



NGTL System and Foothills Pipelines Ltd.

CUSTOMER OPERATIONS MEETING

JULY 6, 2023





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



Storm Safety: Preparedness

Did you know... Alberta is on track to experience an above average active storm season? 13 Tornadoes recorded as of July 1. AB gets an average of 12-15 tornado reports per year.

Preparedness is Key.

- Create an Emergency Plan (where to go, what to bring, who to include & contact, etc.)
- Keep up-to-date on local weather reports & news. Pay attention to local warnings.

Know the difference between a Thunderstorm/Tornado “Watch” and a “Warning”

- **Watch:** An event is possible in the area.
- **Warning:** An event is occurring. Seek shelter if possible. Basements and away from windows/walls is best.

Remember: When the Thunder Roars, Go Indoors!



Didsbury Tornado – July 1, 2023
Photo Credit: Matt Melnyk

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

*Changes in the DOP from last month's presentation are highlighted in yellow

Important Notes



Outage information in this presentation may not be accurate beyond the July 6, 2023 NGTL/Foothills Customer Operations (WebEx only) meeting

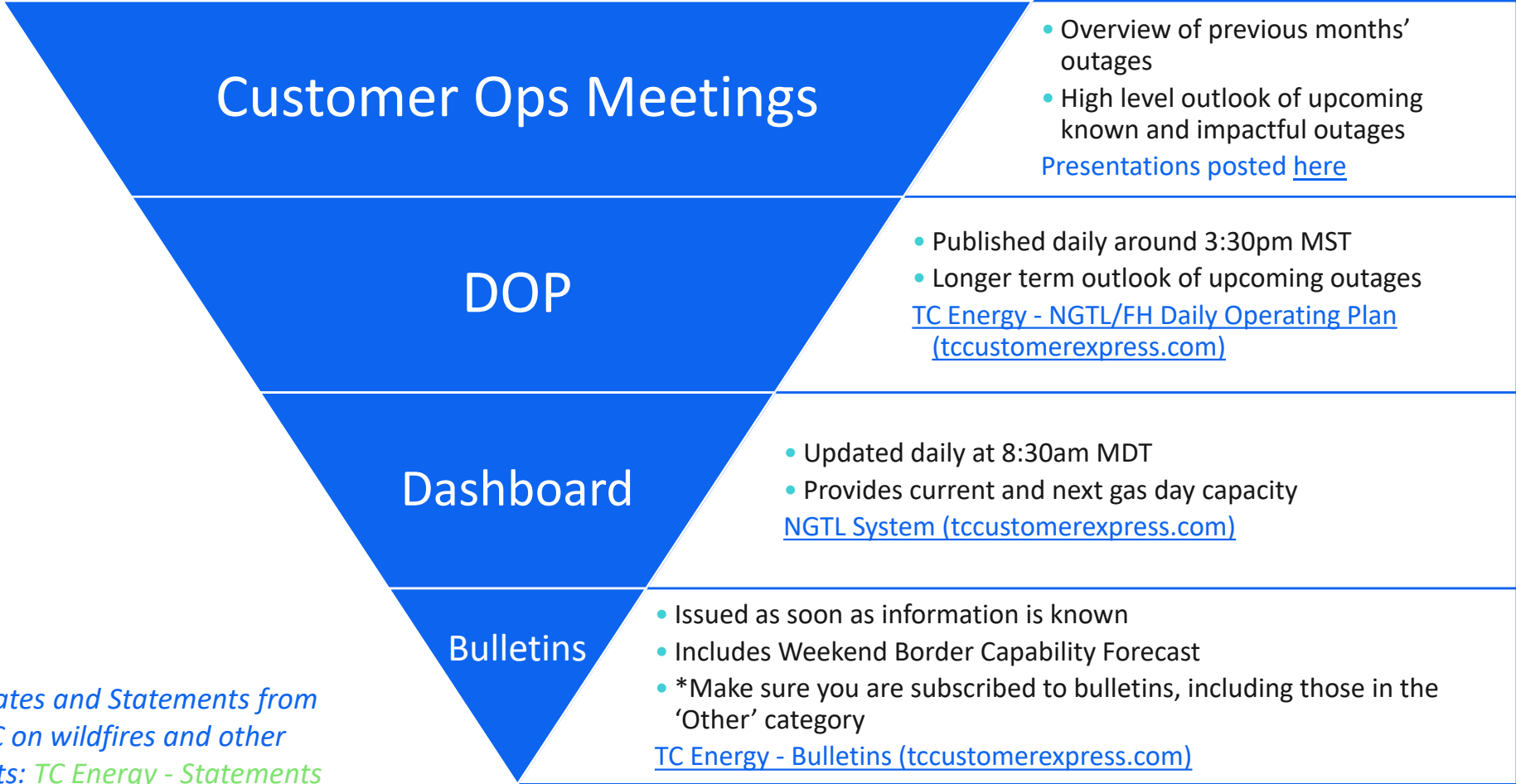


For current outage and capability information, please refer to the most recent Daily Operating Plan ([DOP](#)), the [Dashboard](#) and [bulletins](#)



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

Outage Communication Tools: Order



Updates and Statements from TC on wildfires and other events: [TC Energy - Statements](#)

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



Agenda

1. Project Updates
2. Review of June Operations
3. Alberta Wildfires (June)
4. Review of Upcoming DOP Outages
5. July Outage Highlight (Outage ID 18826917)



Project Updates



Project Updates: ISD Summary (since June 1, 2023 update)

NGTL Projects:

Intra-Basin Expansion	Saturn (ISD Nov 2023) Saddle Hills Unit Addition (ISD April 2024) Emerson Creek Compressor Station (ISD April 2024)
WestPath 2023	Turner Valley, Lundbreck and Longview (ISD Nov 2023)

FH Projects:

Elko Section Loop	ISD Nov 2023 <i>*risk of 50% capacity achieved by Nov 2023 (slide 11 for further details)</i>
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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



