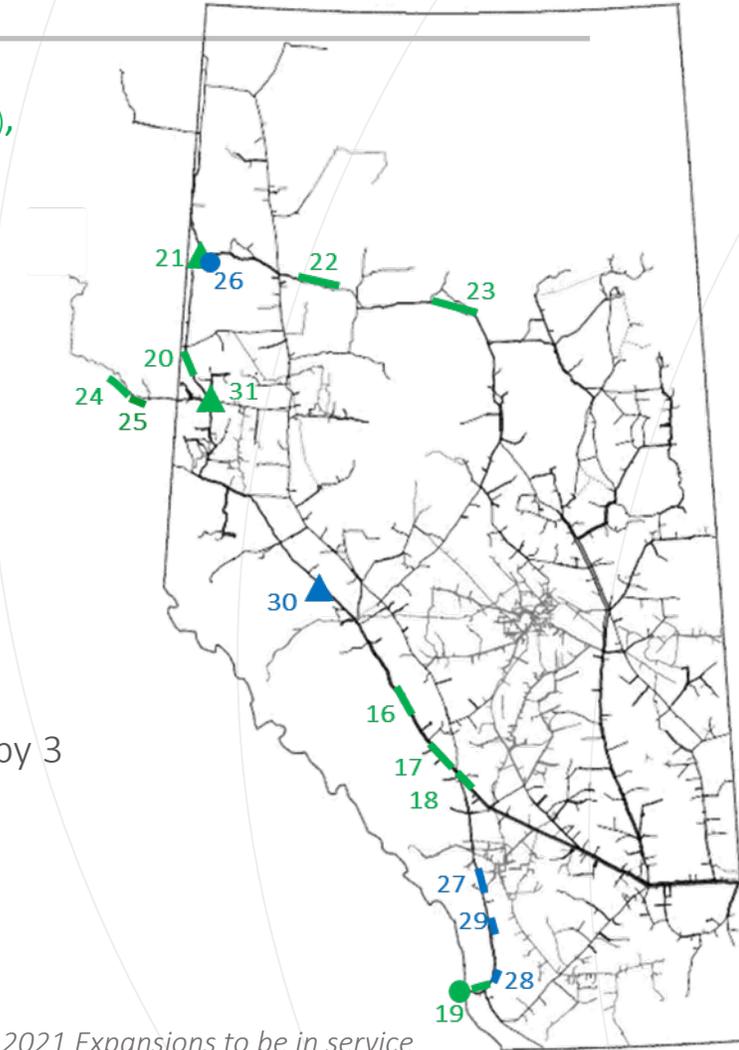
Intra-Basin Expansion (Sunrise (Map I.D. # 24), Saturn (Map I.D. # 25), Emerson Creek C/S (Map I.D. #30), Saddle Hills U/A (Map I.D. #31))

- Pending BC OGC permits – continue consultation with Rightsholder
- ISD November 2023
- Emerson Creek C/S construction commenced in July (ISD April 2024)

West Path 2022/2023

- Raven (Map I.D. # 18) /ABC (Map I.D. # 19) – Mainline construction on track
 - ISD November 2022
- Turner Valley (Map I.D. # 27) /Lundbreck (Map I.D. # 28) /Longview (Map I.D. # 29)
 - CER issued Recommendation report in May 2022. On July 19, 2022, NGTL received notice that the Governor in Council (GIC) decision to grant the Certificate of Public Convenience and Necessity for the NGTL West Path 2023 project had been delayed by 3 months
 - Working closely with other federal agencies to provide the required information for outstanding permits and land rights
 - ISD November 2023

