

# NGTL System and Foothills Pipelines Ltd.

CUSTOMER OPERATIONS MEETING

MARCH 2, 2023

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





# International Women's Day

## March 8, 2023

International Women's Day is a global celebration of the achievements of women – socially, economically, culturally and politically.

**Embrace Equity** – “We can all truly embrace equity. It's not just something we say or write about. It's something we need to think about, know and embrace. It's what we believe in, unconditionally. Equity means creating an inclusive world.” Collectively we can all **#EmbraceEquity** – IWD 2023

Get involved:

- Attend an IWD panel sessions
- Give through Build Strong to our featured IWD causes
- Commit to taking action against bias **every day**



# 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 March 2, 2023 NGTL/Foothills Customer Operations (WebEx only) meeting

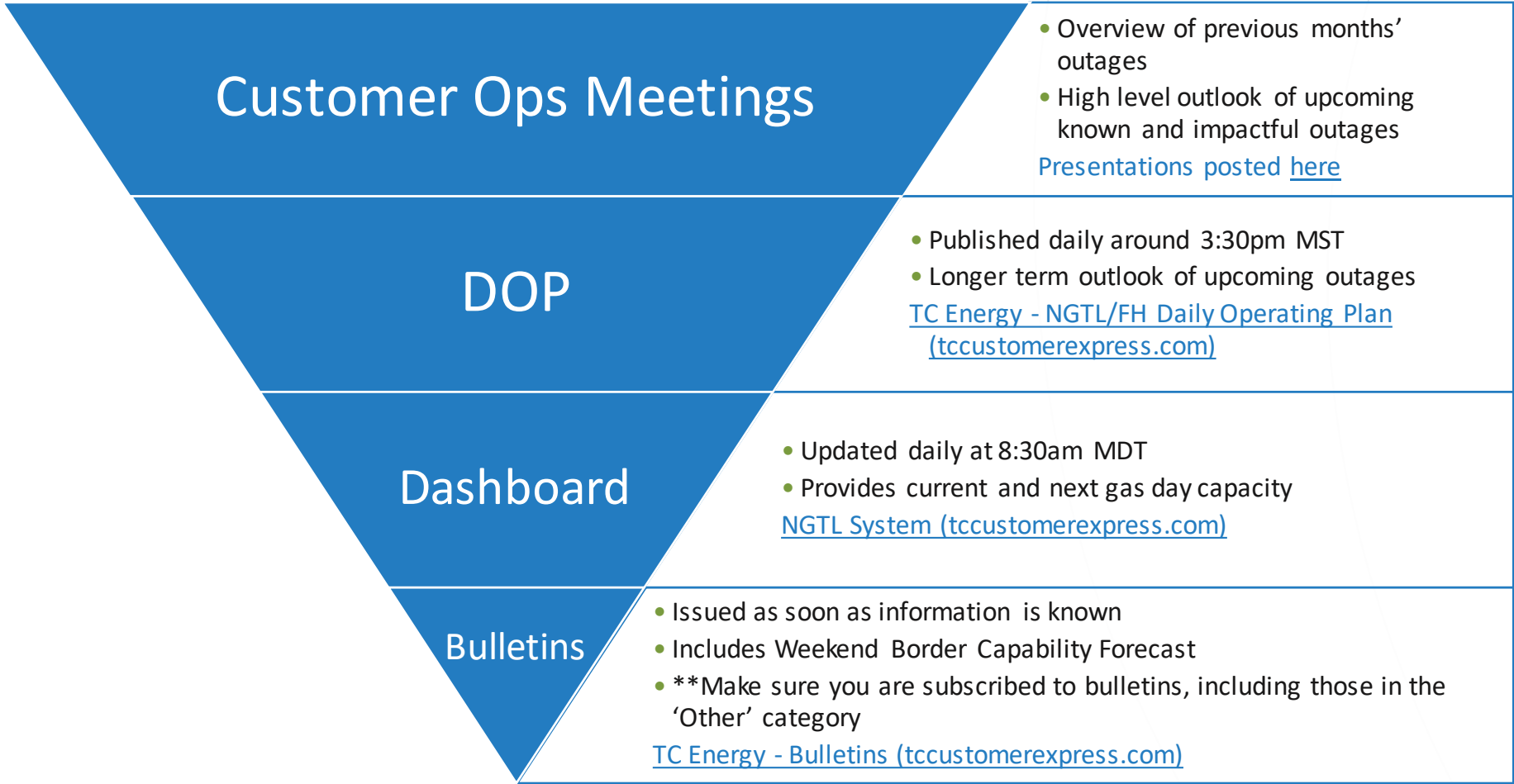


For current outage and capability information, please refer to the most recent Daily Operating Plan ([DOP](#)), the [Dashboard](#) and [bulletins](#)



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. Review of February Operations
3. Review of Upcoming DOP Outages
4. **EGAT outage overview:** NPS 48 Edson, Central Alberta System, and Eastern Alberta System Mainline Loop 3 and 4 - Pipeline Maintenance (outage ID 18826917)