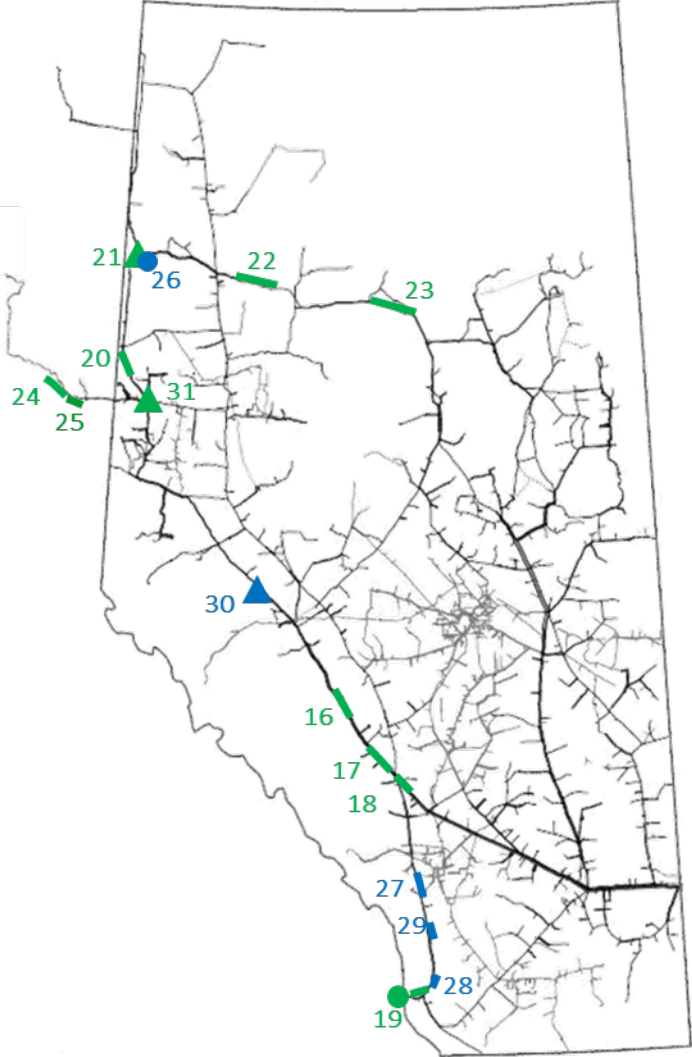
Other Project Updates: NGTL (since June 1, 2023 update)

Intra-Basin Expansion

<p>Saturn (Map I.D. # 24) ISD Nov 2023</p>	<ul style="list-style-type: none"> Stripping and grading of the right-of-way and road bores have commenced. On track.
<p>Emerson Creek Compressor Station (Map I.D. #30) ISD April 2024</p>	<ul style="list-style-type: none"> 48% construction complete Evacuation due to wildfires in June and floods impacting progress. Crews returned to site June 28th. No impact to schedule.
<p>Saddle Hills Unit Addition (Map I.D. #31) ISD April 2024</p>	<ul style="list-style-type: none"> Field construction continues, on track.

West Path 2023

<p>Turner Valley (Map I.D. # 27) Lundbreck (Map I.D. # 28) Longview (Map I.D. # 29) ISD Nov 2023</p>	<ul style="list-style-type: none"> Stripping and grading activities have commenced Road bores have commenced Work at the valve sites are underway Blasting activities in mountainous terrain continue on Lundbreck
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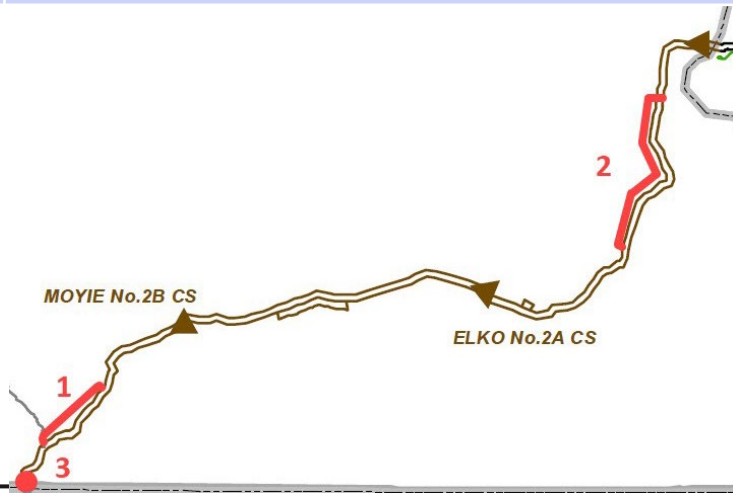
Other Project Updates: FH (since June 1, 2023 update)

West Path 2023

- Yahk in-service (Map I.D. # 1)

Elko (Map I.D. # 2)
ISD Nov 2023

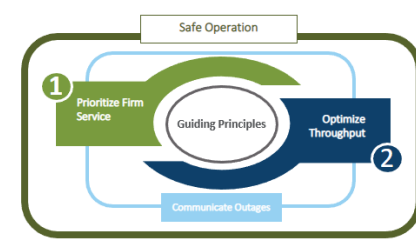
- Pipe installation at watercourse crossings continue
- Blasting activities through mountainous terrain continue
- Stringing activities have commenced
- Mainline activities to commence in early July
- Contingency valve allowing project to achieve 50% capacity will be installed (CER approval received on June 30th)



Review of June Operations



System Fully Unrestricted for the Month of June!



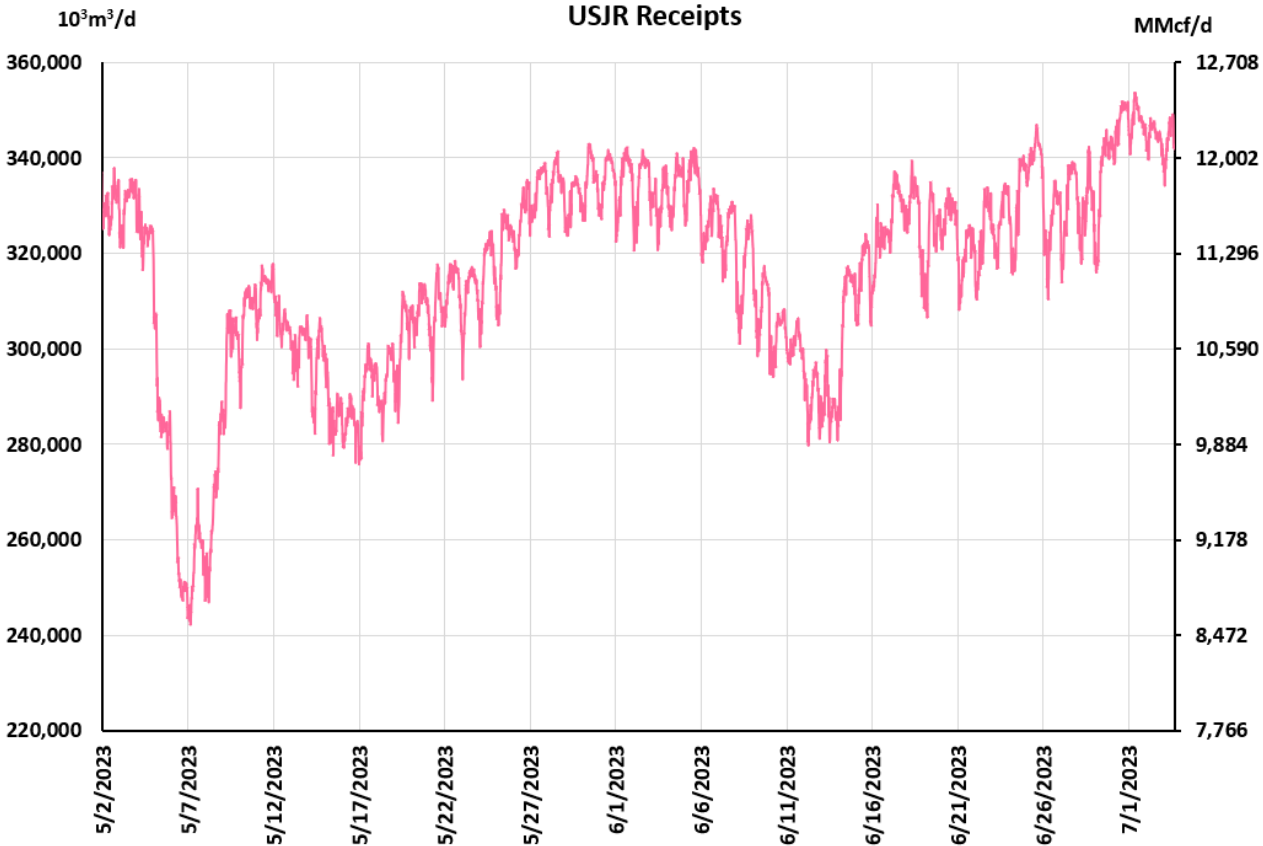
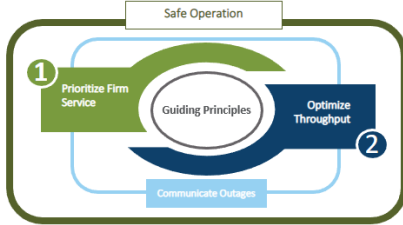
100% IT and 100% FT has been authorized across the NGTL and FH systems since May 20