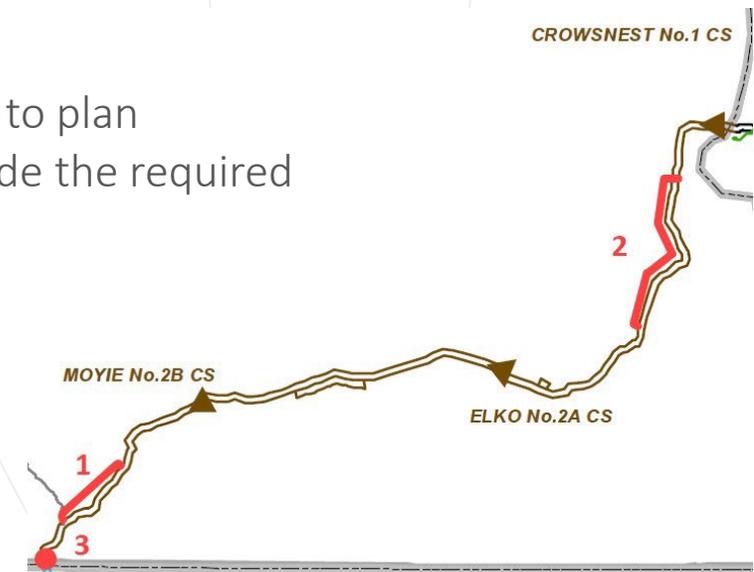
Note: EDML/Clearwater/WestPath 2022 capacity requires 100% of NGTL 2021 Expansions to be in service



Other Project Updates – FH

West Path 2022/2023

- Yahk (Map I.D. # 1)
 - Construction commenced July 15
 - **ISD earliest December 2022, potentially into January 2023**
 - This delay is not expected to further impact pending contracts that are impacted by the delay in the full completion of 2021 SXP
- Elko (Map I.D. # 2) - Clearing commenced July 2022 and is proceeding to plan
 - Working closely with municipal and federal agencies to provide the required information for outstanding permits and land rights
 - **ISD November 2023**



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

Review of July Operations

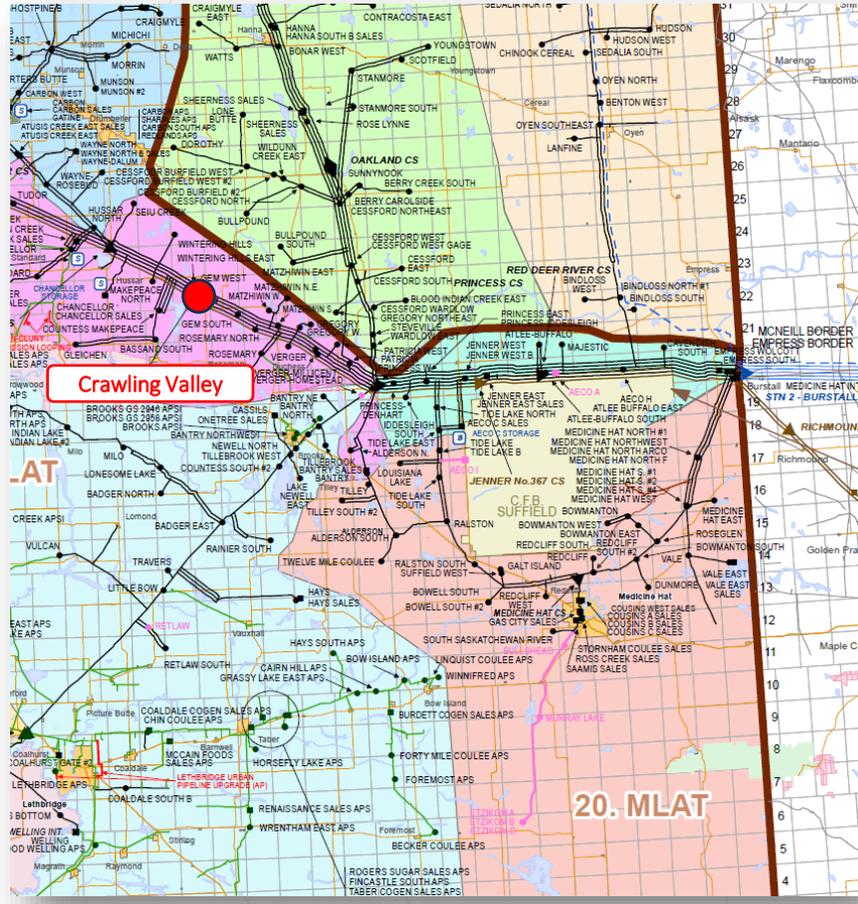
Crawling Valley Compressor Station Maintenance