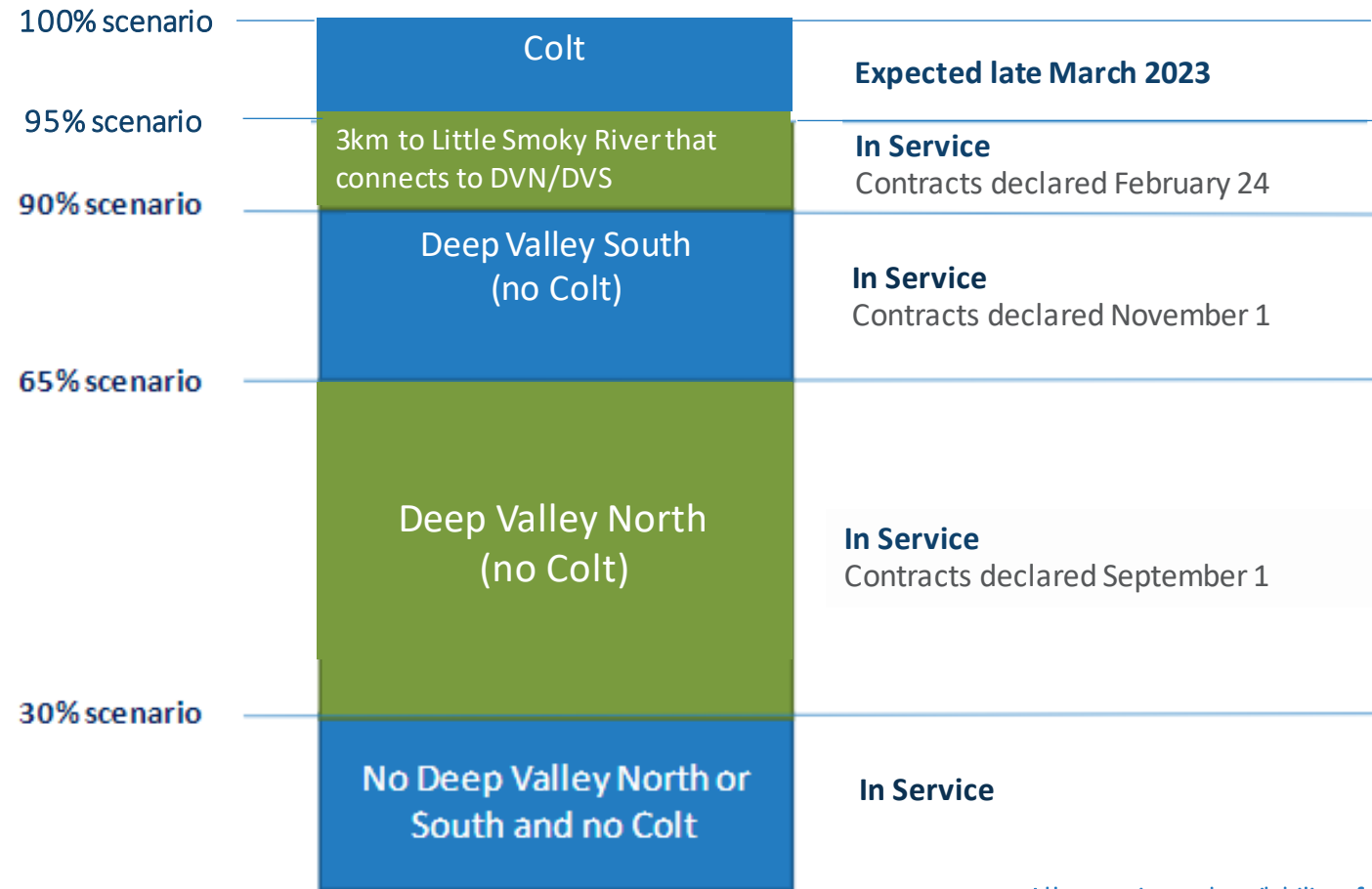


# Project Updates

FOR INFORMATIONAL PURPOSES ONLY



# 2021 Expansion Project Update – ISD Summary (since Feb. 2, 2023 update)



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

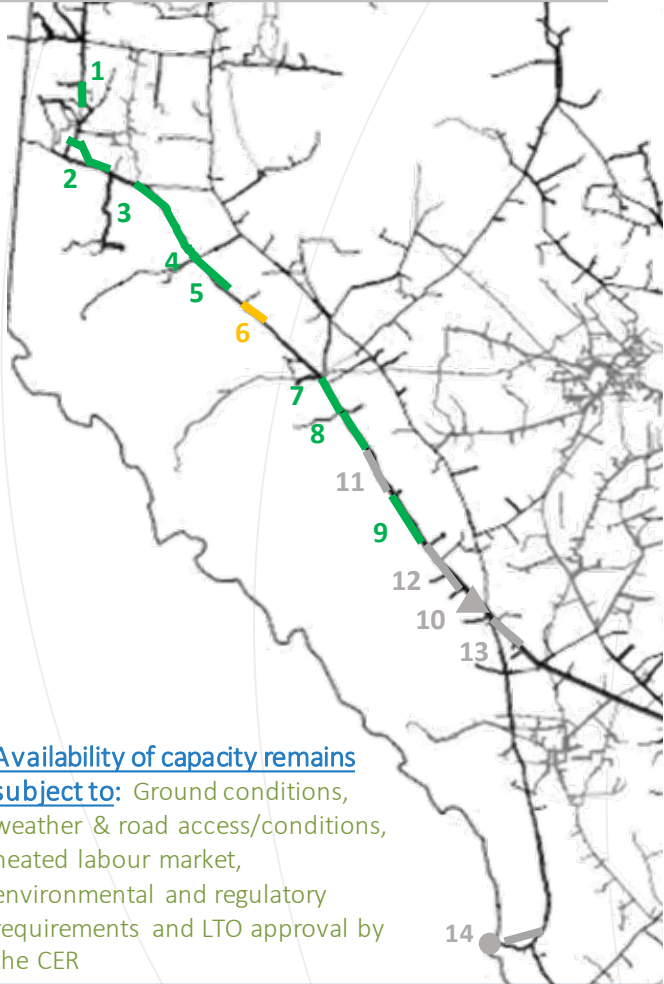
All scenarios and availability of capacity remains subject to:  
Ground conditions, weather & road access/conditions, heated labour market, environmental and regulatory requirements and LTO approval by the CER



# 2021 Expansion Project Update (since Feb. 2, 2023 update)

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

<p><b>3 km of Pipe Adjacent to Little Smoky River that connects DVN/DVS</b>  <small>(Map I.D. #4)</small>  <b>ISD Feb. 24, 2023</b></p>	<ul style="list-style-type: none"> <li>Received approval from CER on Feb. 6 to work during the caribou Restricted Activity Period (RAP). All work completed and equipment demobilized before the start of the RAP.</li> <li>Leave to Open (LTO) received from CER on Feb. 15</li> </ul>
<p><b>Colt</b> <small>(Map I.D. #6)</small>  <b>ISD Expected late March 2023</b></p>	<p><u>Activities remaining:</u></p> <ul style="list-style-type: none"> <li>Pipe installation activities continue</li> <li>Trenchless activities complete</li> <li>Installation through last watercourse crossing complete</li> <li>Hydrotest activities for first section is complete and investigative digs are complete</li> <li>Weather conditions have risk of impacting ground conditions and productivity</li> </ul>
<p><b>Simonette River</b> <small>(Map I.D. #6)</small>  <b>ISD November 2023</b></p>	<p><u>Activities remaining:</u></p> <ul style="list-style-type: none"> <li>Horizontal Directional Drill (HDD) to commence in June 2023</li> <li>In-service of this section has no impact on firm contract declaration</li> <li>The NPS 48 GPML Loop 2 ILI (originally planned for June 2023) has been deferred until Summer 2024</li> </ul>



**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 Feb. 2, 2023 update)

NGTL Projects:	
Edson Mainline Expansion	In Service
North Corridor Expansion	North Star (In Service) Bear Canyon, 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) Turner Valley, Lundbreck and Longview (ISD Nov 2023)
FH Projects:	
Yahk Section Loop	ISD mid to late Mar 2023
Elko Section Loop	ISD Nov 2023 <i>*risk of 50% capacity achieved by Nov 2023 (slide 15 for further details)</i>

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 Feb. 2, 2023 update)

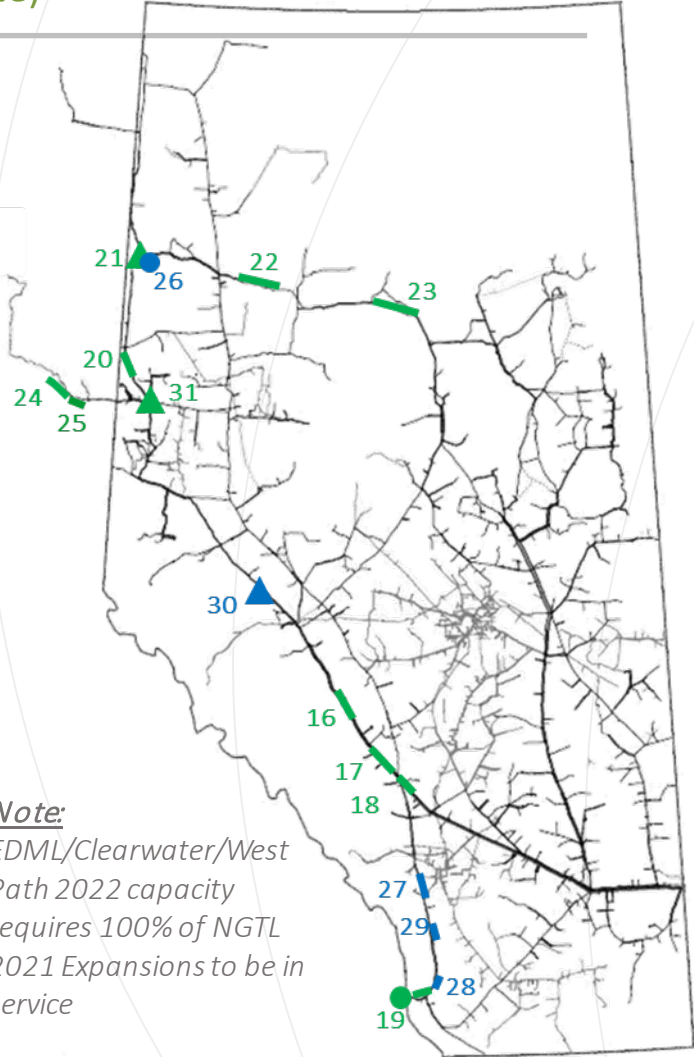
## Edson Mainline Expansion

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

## North Corridor Expansion

- ISD April 2023 - All sections are required to be in service for full NCE capacity

