



# NGTL System and Foothills Pipelines Ltd.

## Customer Operations Meeting

October 1, 2020



# Welcome and Thank You for Joining Us

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## 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
- Please submit your questions via the chat function and we will answer them at the best possible opportunity

# Forward Looking Information

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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

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- Outage information in this presentation (slides 13 to 20) is NOT applicable beyond the October 1, NGTL/Foothills Customer Operations (WebEx only) meeting
- For current outage information, please refer to the most recent Daily Operating Plan (DOP) on TC Customer Express
- This meeting will only cover operational topics related to the NGTL and Foothills systems. For information on Commercial and Regulatory topics, please contact your marketing representative

# Our Focus During COVID-19

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- Protect our teams, partners and communities
- Ensure no interruption to our customers
- Secure supply of critical equipment and services with our partners

**Notice something is off?**

Please reach out: [Marketing Reps](#) or 403.920.PIPE

# Safety Moment – Passwords

## TIME IT TAKES A HACKER TO BRUTE FORCE YOUR PASSWORD

Number of Characters	Numbers Only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters, Symbols
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	1 sec	5 secs
7	Instantly	Instantly	25 secs	1 min	6 mins
8	Instantly	5 secs	22 mins	1 hour	8 hours
9	Instantly	2 mins	19 hours	3 days	3 weeks
10	Instantly	58 mins	1 month	7 months	5 years
11	2 secs	1 day	5 years	41 years	400 years
12	25 secs	3 weeks	300 years	2k years	34k years
13	4 mins	1 year	16k years	100k years	2m years
14	41 mins	51 years	800k years	9m years	200m years
15	6 hours	1k years	43m years	600m years	15 bn years
16	2 days	34k years	2bn years	37bn years	1tn years
17	4 weeks	800k years	100bn years	2tn years	93tn years
18	9 months	23m years	6tn years	100 tn years	7qd years

For informational purposes only



-Data sourced from [HowSecureIsMyPassword.net](https://www.howsecureismypassword.net)

# Safety Moment: Tips to Build a “Smart Password”

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## Use phrases

Create a phrase with a combination of upper and lower case letters, numbers, and symbols...

*ILoveSwimming123!*

## Use password generators

Password manager tools can generate them for your convenience

## Wrong security answers

Use false answers...

*Where were you born?*

*Minnesota*

Update your passwords frequently

Don't use your favorite vacation spot

Don't use anniversaries dates

Don't repeat passwords

Don't use your children names

# Agenda

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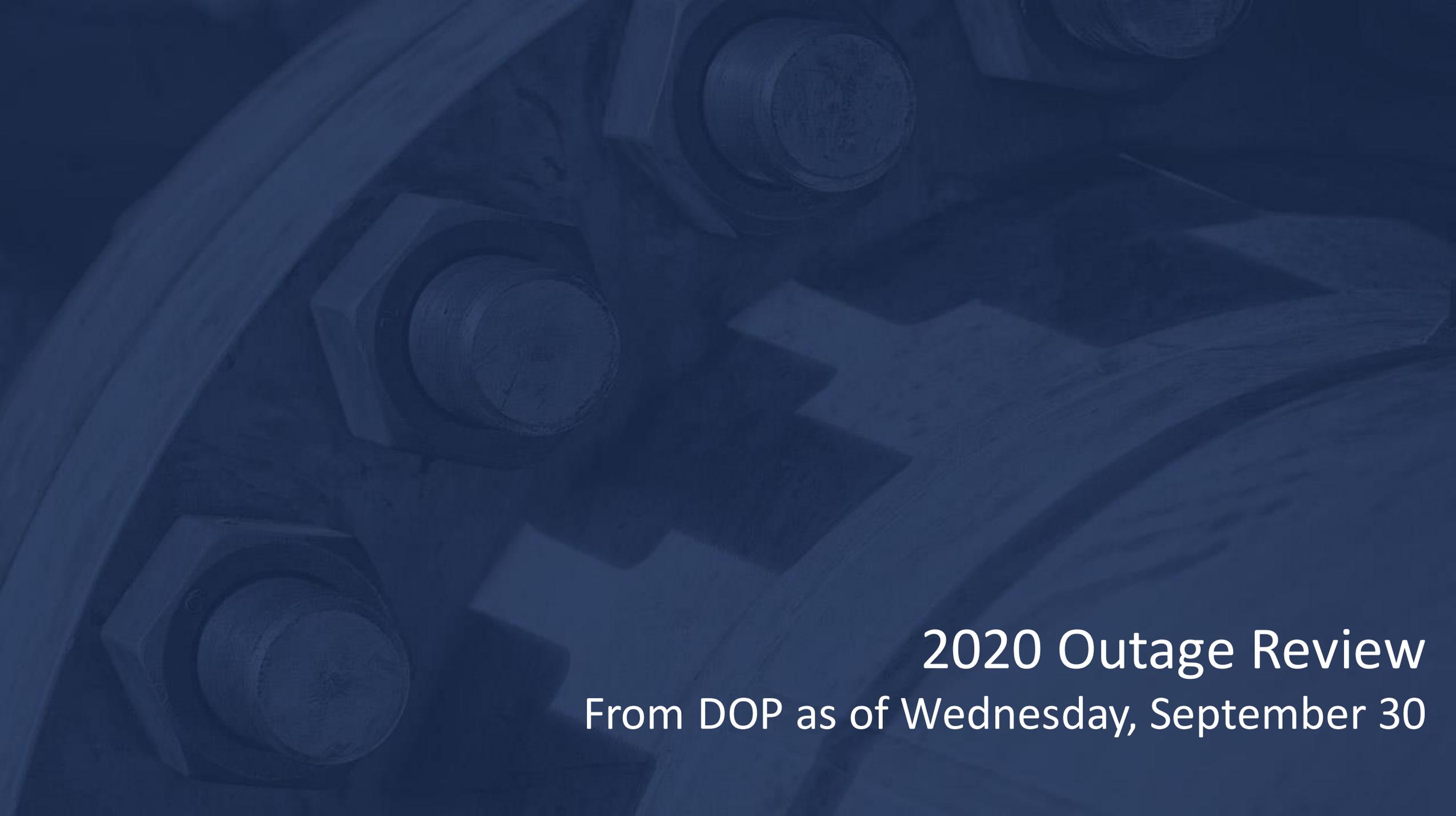
1. Dithiazine maintenance update
2. Review outages in Daily Operating Plan (DOP)
3. Advisory Bulletins: transition to standard process
4. Enhancements to *my.TC*