Background:

- Planned Crawling Valley Compressor Station Maintenance: July 11 – 24
- Capability communicated in DOP: 143 10⁶m³/d
- Service Allowable:
 - Lower EGAT: Partial IT-D, 100% FT-D

Bulletin Date	Effective Date	Service Allowable	Comments
July 6	July 11 (08:00 MST)	Partial IT-D, 100% FT-D (143) (Lower EGAT)	Bulletin issued
	July 14	Partial IT-D, 100% FT-D (146) (Lower EGAT)	Authorization level increased from 143 10 ⁶ m ³ /d to 146 10 ⁶ m ³ /d

Partial IT-D, 100% FT-D (Lower EGAT) remains in place due to the NPS 36 EASML Loop 2 Pipeline Maintenance

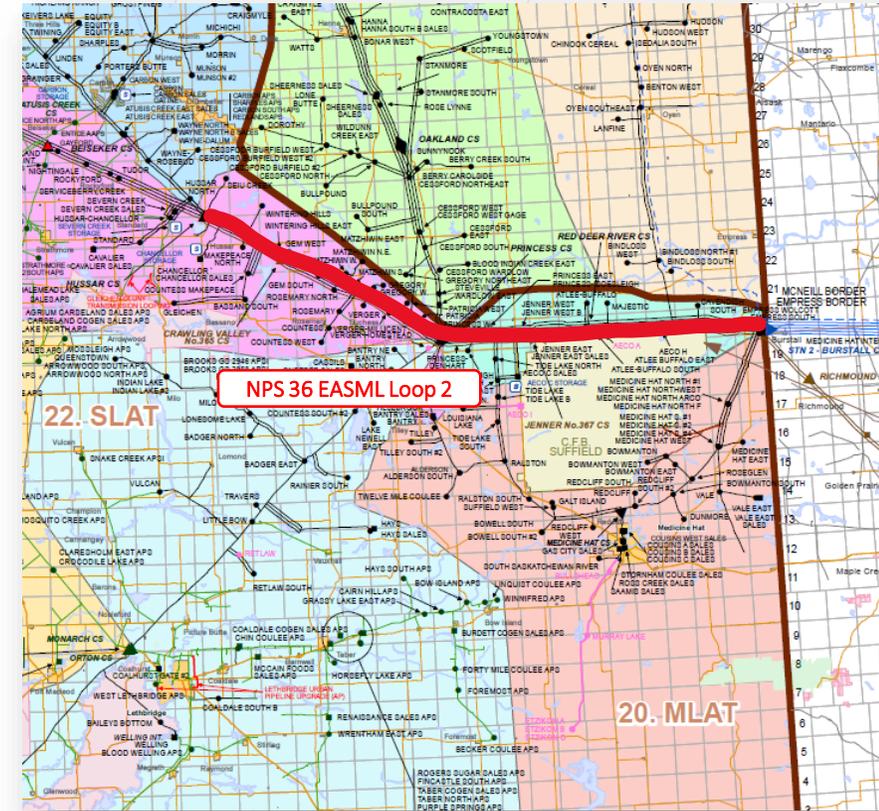


NPS 36 Eastern Alberta System Mainline Loop 2 Pipeline Maintenance



Background:

- Planned NPS 36 EASML Loop 2 Pipeline Maintenance: July 19 – 27
- Capability communicated in DOP: 140 10⁶m³/d
 - Increased in DOP from 135 10⁶m³/d to 140 10⁶m³/d on July 14
- Service Allowable:
 - Lower EGAT: Partial IT-D, 100% FT-D