<p><b>Bear Canyon</b> (Map I.D.# 20)</p>	<ul style="list-style-type: none"> <li>• All mainline activities are complete</li> <li>• Hydrotest complete and caliper run completed</li> <li>• Investigative digs are complete</li> <li>• LTO submitted Feb. 24</li> </ul>
<p><b>North Star</b> (Map I.D.# 22) In-service January 19, 2023</p>	
<p><b>Hidden Lake North U/A</b> (Map I.D.#21)</p>	<ul style="list-style-type: none"> <li>• 95% construction complete</li> <li>• 82% dry commissioning complete, on track.</li> <li>• LTO approval received</li> </ul>
<p><b>Red Earth</b> (Map I.D.#23)</p>	<ul style="list-style-type: none"> <li>• All investigative digs within the Red Earth Caribou Range are complete</li> <li>• Received approval to work within Caribou RAP from the CER on Feb. 6. However, no work was required to extend into the RAP</li> <li>• Hydrotest and caliper run completed on the remaining sections outside of Caribou Range.</li> <li>• Investigative digs completed</li> <li>• Final LTO submitted on Feb. 23</li> </ul>



# Other Project Updates – NGTL (since Feb. 2, 2023 update)

## Intra-Basin Expansion

<p><b>Sunrise</b> (Map I.D. # 24) ISD April 2023</p>	<p>HDD is complete. Majority of pipeline installation activities are complete and preparing to start hydrotesting activities</p>
<p><b>Saturn</b> (Map I.D. # 25) ISD November 2023</p>	<p>Outstanding BC Oil and Gas Commission (OGC) permits have been obtained. Clearing activities commenced this week and mainline construction to start in the summer 2023</p>
<p><b>Emerson Creek C/S</b> (Map I.D. #30) ISD April 2024</p>	<p>26% construction complete, on track.</p>
<p><b>Saddle Hills U/A</b> (Map I.D. #31) ISD April 2024</p>	<p>Prime contractor has been awarded. Off-site fabrication commenced and field construction planned for March 2023.</p>

## West Path 2022/2023

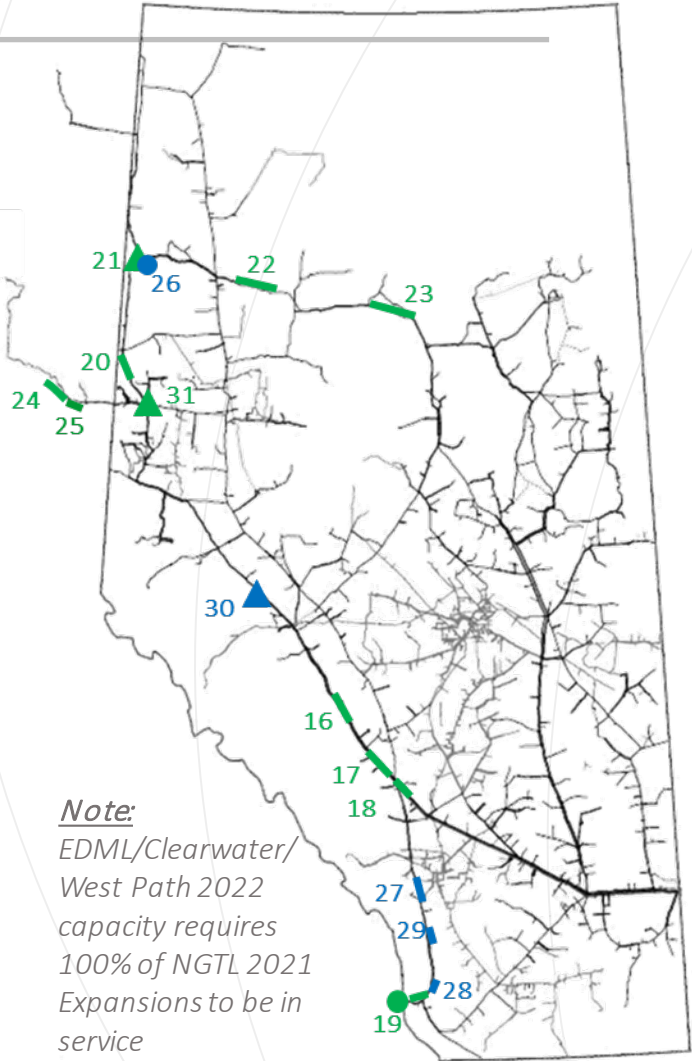
Raven (Map I.D. # 18)/ ABC (Map I.D. # 19) – In Service

**Turner Valley** (Map I.D. # 27)  
**Lundbreck** (Map I.D. # 28)  
**Longview** (Map I.D. # 29)  
ISD November 2023

CER issued the Certificate and Order on December 1, 2022.

Clearing activities have commenced on Turner Valley and Lundbreck

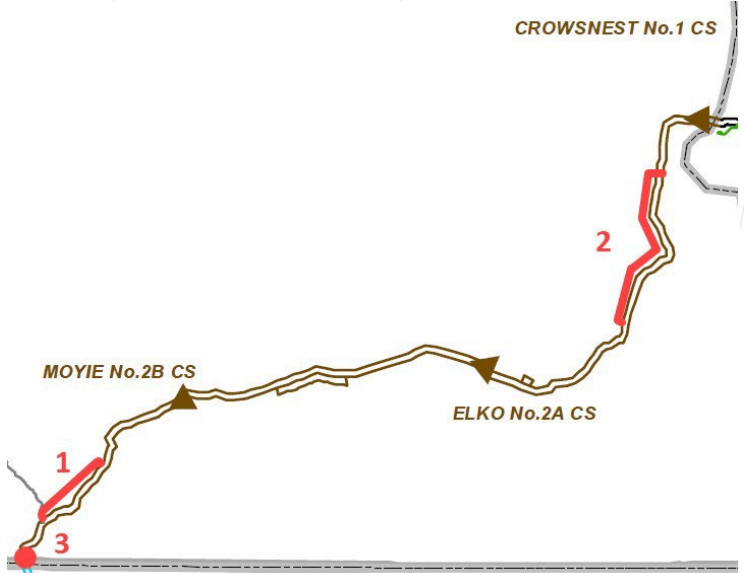
GIC delay has increased execution schedule risk. On-going risk associated with condition compliance and outstanding municipal and federal permits and land rights.



# Other Project Updates – FH (since Feb. 2, 2023 update)

## West Path 2022/2023

<p><b>Yahk</b> (Map I.D. #1)          ISD mid to late          March 2023</p>	<ul style="list-style-type: none"> <li>Hydrotest and caliper run completed</li> <li>Investigative digs complete</li> <li>LTO submitted Feb. 14</li> <li>Final tie-ins completed</li> </ul>
<p><b>Elko</b> (Map I.D. #2)          ISD November 2023</p>	<ul style="list-style-type: none"> <li>Remobilization is planned for early April 2023</li> <li>Execution risks associated with outstanding critical ancillary permits and land rights exist. The terrain involved also increases the risk of a Nov. 1, 2023 ISD.</li> <li>As a result of these risks, a valve is planned to be installed to achieve 50% of the incremental FH capacity by Nov. 1, 2023 if 100% cannot be achieved safely by that date due to permit delays or construction challenges.</li> <li>NGTL will inform all customers if there is a pivot towards a 50% incremental capacity outcome for Nov. 1, 2023.</li> </ul>

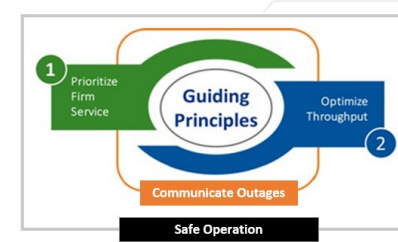


*Note: NGTL WestPath 2022 capacity requires 100% of NGTL 2021 Expansions to be in service*