Alberta Wildfires (June)



Alberta Wildfires - Flows



Decrease in USJR supply:

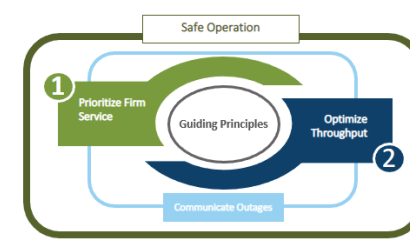
- Not as rapid or as steep as Wildfire event in May
- ~40 10⁶m³/d (~1.4 Bcf/d) over 5 days

Recovery of USJR supply:

- Rapid increase in supply following lift of evacuation orders
- ~30 10⁶m³/d (~1 Bcf/d) overnight between June 13 and 14



Alberta Wildfires - Facilities

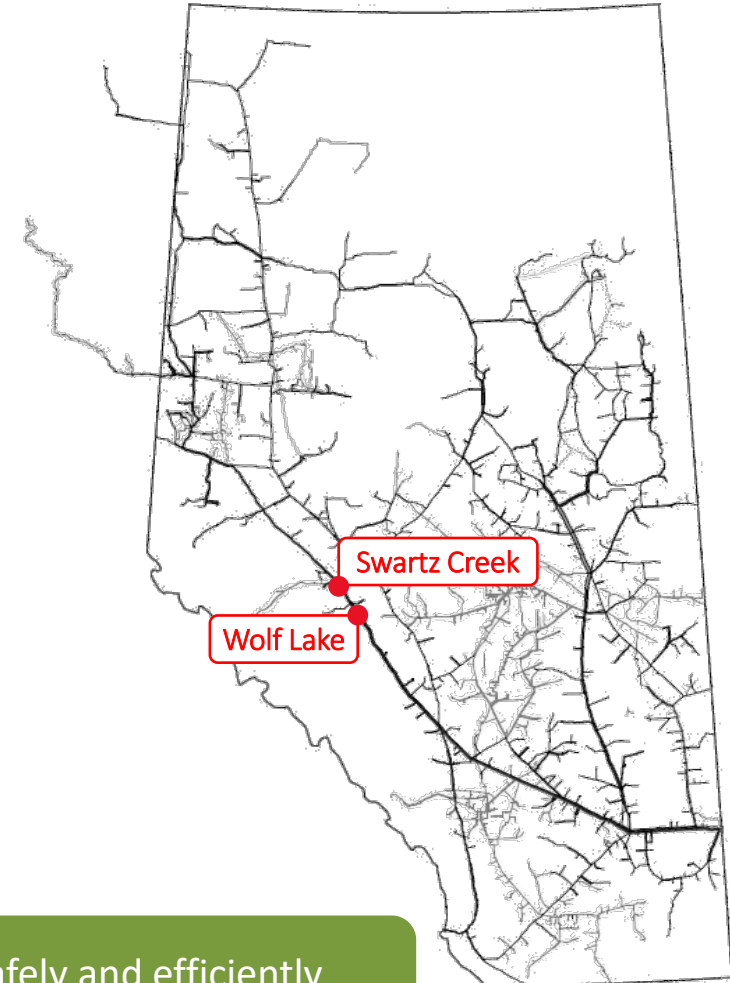


Controlled precautionary shut-downs at:

- Swartz Creek Compressor Station
- Wolf Lake Compressor Station

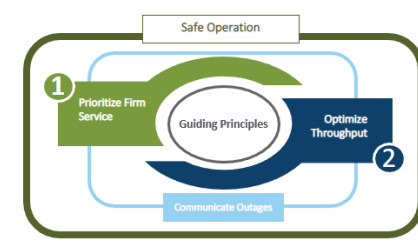
Operation of several meter stations impacted by loss of power

Decrease in supply allowed for precautionary shutdowns of two major compressor stations with no impact to service levels