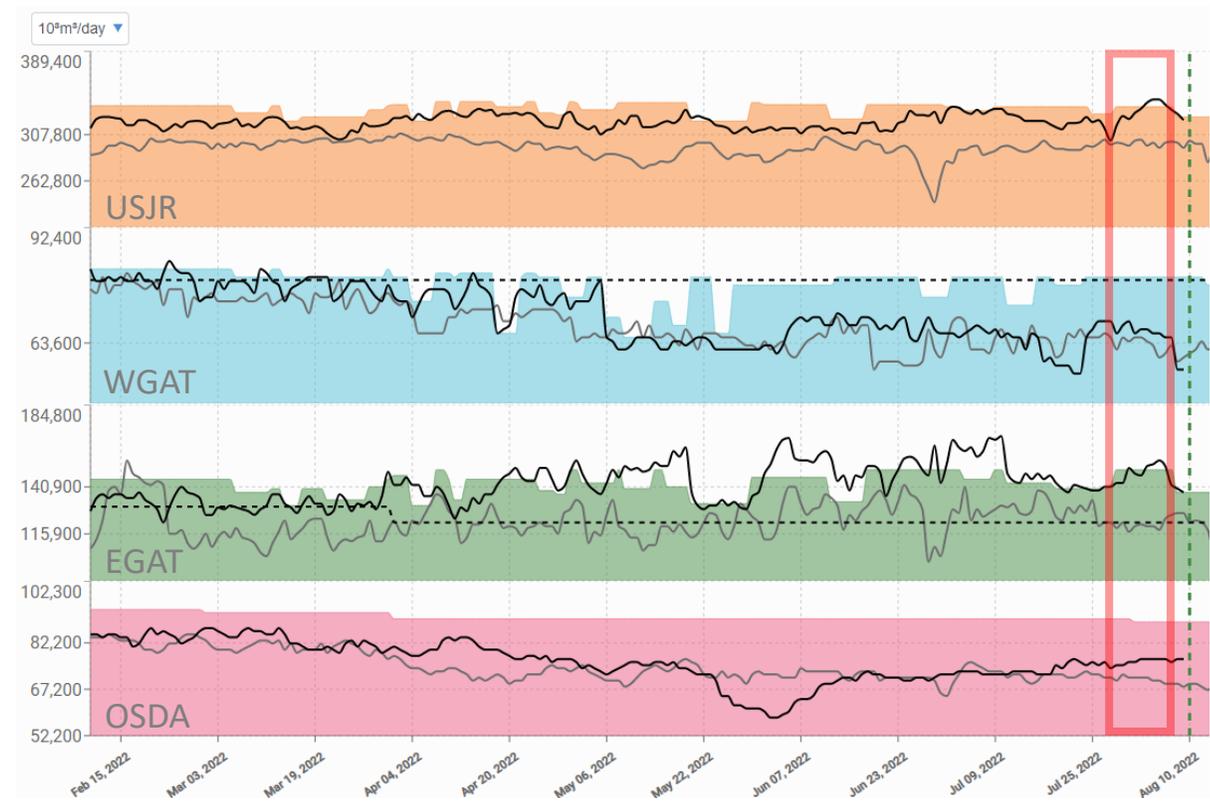


Bulletin Date	Effective Date	Service Allowable	Comments
	July 19	Partial IT-D, 100% FT-D (140) (Lower EGAT)	Start of NPS 36 EASML Loop 2 Pipeline Maintenance
July 26	July 28 (08:00 MST)	Partial IT-D, 100% FT-D (Lower EGAT)	NPS 36 EASML Pipeline on track to be completed on schedule. However, Partial IT-D, 100% FT-D (Lower EGAT) remains in place as a result of current demands on the system



End of July – EGAT

EGAT was unrestricted before the Crawling Valley outage, so why did EGAT remain at Partial IT-D when there were no outages communicated following the NPS 36 EASML Pipeline Maintenance work?



Higher Ambient Temperatures

- High ambient temperatures across the province resulting in lower system throughput efficiency

Higher Intra-provincial demand

- Higher NEDA demand due to hot temperatures across the province resulting in higher flows up the NLAT

EGAT capability not expected to be sufficient to accommodate flows observed in early July

- EGAT flow reached a high of 168 10⁶m³/d just prior to the Partial IT-D coming into place for Crawling Valley. With the above factors, NGTL did not expect to have adequate capability to meet demands if they returned to previously observed levels



End of July – Linepack and USJR Pressures

Why are pressures so high?