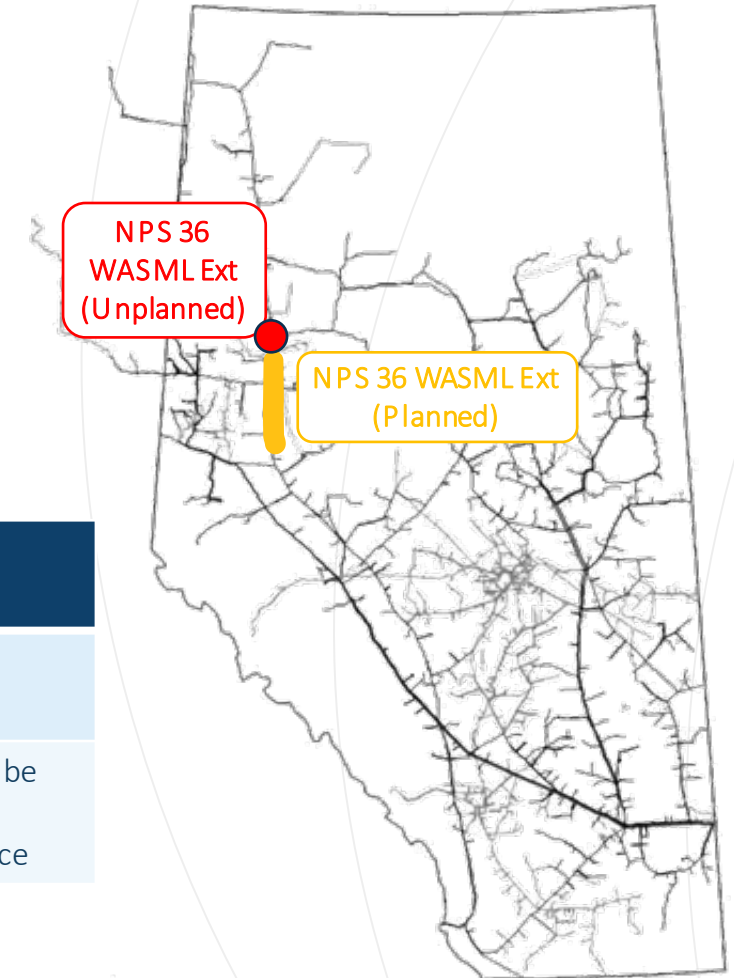
# Review of February Operations

# NPS 36 WAS Mainline Extension – Pipeline Maintenance



## Background:

- **Planned:** NPS 36 WAS Mainline Extension Pipeline Maintenance: Feb 13 – 16
- **Unplanned:** NPS 36 WAS Mainline Extension Pipeline Maintenance: Feb 15 – TBD
- **Capability communicated in DOP:**
  - USJR: 351 10<sup>6</sup>m<sup>3</sup>/d
  - NEDA: 142 0<sup>6</sup>m<sup>3</sup>/d
  - OSDA: 87 10<sup>6</sup>m<sup>3</sup>/d
- **Service Allowable:** 0% IT-R, 100% FT-R (USJR)



Bulletin Date	Effective Date	Service Allowable	Comments
Feb 15	Feb 16 (08:00 MST)	USJR: 0% IT-R, 100% FT-R	Bulletin Issued
Feb 17		USJR: 0% IT-R, 100% FT-R	Update: Work is ongoing and not expected to be resolved over the weekend. USJR capability expected to be 351 10 <sup>6</sup> m <sup>3</sup> /d until further notice





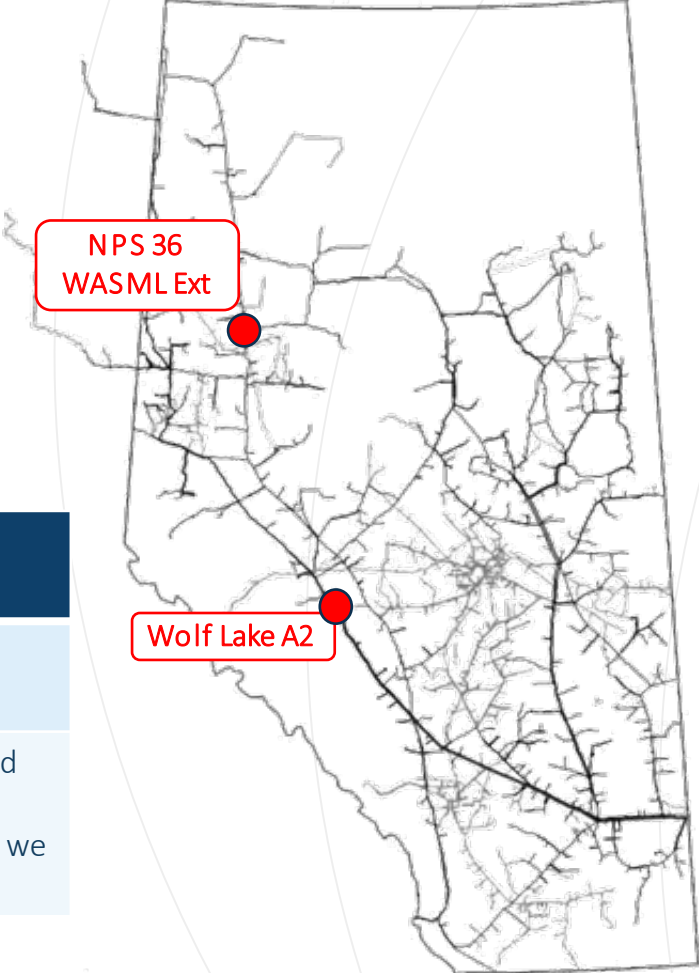
# NPS 36 WAS Mainline Extension – Pipeline Maintenance

## Wolf Lake A2 – Compressor Unit Maintenance



Background:

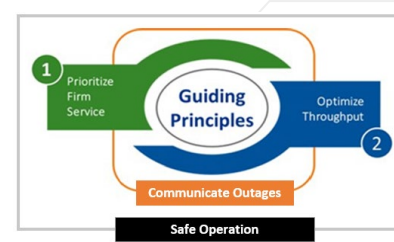
- **Unplanned:** NPS 36 WAS Mainline Extension Pipeline Maintenance: Feb 15 – TBD
- **Planned:** Wolf Lake A2 Compressor Unit Maintenance: Feb 27 – March 12
- **Capability communicated in DOP:**
  - USJR: 351 10<sup>6</sup>m<sup>3</sup>/d
  - NEDA: 142 0<sup>6</sup>m<sup>3</sup>/d
  - OSDA: 87 10<sup>6</sup>m<sup>3</sup>/d
- **Service Allowable:** 0% IT-R, 79% FT-R (USJR)



Bulletin Date	Effective Date	Service Allowable	Comments
Feb 27	Feb 28 (08:00 MST)	USJR: 0% IT-R, 79% FT-R	Bulletin Issued
			Outages still ongoing. A bulletin will be published to communicate the expected end date of the unplanned NPS 36 WAS Mainline Ext as soon as we have enough certainty to do so.