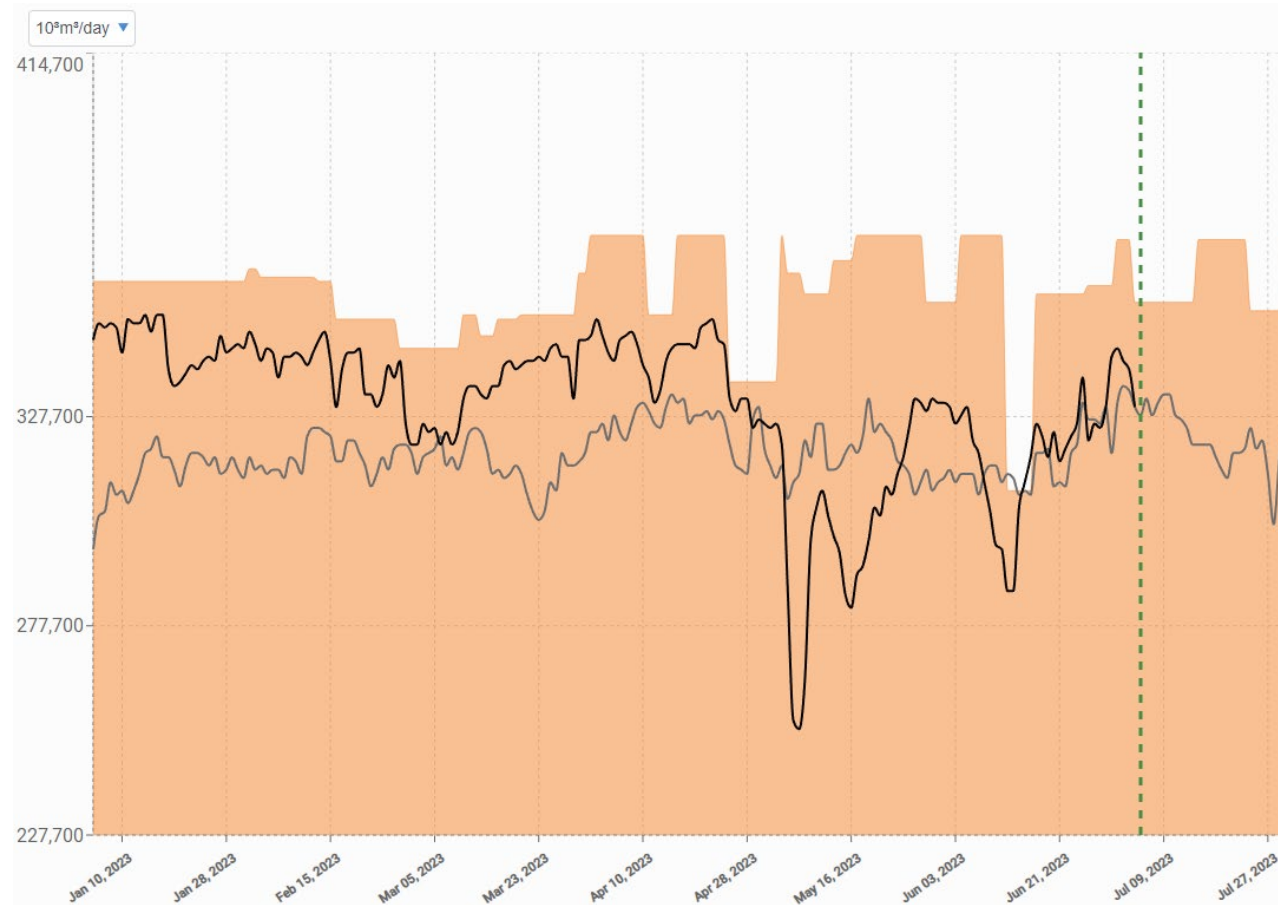
No impact to service and system continued to operate safely and efficiently





Alberta Wildfires

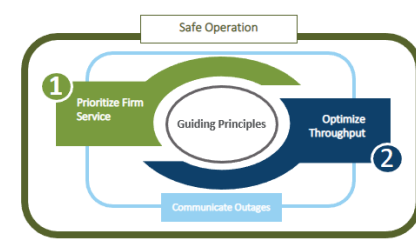
Why was the capacity impact from the controlled shut-downs so large in June but not in May?



- Decrease in supply allowed for precautionary shutdowns of two major compressor stations with no further impact to service levels during both events in May and June.
- In May, the USJR capability impact was not added to the DOP as the precautionary shutdowns were only in place for a couple days over a weekend (DOP is only published on weekdays).
- In June, the USJR capability impact was added to the DOP as the event lasted several days. Therefore, the outages were added to the DOP in the first weekday publication.



Alberta Wildfires



Have outages been cancelled or deferred as a result of wildfires?

- Most outages have proceeded as planned
- Work prioritization and schedule optimization is ongoing
 - Various outages that have localized or minor impacts (not communicated in the DOP) have been cancelled or deferred to release resources for outages that are expected to have greater system impacts and/or require completion prior to the end of the core summer maintenance season
- At this time, there are only two outages that were previously communicated in the DOP that were removed and have been rescheduled – both related to tie-ins for the future Emerson Creek Compressor Station

We are taking every opportunity to expedite outages in areas not currently affected by wildfires to mitigate and/or reduce outage impacts and resource constraints later in the summer

Review of DOP Outages

(From DOP as of Wednesday, July 5)



2023 Outages

- 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.



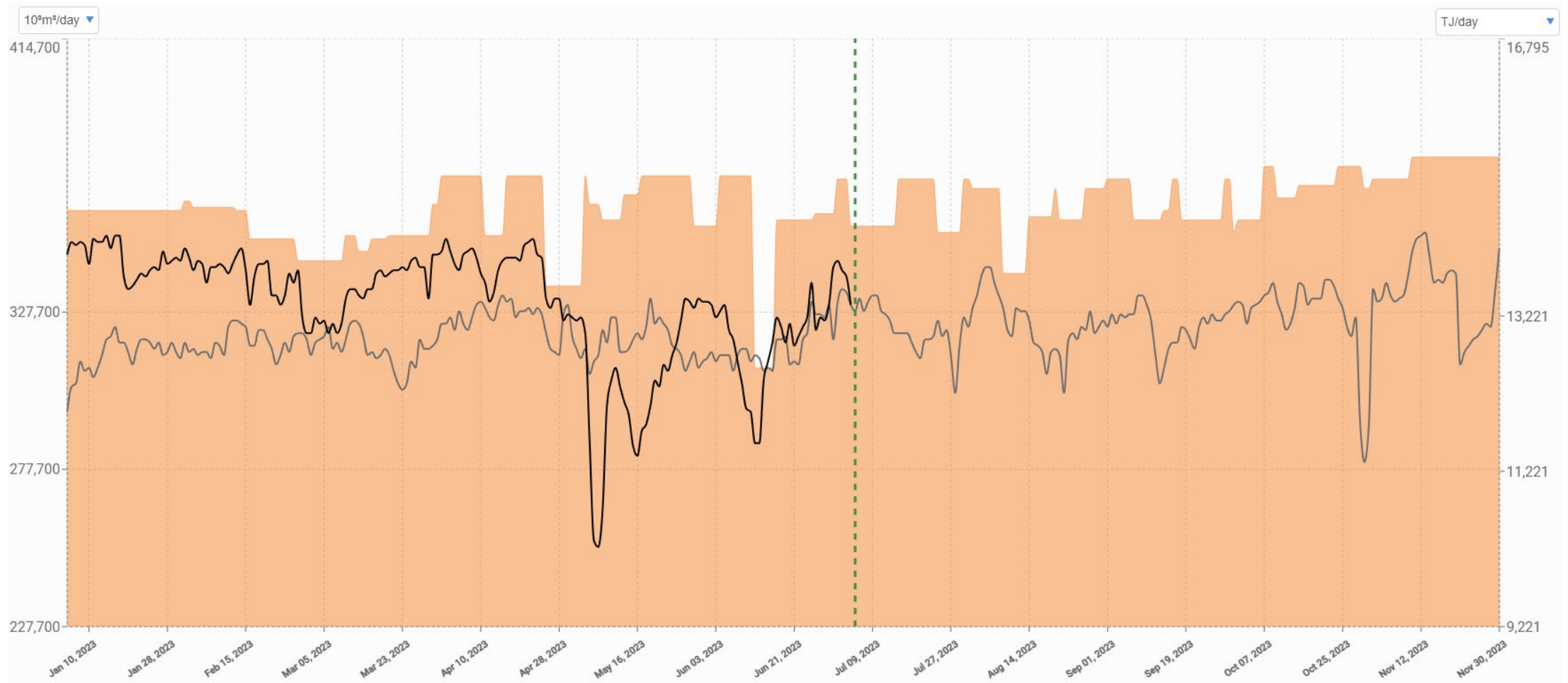
Daily Operating Plan (DOP): Facility Assumptions