Why aren't you implementing a restriction?

High Pressures are most commonly a result of:

Throughput Constraints (Bottlenecks or Outages)

- Resolved by implementing service restrictions
 - Service reduced to the capability of the system bottleneck to ensure a balance of supply and demand upstream and downstream of the bottleneck

High System Linepack

- Resolved by changing tolerance, requesting OBA locations to hold gas, and/or linepack sale
 - Helps create a net draft on the system
- NOT resolved by implementing service restrictions
 - Will not result in a net draft on the system as supply/demand accounts need to balance

High pressures at the end of July were due to high system linepack

Review of DOP Outages

From DOP as of Wednesday August 10

Daily Operating Plan (DOP) – Current Assumptions

- No change to facility assumptions since the Customer Operations Meeting on July 7, 2022
- April 1, 2022 through to September 30, 2022 assume all 2021 expansion facilities are in-service with the exception of the Deep Valley and Colt sections (comparable to 30% of the project's total capability on a design capacity basis)
- Beyond October 1, 2022 assumes all 2021 expansion facilities are in-service with the exception of the Colt section (comparable to 90% of the project's total capability on a design capacity basis)

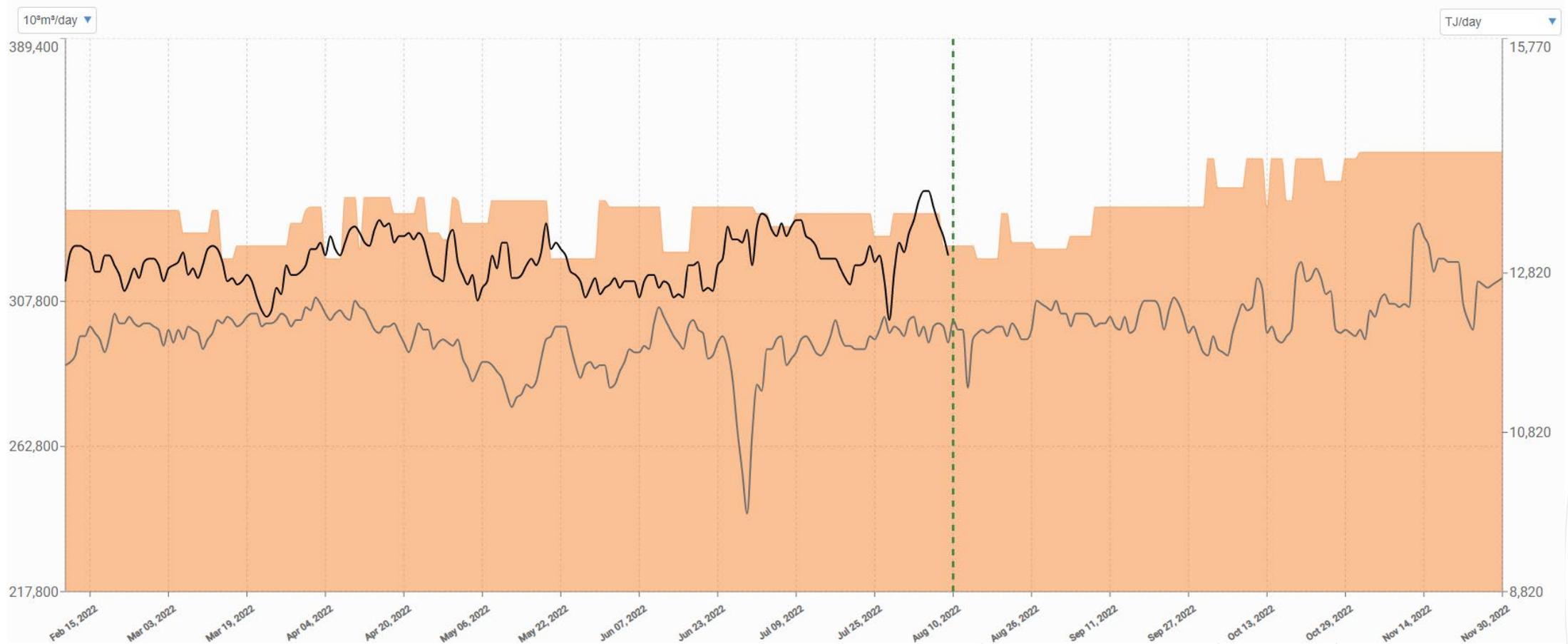
Outages and/or maintenance work is posted to the DOP if there is reasonable expectation that the event could or will result in a change to service authorization levels.