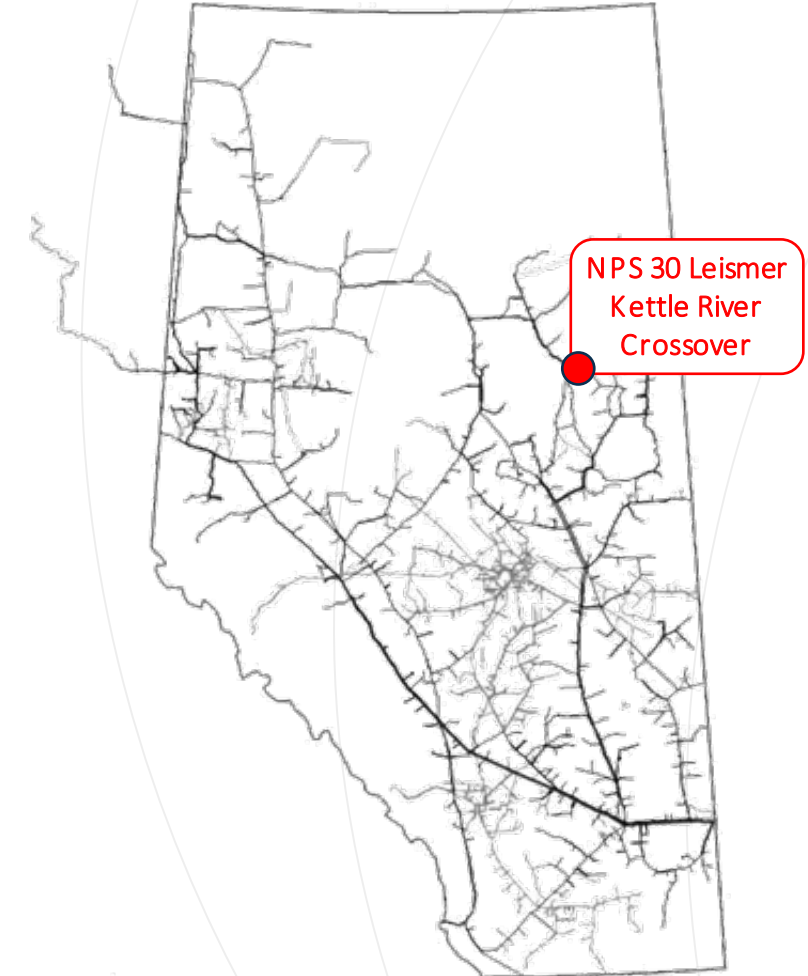


# NPS 30 Leismer Kettle River Crossover – Pipeline Modifications



## Background:

- **Planned:** NPS 30 Leismer Kettler River Crossover Pipeline Maintenance: Feb 24 – Mar 5
- **Capability communicated in DOP:** 86 10<sup>6</sup>m<sup>3</sup>/d (OSDA)
- **Service Allowable:** 0% IT-D, 100% FT-D (OSDA)



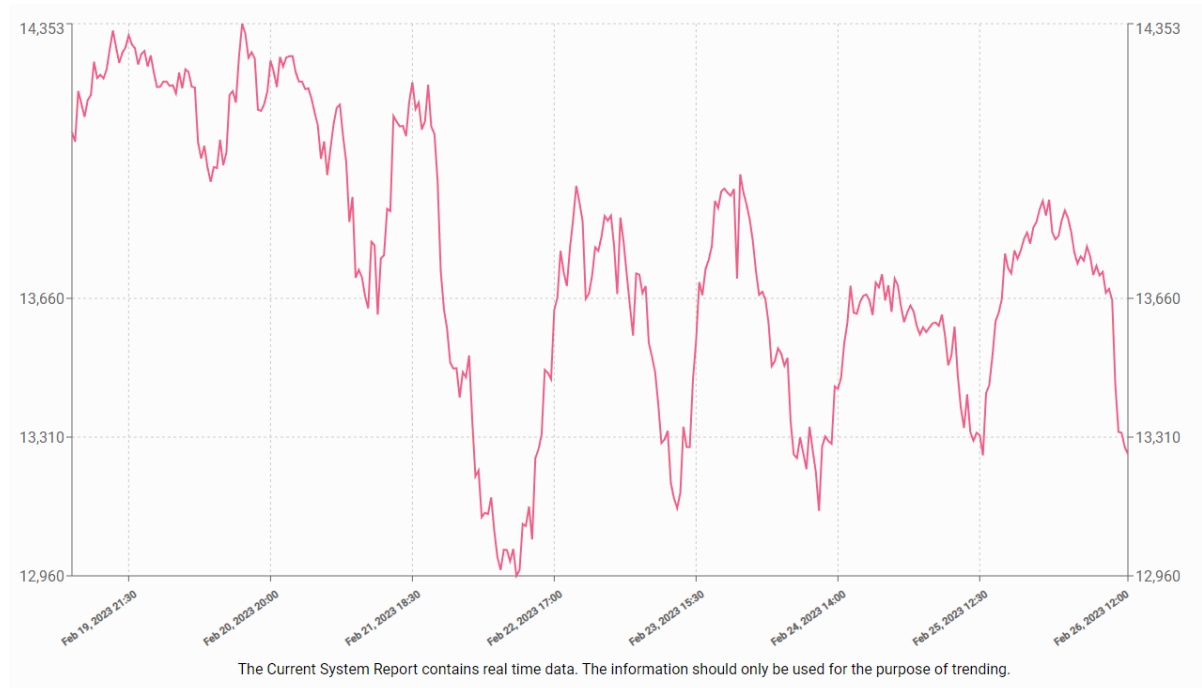
Bulletin Date	Effective Date	Service Allowable	Comments
Feb 21	Feb 24 (08:00 MST)	OSDA: 0% IT-D, 100% FT-D	Bulletin Issued
			Outage still ongoing but currently on track to be completed as scheduled



# USJR Authorization Level



Why hasn't the USJR allowable increased when USJR flows appear to be lower than capability?



## Unsteady Flows

- Cycle of daytime lows and overnight peaks
- Overnight peaks at or near capacity
- DOP chart only shows a daily average flow

NGTL Field Receipts (Current System Report)



# Review of DOP Outages

From DOP as of Wednesday March 1

# 2023 Outages

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- All known planned outages at this time have been added to the DOP
- Start and End Dates, Durations, Capability, Area of impact may be revised as new information becomes available or further optimization opportunities are identified

*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.

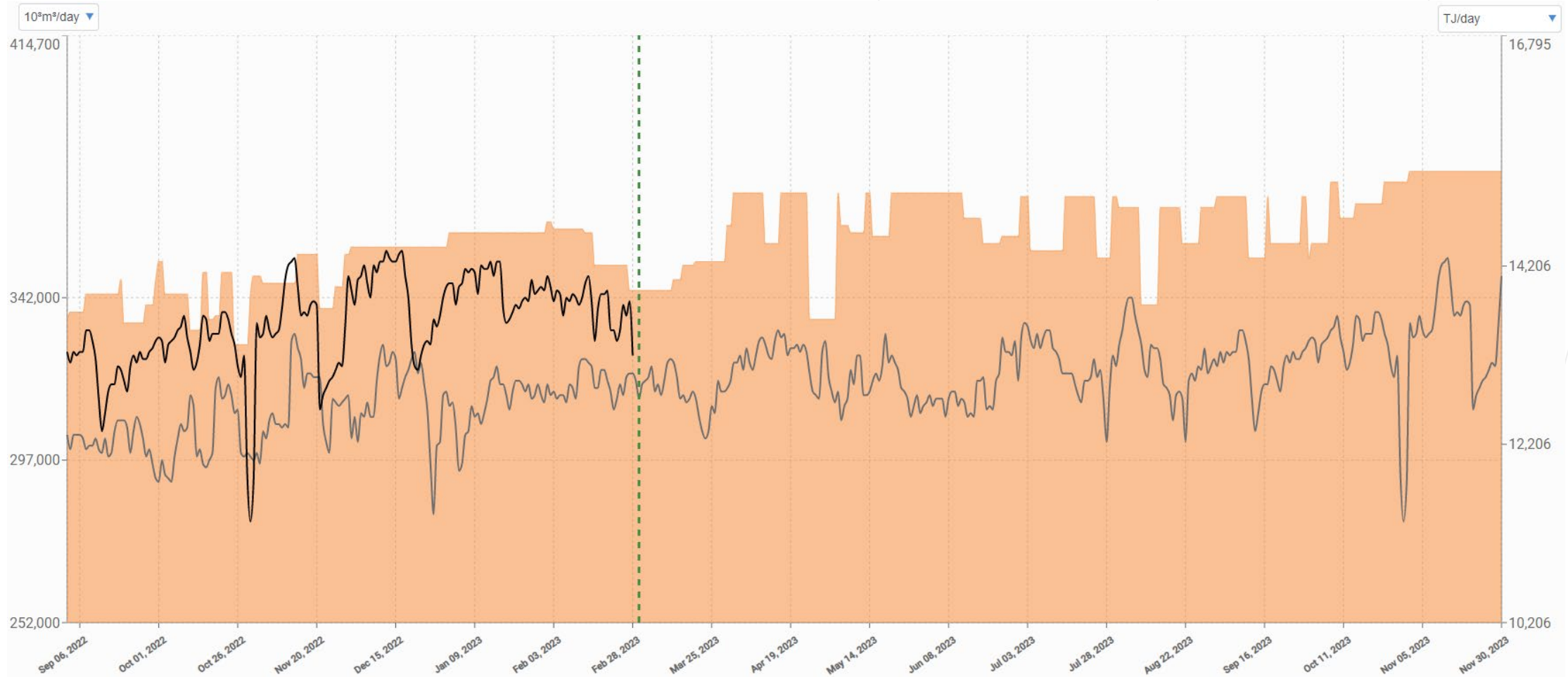
# Daily Operating Plan (DOP) – Facility Assumptions