Date	Expansion Facilities
November 2023	<p>Intra-basin Expansion:</p> <ul style="list-style-type: none"> • Groundbirch Mainline Loop (Saturn) <p>2023 West Path:</p> <ul style="list-style-type: none"> • WASML Loop 2 (Turner Valley), WASML Loop 2 (Lundbreck), WASML Loop 2 (Longview) <p>Foothills BC Expansion:</p> <ul style="list-style-type: none"> • BC Mainline Loop 2 (Elko)



Upstream James River

Capability - Actual Flow - Historical Flow



This slide may not be accurate beyond the July 6 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 Grande Prairie Mainline – Pipeline Maintenance	4-Jul-23	14-Jul-23	355	15	N/A	320 - 350	Potential impact to FT-R USJR
Meikle River C – Compressor Station Maintenance	24-Jul-21	28-Jul-23	353	17	N/A	320 - 350	Potential impact to FT-R USJR
NPS 36 Northwest Mainline Loop – Pipeline Maintenance	25-Jul-23	29-Jul-23	353	17	N/A	320 - 350	Potential impact to FT-R USJR
Nordegg B3 & B5 – Compressor Station Maintenance	8-Aug-23	12-Aug-23	346	21	N/A	320 - 350	Potential impact to FT-R USJR
NPS 36 WAS Mainline Extension – Pipeline Maintenance	8-Aug-23	13-Aug-23	340	27	N/A	320 - 350	Potential impact to FT-R USJR
NPS 48 Grande Prairie Mainline Loop 2 – Pipeline Modifications	14-Aug-23	19-Aug-23	358	9	N/A	320 - 350	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
Otter Lake – Compressor Station Maintenance	7-Sep-23	13-Sep-23	357	13	230	180 - 220	Potential impact to FT-R USJR U/S Latornell
NPS 24 North Central Corridor – Pipeline Maintenance	7-Sep-23	15-Sep-23	360	10	233	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

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Upstream James River Receipt Area (USJR)

No
impact to FT

Potential
impact to FT

Partial
impact to FT

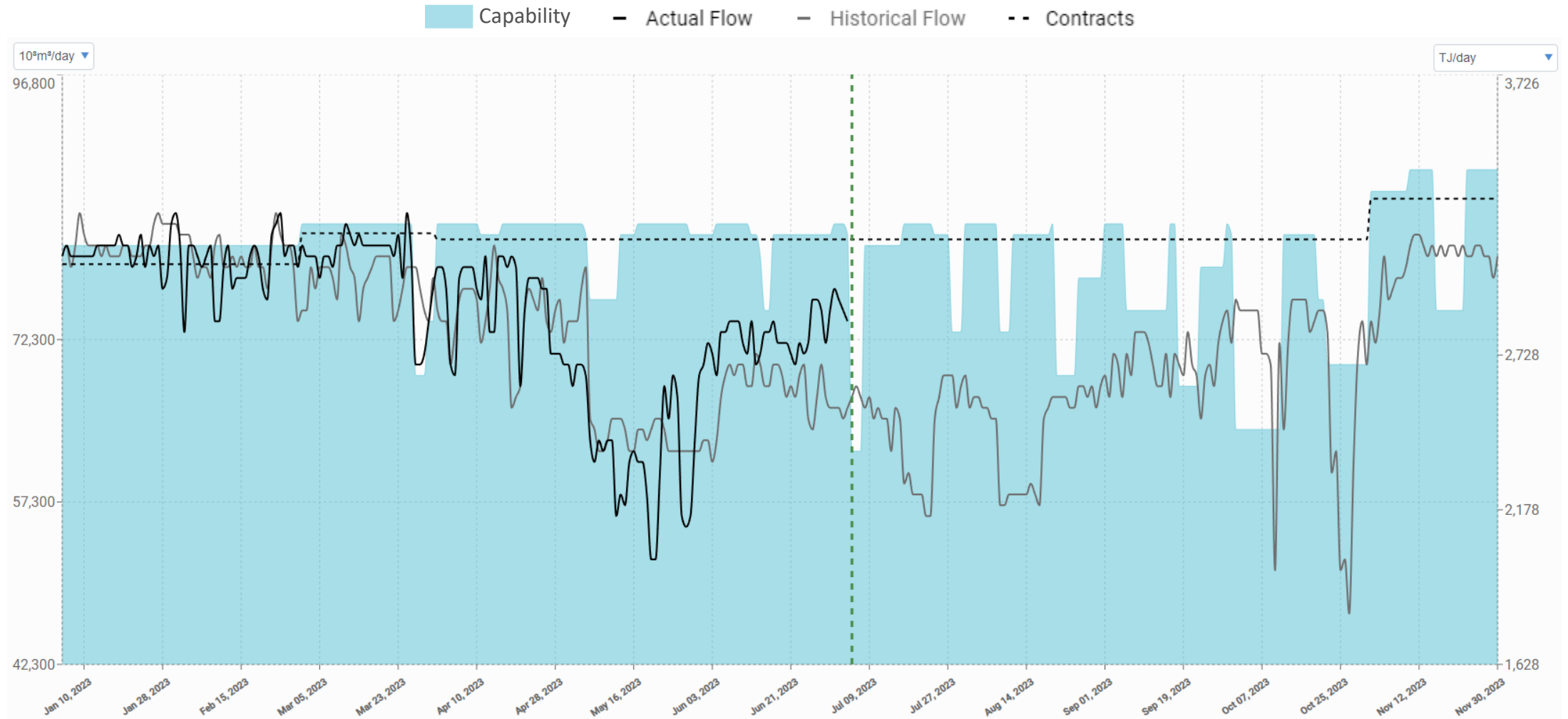
Outage Description	Start	End	USJR Outage Capability (10 ⁶ m ³ /d)	USJR Impact (10 ⁶ m ³ /d)	Area Outage Capability (10 ⁶ m ³ /d)	Outage Area Typical Flows (10 ⁶ m ³ /d)	Service Allowable Location/Area
Meikle River D5 – Compressor Station Maintenance	30-Sep-23	6-Oct-23	353 (Sep) 357 (Oct)	17	226	180 - 220	Potential impact to FT-R USJR U/S Latornell
Clearwater – Compressor Station Maintenance	10-Oct-23	14-Oct-23	364	10	N/A	320 - 350	Potential impact to FT-R USJR
Latornell A1 – Compressor Station Maintenance	10-Oct-23	23-Oct-23	368	6	N/A	320 - 350	Potential impact to FT-R USJR
NPS 42 Grande Prairie Mainline Loop – Pipeline Modifications	30-Oct-23	9-Nov-23	367 (Oct) 370 (Nov)	7	N/A	320 - 350	Potential impact to FT-R USJR