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



Upstream James River

Capability - Actual Flow - Historical Flow



This slide may not be accurate beyond the August 11, 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
Berland River B2 – Compressor Station Maintenance	8-Aug-22	19-Aug-22	325	10	N/A	280-320	Potential impact to FT-R USJR
Berland River – Compressor Station Maintenance	15-Aug-22	19-Aug-22	321	14	N/A	280-320	Potential impact to FT-R USJR
Latornell – Compressor Station Maintenance	22-Aug-22	27-Aug-22	326	9	216	165-205	Potential impact to FT-R USJR U/S of Berland*
Otter Lake A1 – Compressor Station Maintenance	27-Aug-22	2-Sep-22	324	11	N/A	280-320	Potential impact to FT-R USJR
Woodenhouse C3 – Compressor Station Maintenance	27-Aug-22	2-Sep-22	324	11	N/A	280-320	Potential impact to FT-R USJR
Hidden Lake North – Compressor Station Maintenance	28-Aug-22	7-Sep-22	328	7	205	160-190	Potential impact to FT-R USJR U/S of Latornell
Otter Lake – Compressor Station Maintenance	3-Oct-22	8-Oct-22	343	9	N/A	280-320	Potential impact to FT-R USJR
Saddle Hills B3 – Compressor Station Maintenance	13-Oct-22	13-Oct-22	337	15	214	160-190	Potential impact to FT-R USJR U/S of Latornell
Paul Lake – Compressor Station Maintenance	17-Oct-22	18-Oct-22	339	13	N/A	280-320	Potential impact to FT-R USJR
Alces River – Compressor Station Maintenance	17-Oct-22	18-Oct-22	340	12	N/A	280-320	Potential impact to FT-R USJR
Clearwater – Compressor Station Maintenance	25-Oct-22	28-Oct-22	345	7	N/A	280-320	Potential impact to FT-R USJR