Date	Expansion Facilities
Current	<p>95% scenario of 2021 expansion</p> <ul style="list-style-type: none"> <li>2021 Expansion: GPML Loop 2 (3km section adjacent to Little Smoky River that connects to DVN/DVS) in-service</li> </ul>
March 1, 2023	<p><b>Foothills BC Expansion:</b></p> <ul style="list-style-type: none"> <li>BC Mainline Loop 2 (Yahk)</li> </ul>
April 1, 2023	<p><b>2021 Expansion:</b></p> <ul style="list-style-type: none"> <li>GPML Loop 2 (Colt section)</li> </ul> <p><b>North Corridor Expansion:</b></p> <ul style="list-style-type: none"> <li>NWML Loop 2 (Bear Canyon), NCC Loop (North Star 2), NCC Loop (Red Earth 3), Hidden Lake North Unit Addition</li> </ul> <p><b>Intra-basin Expansion:</b></p> <ul style="list-style-type: none"> <li>Groundbirch Mainline Loop (Sunrise)</li> </ul>
November 1, 2023	<p><b>Intra-basin Expansion:</b></p> <ul style="list-style-type: none"> <li>Groundbirch Mainline Loop (Saturn)</li> </ul> <p><b>2023 West Path:</b></p> <ul style="list-style-type: none"> <li>WASML Loop 2 (Turner Valley), WASML Loop 2 (Lundbreck), WASML Loop 2 (Longview)</li> </ul> <p><b>Foothills BC Expansion:</b></p> <ul style="list-style-type: none"> <li>BC Mainline Loop 2 (Elko)</li> </ul>



# Upstream James River

Capability - Actual Flow - Historical Flow



This slide may not be accurate beyond the March 2 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 <sup>6</sup> m <sup>3</sup> /d)	USJR Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Area Outage Capability (10 <sup>6</sup> m <sup>3</sup> /d)	Outage Area Typical Flows (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area
NPS 36 WAS Mainline Extension – Pipeline Maintenance	16-Feb-23	TBD	351 (Feb 16-26) 344 (Feb 27-Mar 12)	12 19	N/A	310 - 340	Potential impact to FT-R USJR
Wolf Lake A2 – Compressor Station Maintenance	27-Feb-23	12-Mar-23	352	11	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
NPS 48 Grande Prairie Mainline Loop 2 – Pipeline Maintenance	5-May-23	12-May-23	362	9	N/A	310 - 340	Potential impact to FT-R USJR
Gold Creek – Compressor Station Maintenance	8-May-23	12-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 <sup>6</sup> m <sup>3</sup> /d)	USJR Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Area Outage Capability (10 <sup>6</sup> m <sup>3</sup> /d)	Outage Area Typical Flows (10 <sup>6</sup> m <sup>3</sup> /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
Latornell – Compressor Station Maintenance	25-Jun-23	30-Jun-23	359	12	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
NPS 36 WAS Mainline Extension – Pipeline Maintenance	8-Aug-23	13-Aug-23	340	27	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
Clearwater – Compressor Station Maintenance	10-Oct-23	14-Oct-23	364	10	N/A	310 - 340	Potential impact to FT-R USJR
Latornell A1 – Compressor Station Maintenance	10-Oct-23	23-Oct-23	368	6	N/A	310 - 340	Potential impact to FT-R USJR

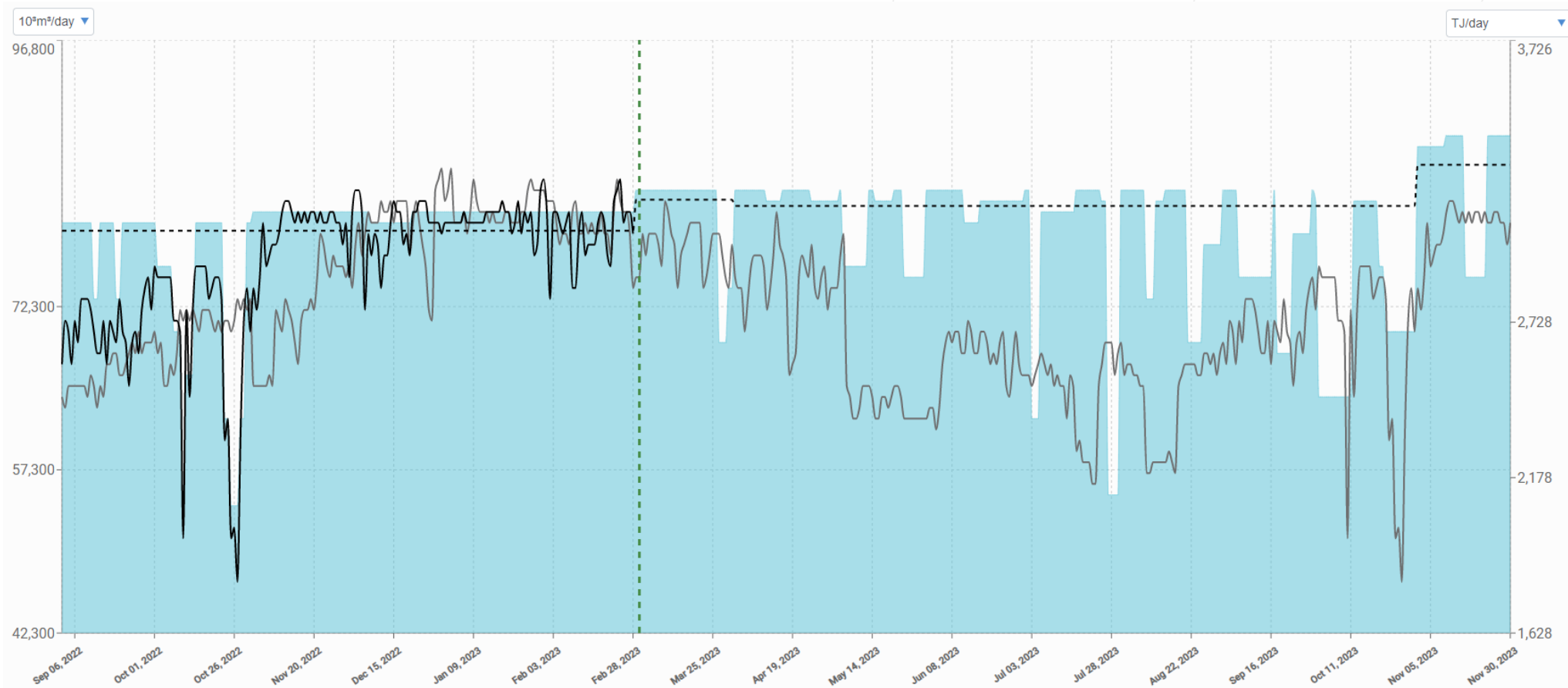
This slide may not be accurate beyond the March 2 NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information