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



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
Crowsnest A – Compressor Station Maintenance	5-Jul-23	7-Jul-23	62	21	Partial 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	28-Jul-23	30-Jul-23	73	10	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
NPS 48 BC Mainline Loop – Pipeline Modifications	21-Aug-23	24-Aug-23	73	10	Potential Impact to FT Foothills BC
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	12-Sep-23	75	8	Potential Impact to FT-D Alberta/BC and Alberta/Montana Borders
Crowsnest B – Compressor Station Maintenance	13-Sep-23	15-Sep-23	75	8	Potential Impact to FT Foothills BC

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 July 6 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
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	18-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
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
Crowsnest K – Compressor Station Maintenance	2-Oct-23	11-Oct-23	75	8	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

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 July 6 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
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

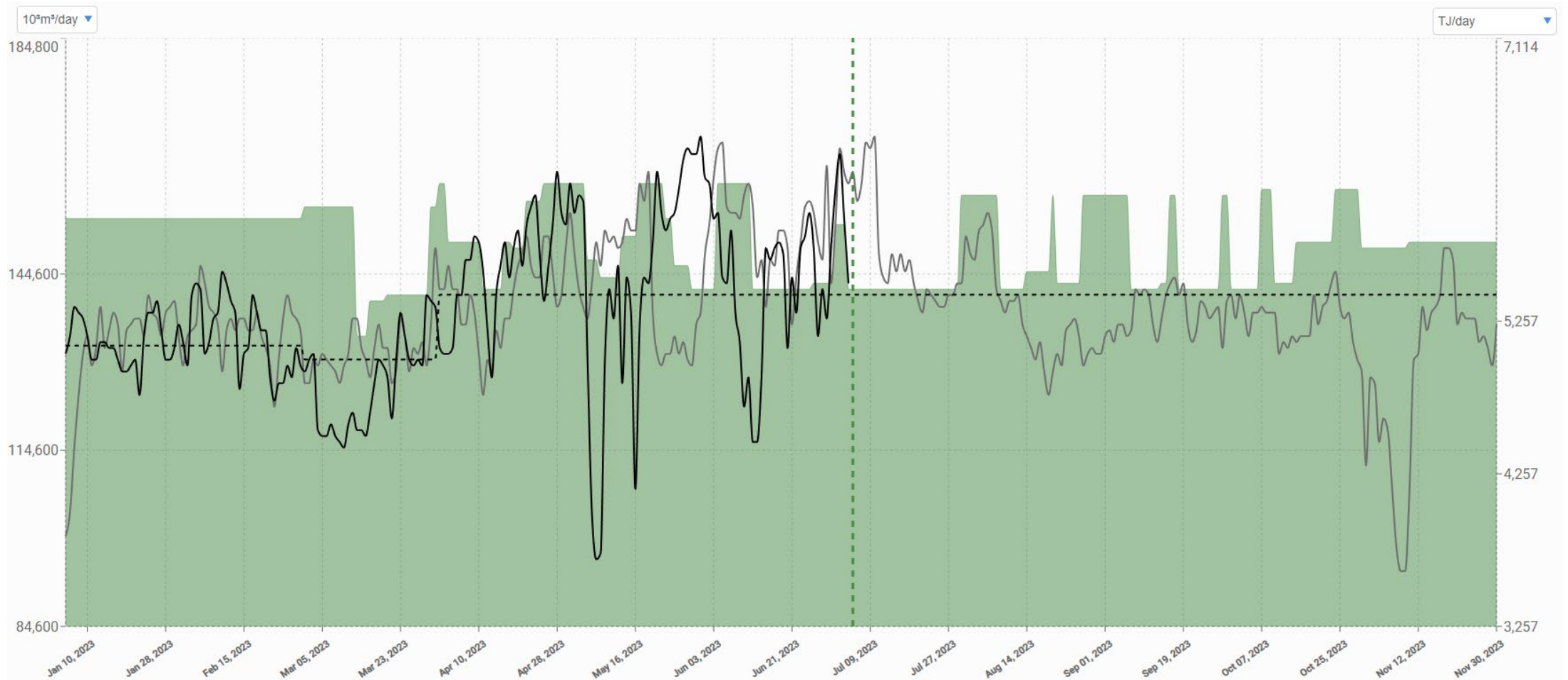
Note: Outages located in the USJR area show up in the WGAT table in DOP to indicate a broad area restriction could be applied to reduce flows through the bottleneck but have been excluded from this slide to avoid duplication

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



East Gate

■ Capability - Actual Flow - Historical Flow - - Contracts



This slide may not be accurate beyond the July 6 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
Crawling Valley – Compressor Station Maintenance	19-Jun-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 42 Foothills Zone 6 – Pipeline Maintenance	6-Jul-23	8-Jul-23	147	11	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 ¹	14-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