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

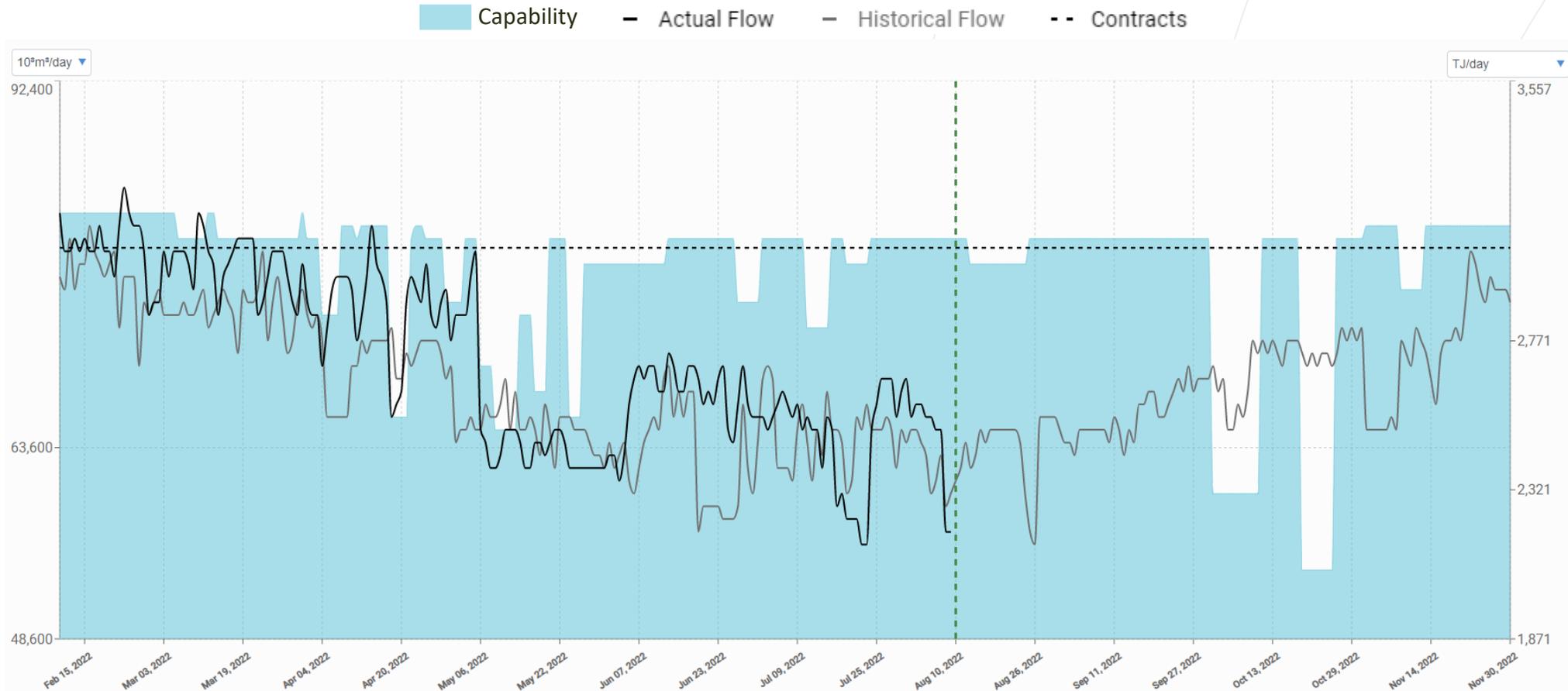
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Alberta-B.C. Border

(includes both NGTL and Foothills BC outages)



The NPS 48 BC Mainline Loop (Yahk section) is no longer expected to be in-service November 1, 2022. As a result, the base capability for the month of November 2022 has been revised from 83 10⁶m³/d to 81 10⁶m³/d.

This slide may not be accurate beyond the August 11, 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)

Foothills Zone 8 (FHBC)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

Outage Description	Start	End	Capability/ Allowable (10 ⁶ m ³ /d)	Impact (10 ⁶ m ³ /d)	System	Service Allowable Location/Area
NPS 36 BC Mainline – Pipeline Modifications*	13-Aug-22	24-Aug-22	78	2	FHBC	Potential Impact to FT Alberta/BC Border Foothills BC
NPS 42 Western Alberta System Mainline Loop – Pipeline Maintenance	1-Oct-22	10-Oct-22	60	20	NGTL	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
NPS 36 BC Mainline – Pipeline Maintenance	19-Oct-22	25-Oct-22	54	26	FHBC	Potential Impact to FT Alberta/BC Border Foothills BC
NPS 36 WAS Mainline – Pipeline Modifications	8-Nov-22	19-Nov-22	66	17	NGTL	Potential Impact to FT-D Alberta/BC Border
Turner Valley A1 and A2 – Compressor Station Maintenance	8-Nov-22	12-Nov-22	76	5	NGTL	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders

*Aligned with downstream maintenance that is expected to be limiting West Path capability