# Alberta-B.C. Border

(includes both NGTL and Foothills BC outages)

■ Capacity   
 — Actual Flow   
 — Historical Flow   
 - - Contracts



This slide may not be accurate beyond the March 2 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 <sup>6</sup> m <sup>3</sup> /d)	Impact (10 <sup>6</sup> m <sup>3</sup> /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
Burton Creek A3 – Compressor Station Maintenance	27-Mar-23	31-Mar-23	74	9	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
NPS 42 Western Alberta System Mainline Loop – Pipeline Maintenance	5-May-23	12-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
NPS 36 FPL Zone 8 Segment 2 – Pipeline Maintenance	12-Jun-23	16-Jun-23	80	3	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 36 Western Alberta System Mainline – Pipeline Modifications	5-Jul-23	16-Jul-23	81	2	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
NPS 42 Western Alberta System Mainline Loop – Pipeline Maintenance	27-Jul-23	30-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

**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 March 2 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 <sup>6</sup> m <sup>3</sup> /d)	Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area
Moyie – Compressor Station Maintenance	21-Aug-23	25-Aug-23	69	14	Potential Impact to FT Foothills BC
Winchell Lake A2 – Compressor Station Maintenance	21-Aug-23	25-Aug-23	81	2	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders Segment 22 and Partial 21
NPS 36 FPL Zone 8 Segment 2A – Pipeline Maintenance	26-Aug-23	31-Aug-23	78	5	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
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
Turner Valley A3 – Compressor Station Maintenance	18-Sep-23	20-Sep-23	79	4	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
NPS 48 Western Alberta System Mainline Loop 2 – Pipeline Modifications	20-Sep-23	28-Sep-23	79	4	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
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

**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 March 2 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 <sup>6</sup> m <sup>3</sup> /d)	Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area
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 42 Western Alberta System Mainline Loop – Pipeline Modifications	1-Nov-23	9-Nov-23	87	1	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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# 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 <sup>6</sup> m <sup>3</sup> /d)	Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area
NPS 34 Eastern Alberta System Mainline – Pipeline Maintenance	21-Mar-23	27-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	20-Apr-23	150/149	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 Central Alberta System Mainline Loop – Pipeline Modifications	18-Apr-23	25-Apr-23	157	3	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 36 EAS Mainline Loop 2 – Pipeline Maintenance	8-May-23	17-May-23	155	5	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	17-Jun-23	14-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

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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 <sup>6</sup> m <sup>3</sup> /d)	Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area
NPS 42 Foothills Zone 6 – Pipeline Maintenance	5-Jul-23	14-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
NPS 48 Edson, Central Alberta System, and Eastern Alberta System Mainline Loop 3 and 4 – Pipeline Maintenance <sup>1</sup>	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
Beiseker B3 – Compressor Station Maintenance	15-Jul-23	23-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
Clearwater – Compressor Station Maintenance	10-Oct-23	14-Oct-23	143	16	No impact to FT-D anticipated Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Clearwater A1 & A5 – Compressor Station Maintenance	16-Oct-23	20-Oct-23	155	4	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
Jenner – Compressor Station Maintenance	13-Nov-23	30-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

<sup>1</sup>Expected to be managed by reducing all EGAT IT-D but has potential to impact EGAT FT-D service

**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

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# Foothills Zone 9 (FHSK)

No impact to FT

Potential impact to FT

Partial impact to FT

Outage Description	Start	End	Capability (10 <sup>6</sup> m <sup>3</sup> /d)	System	Service Allowable Location/Area
NPS 42 Foothills Mainline Zone 9 – Pipeline Maintenance	25-Mar-23	29-Mar-23	25	FHSK	No impact to FT anticipated Monchy Border Foothills Saskatchewan

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# Oil Sands Delivery Area

■ Capability — Actual Flow — Historical Flow



This slide may not be accurate beyond the March 2 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 <sup>6</sup> m <sup>3</sup> /d)	NEDA Capability (10 <sup>6</sup> m <sup>3</sup> /d)	Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area
NPS 30 Leismer Kettle River Crossover – Pipeline Modification	24-Feb-23	5-Mar-23	86	-	5	No impact to FT-D anticipated Segments 10 and 14 Potential impact to FT-D Segment 11
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	20-Mar-23	29-Mar-23	83	140	9	Potential impact to FT-D NEDA
NPS 42 North Central Corridor – Pipeline Maintenance	25-Apr-23	3-May-23	77	120	17	Potential impact to FT-D NEDA

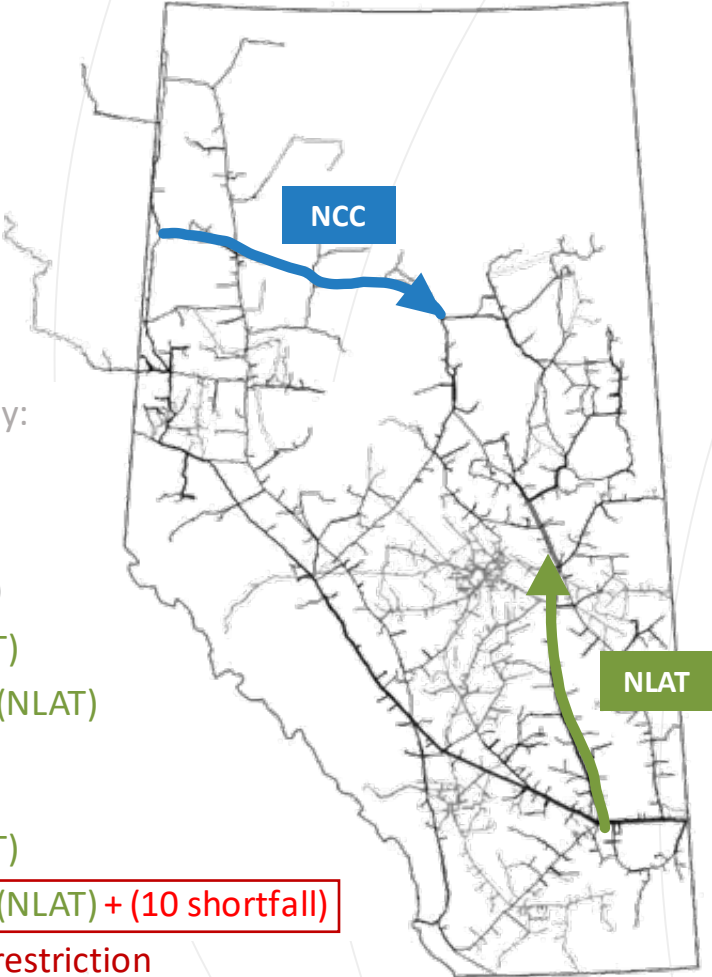
This slide may not be accurate beyond the March 2 NGTL/Foothills Customer Operations meeting on WebEx.  
Please refer to the DOP on TC Customer Express for current outage information



# Outages affecting NEDA in March

## Why are these outages significant?

- Always maximizing NCC flow - most efficient path for supply into NEDA
- In the summer, when NEDA demand is low, there is typically capability available on the NLAT to supplement reduced flow on the NCC
- In the winter, when NEDA demand is high, the NLAT is typically already flowing at max capability resulting in the inability to supplement a reduction of NCC flow
  - If NEDA demand is higher than the combined flow on the NCC and NLAT, service allowable would be reduced in NEDA to ensure equitability and safe operation