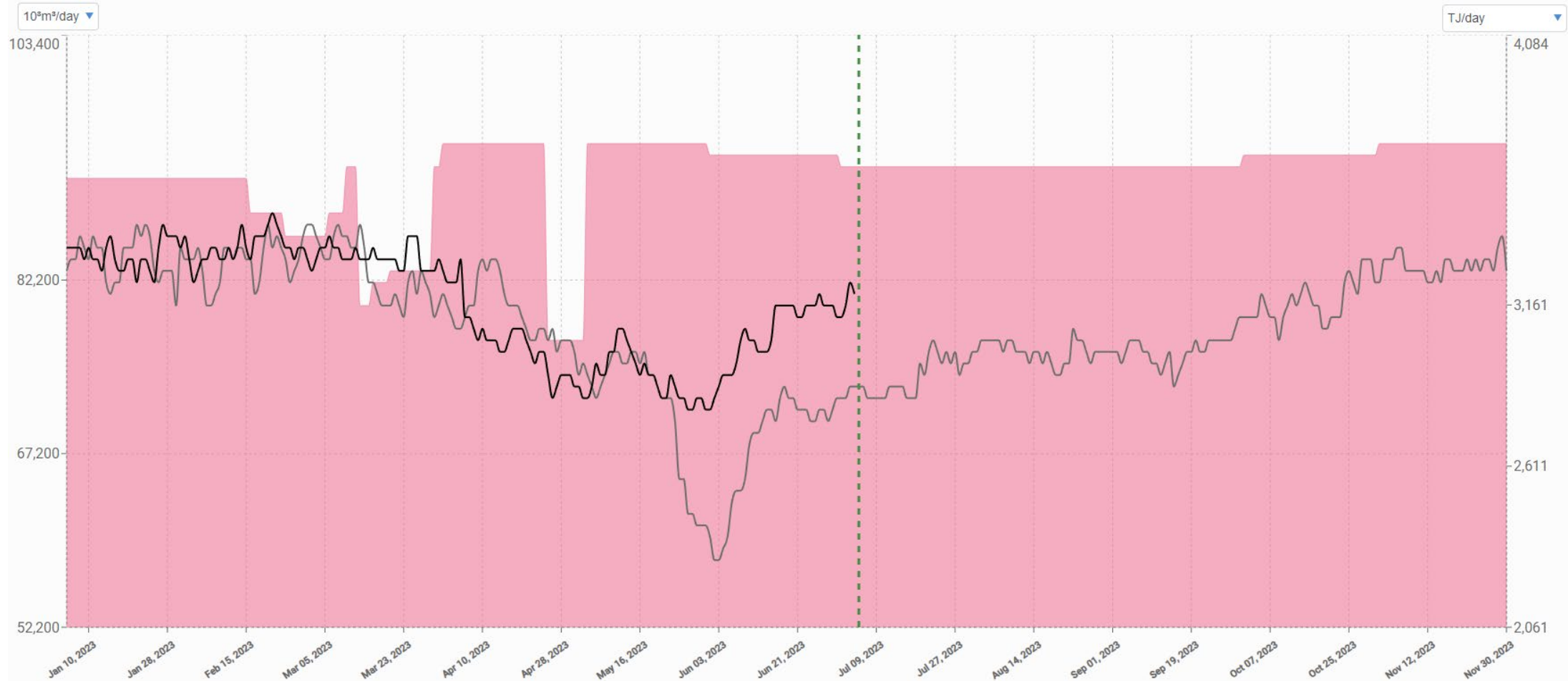
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Please refer to the DOP on TC Customer Express for current outage information.



Oil Sands Delivery Area

■ Capability — Actual Flow - Historical Flow



This slide may not be accurate beyond the July 6 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

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

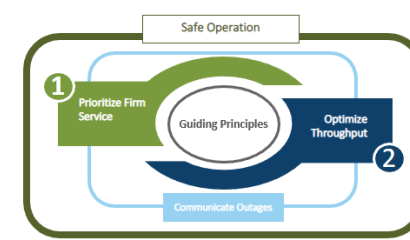
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Please refer to the DOP on TC Customer Express for current outage information.



July Outage Highlight



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



Location: Schrader to Empress

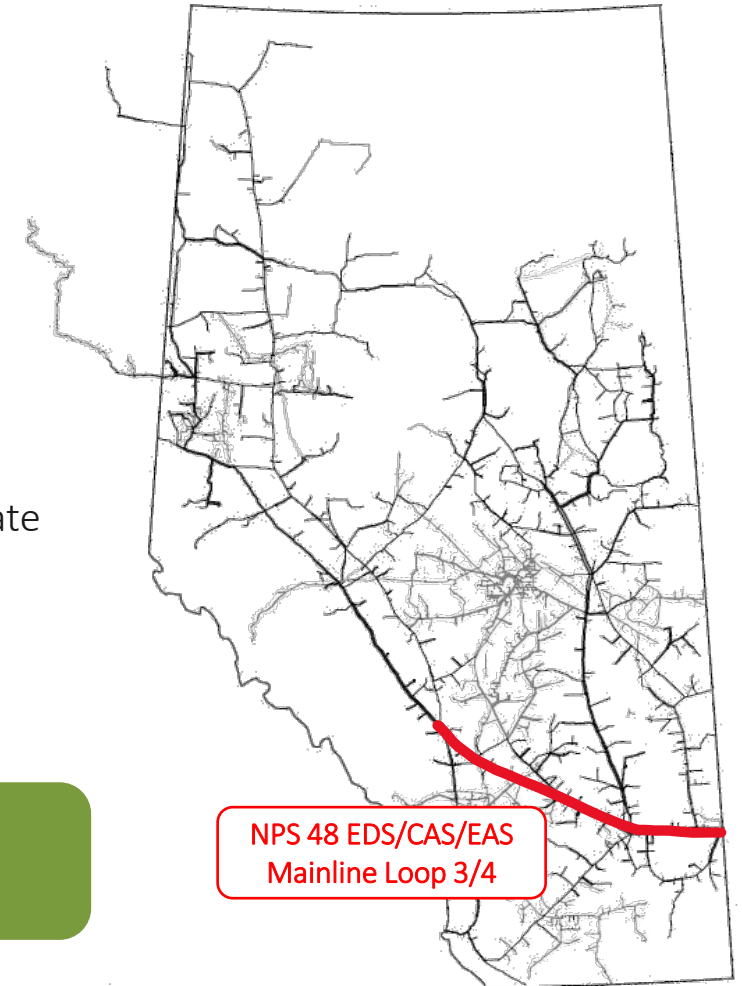
Duration: July 14 to July 23rd

Capability communicated in DOP: 142 10⁶m³/d (EGAT)

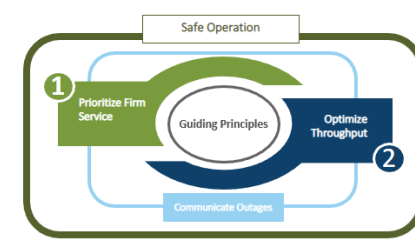
Why is this outage significant?