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

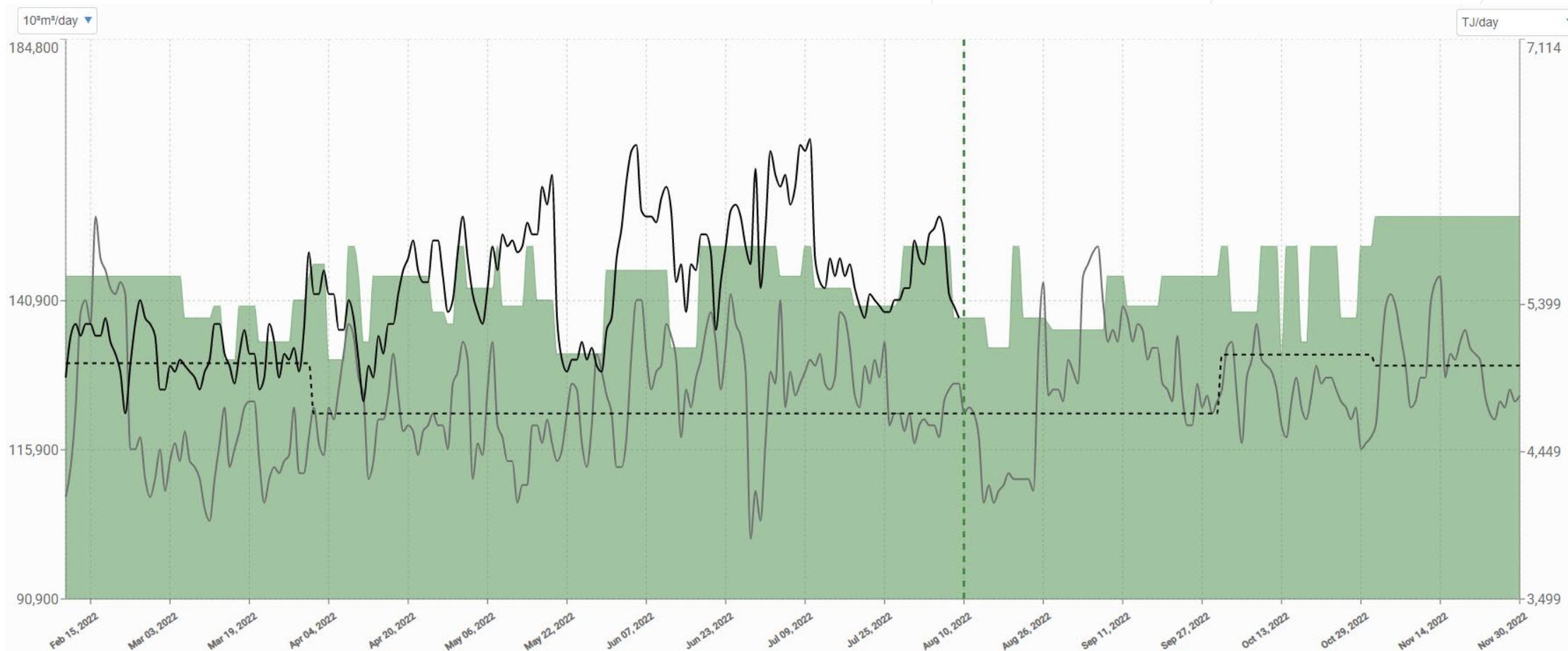
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East Gate

■ Capability — Actual Flow - - Historical Flow - - Contracts



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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)	System	Service Allowable Location/Area
Clearwater A6 – Compressor Station Maintenance	15-Aug-22	18-Aug-22	139	11	NGTL	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Schrader Creek – Compressor Station Maintenance	22-Aug-22	31-Aug-22	139	11	NGTL	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Acme – Compressor Station Maintenance	12-Sep-22	18-Sep-22	140	5	FHAB	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Beiseker B3 – Compressor Station Maintenance	3-Oct-22	3-Oct-22	143	7	NGTL	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Clearwater – Compressor Station Maintenance	25-Oct-22	28-Oct-22	138	12	NGTL	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 August 11, NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information





Foothills Zone 9 (FHSK)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

Outage Description	Start	End	Capability (10 ⁶ m ³ /d)	System	Service Allowable Location/Area
NPS 42 Foothills Mainline Zone 9 – Pipeline Maintenance	16-Nov-22	28-Nov-22	25	FHSK	No impact to FT anticipated Monchy Border Foothills Saskatchewan

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Oil Sands Delivery Area

■ Capability — Actual Flow — Historical Flow



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Northeast Delivery Area (NEDA) Oil Sands Delivery Area (OSDA)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

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

This slide may not be accurate beyond the August 11, NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information



Verbal Updates & Q&A

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