For illustrative purposes only:

**NCC Max Capability: 80**

**NLAT Max Capability: 20**

**Summer** NEDA Demand: 90

Typical: 80 (NCC) + 10 (NLAT)

NCC Outage: 70 (NCC) + 20 (NLAT)

**Winter** NEDA Demand: 100

Typical: 80 (NCC) + 20 (NLAT)

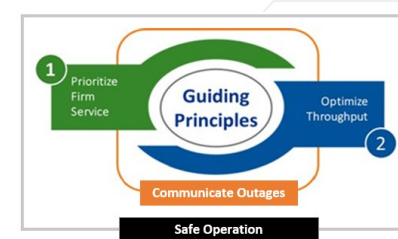
NCC Outage: 70 (NCC) + 20 (NLAT) + (10 shortfall)

Would require restriction



# NPS 48 Edson, Central Alberta System, and Eastern Alberta System Mainline Loop 3 and 4 – Pipeline Maintenance

# NPS 48 EDS/CAS/EAS Mainline Loop 3/4 – Pipeline Maintenance



**Location:** Schrader to Empress

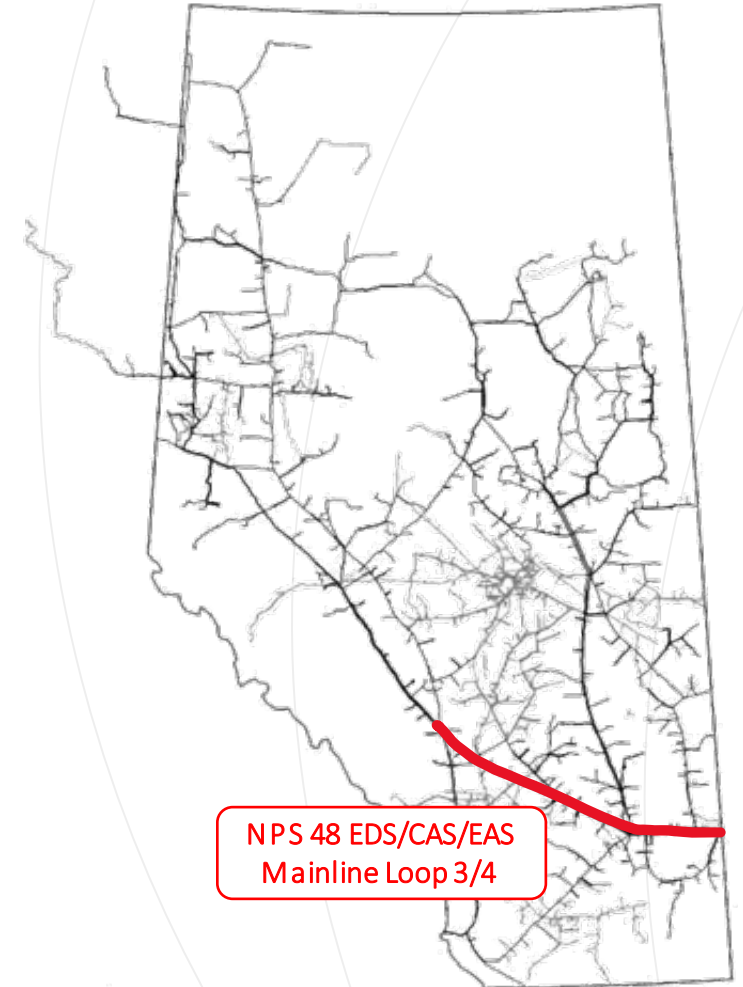
**Duration:** July 15 to July 23<sup>rd</sup>

**Capability communicated in DOP:** 142 10<sup>6</sup>m<sup>3</sup>/d (EGAT)

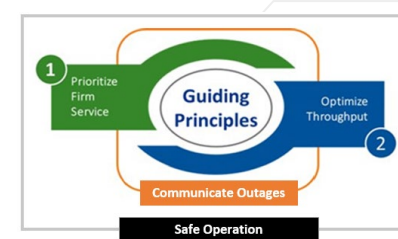
## Why is this outage significant?

- Distance: ~373 km of one continuous Inline Inspection
- Complexity:
  - Multiple Compressor Stations bypassed during the run and unable to operate
  - Runs will last over a day
  - Key Export to multiple different downstream pipelines and markets

Currently expected to be managed by reducing all EGAT IT-D but has potential to impact EGAT FT-D service



# NPS 48 EDS/CAS/EAS Mainline Loop 3/4 – Pipeline Maintenance

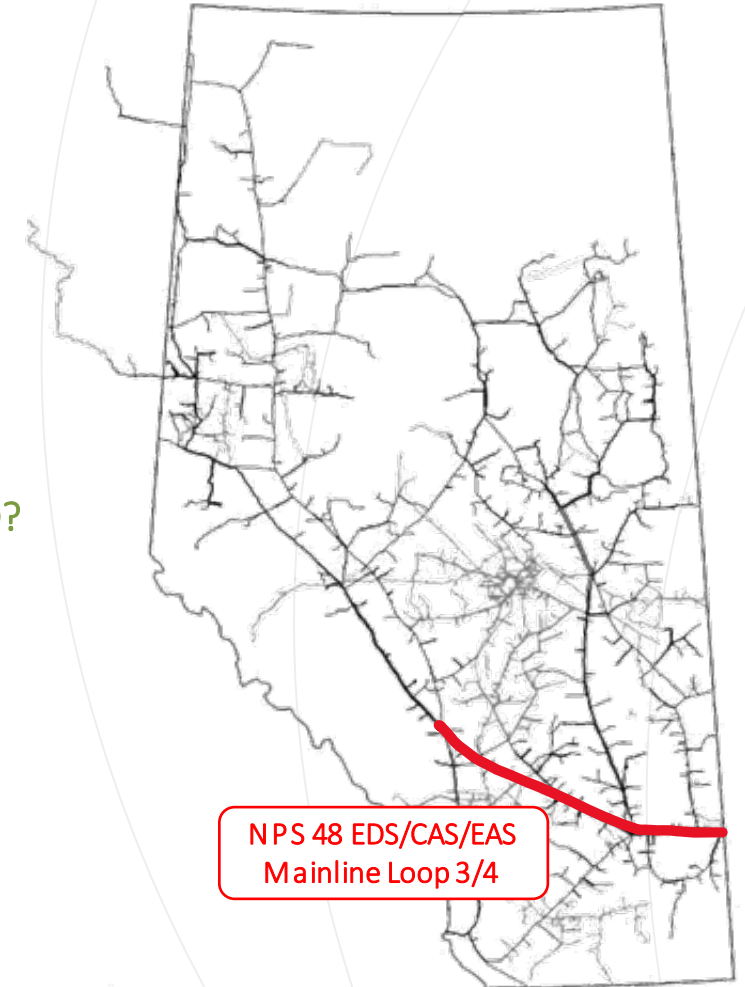


## What are we doing to reduce risk?

- **OBA:** Pre-positioning prior to the outage
- **Tool Selection:** Working closely with the ILLI vendor to ensure maximum tool speeds
- **Resourcing:** Ensuring regional resources are prepared and strategically placed to minimize response times and manage any unplanned events during this window
- **Outage Bundling:** maximizing opportunity to do maintenance on facilities that cannot be utilized during execution of this ILLI

## Why couldn't this outage be managed with a FT-R curtailment instead of reducing IT-D/FT-D?

- **Geographic location and Capacity Impact:** within the local lower EGAT area (not USJR)
- **Demand reduction:** Required to occur in the local lower EGAT area
  - Local Deliverability impact (i.e. ability to deliver to EGAT area impacted)
  - Reduction of FT-R could result in an associated reduction in demand in delivery areas outside of the lower EGAT area (For example: WGAT, NEDA, or OSDA) which would have no benefit



# CONTACTS



## MARKETING REPS

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