- Distance: ~373 km of one continuous inline inspection (ILI)
- 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 EGAT IT-D
Has potential to impact EGAT FT-D service



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

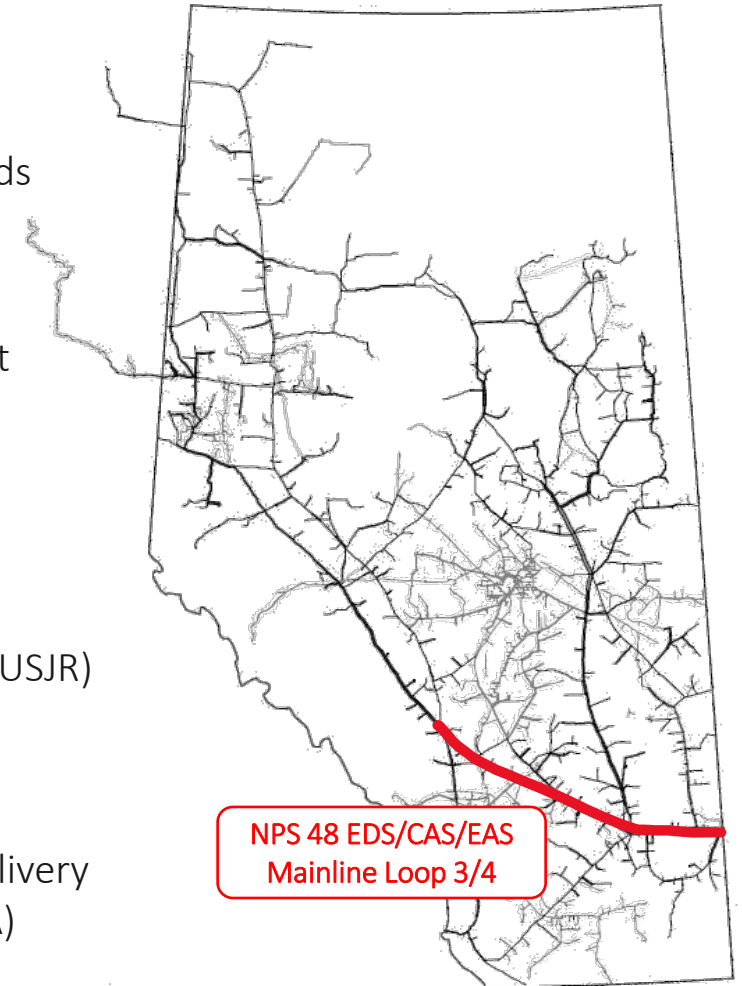


What are we doing to reduce risk?

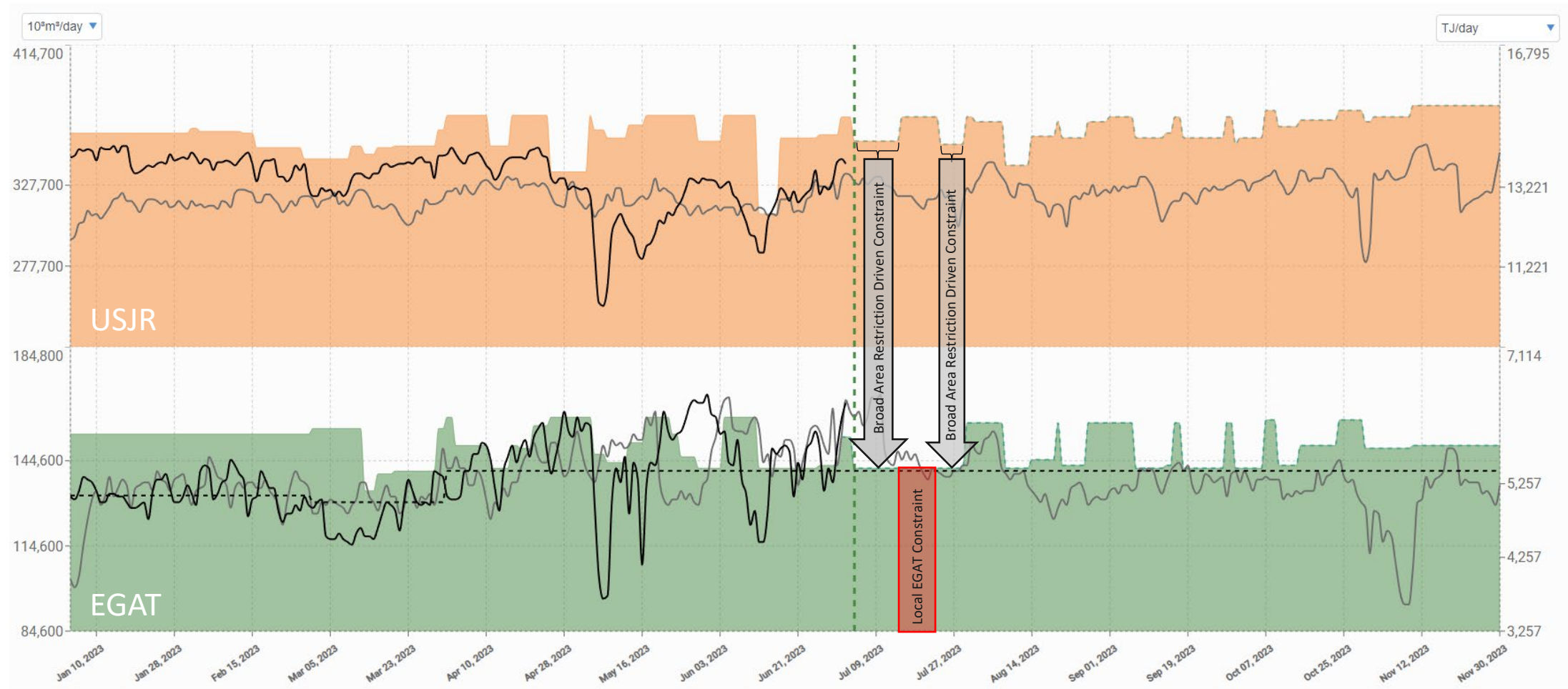
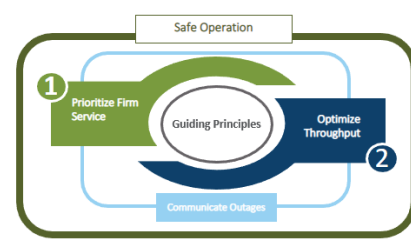
- **OBA:** Pre-positioning prior to the outage
- **Tool Selection:** Worked closely with the ILLI vendor to ensure maximum tool speeds
- **Resourcing:** Ensured regional resources are prepared and strategically placed to minimize response times and manage any unplanned events during this window
- **Outage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

Why would this outage be managed by reducing IT-D/FT-D?

- Treated as a local EGAT restriction
- **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



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



CONTACTS



MARKETING REPS

[Customer Express Contacts
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Glossary of Terms

- ❖ **DOP:** Daily Operating Plan [DOP](#)
- ❖ **NGTL:** Nova Gas Transmission Ltd.
- ❖ **FH:** Foothills Pipeline System (BC or SK)
- ❖ **ISD:** In-Service Date
- ❖ **ILI:** Inline Inspection
- ❖ **Transportation Services**
 - ❖ **IT-R:** Interruptible Transportation - Receipt
 - ❖ **IT-D:** Interruptible Transportation - Delivery
 - ❖ **FT-R:** Firm Transportation - Receipt
 - ❖ **FT-D:** Firm Transportation - Delivery
- ❖ **Operational Areas**
 - ❖ **USJR:** Upstream James River
 - ❖ **WGAT:** West Gate
 - ❖ **EGAT:** East Gate
 - ❖ **OSDA:** Oilsands Delivery Area
 - ❖ **NEDA:** North-East Delivery Area