# Dithiazine maintenance update

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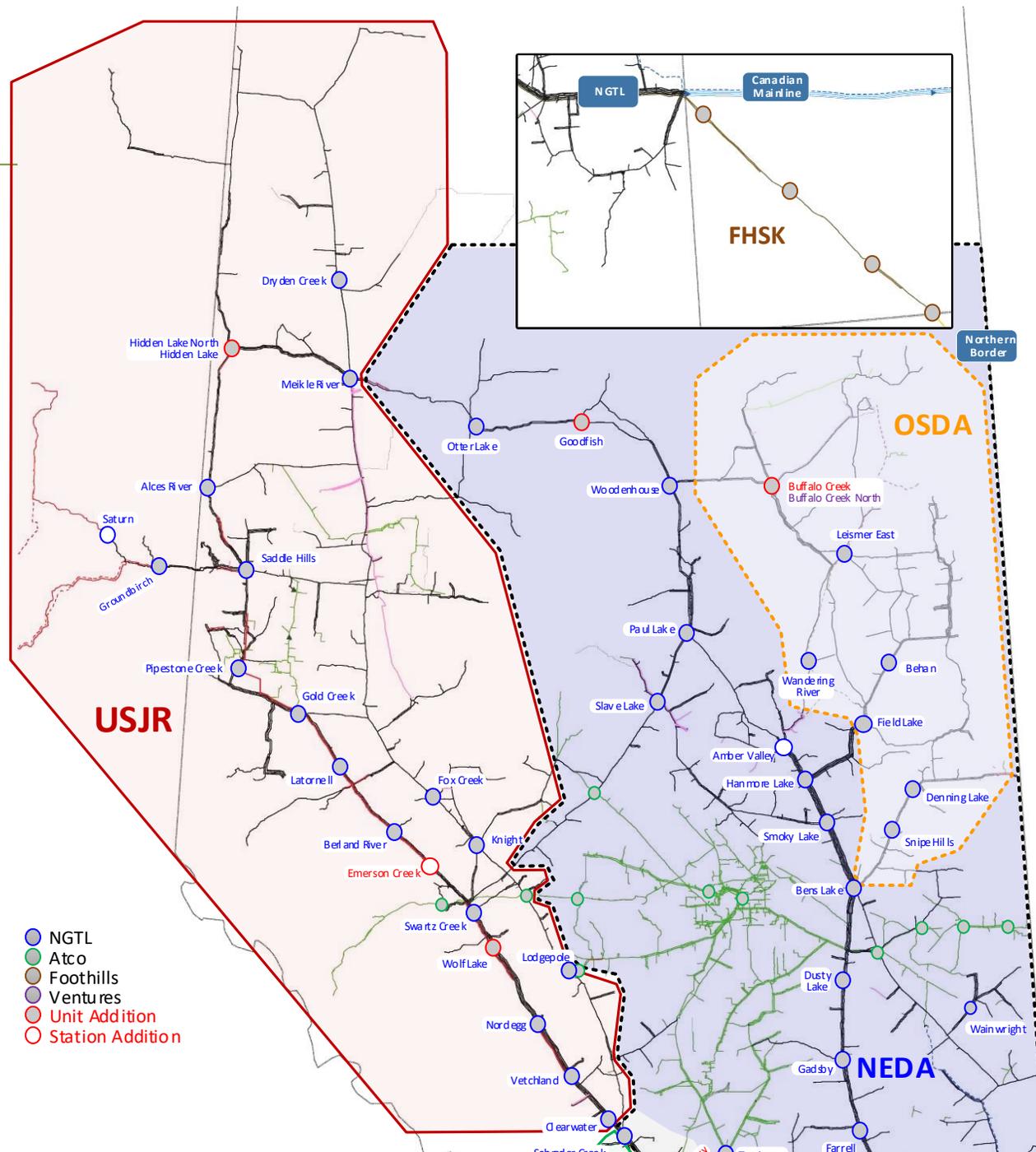
- TC Energy continues to explore and implement best method(s) to monitor and remediate its own systems
- Incremental Mechanical pigging will be included in the 2021 pipe integrity program
- 2021 maintenance program will be communicated at the November Customer Ops meeting

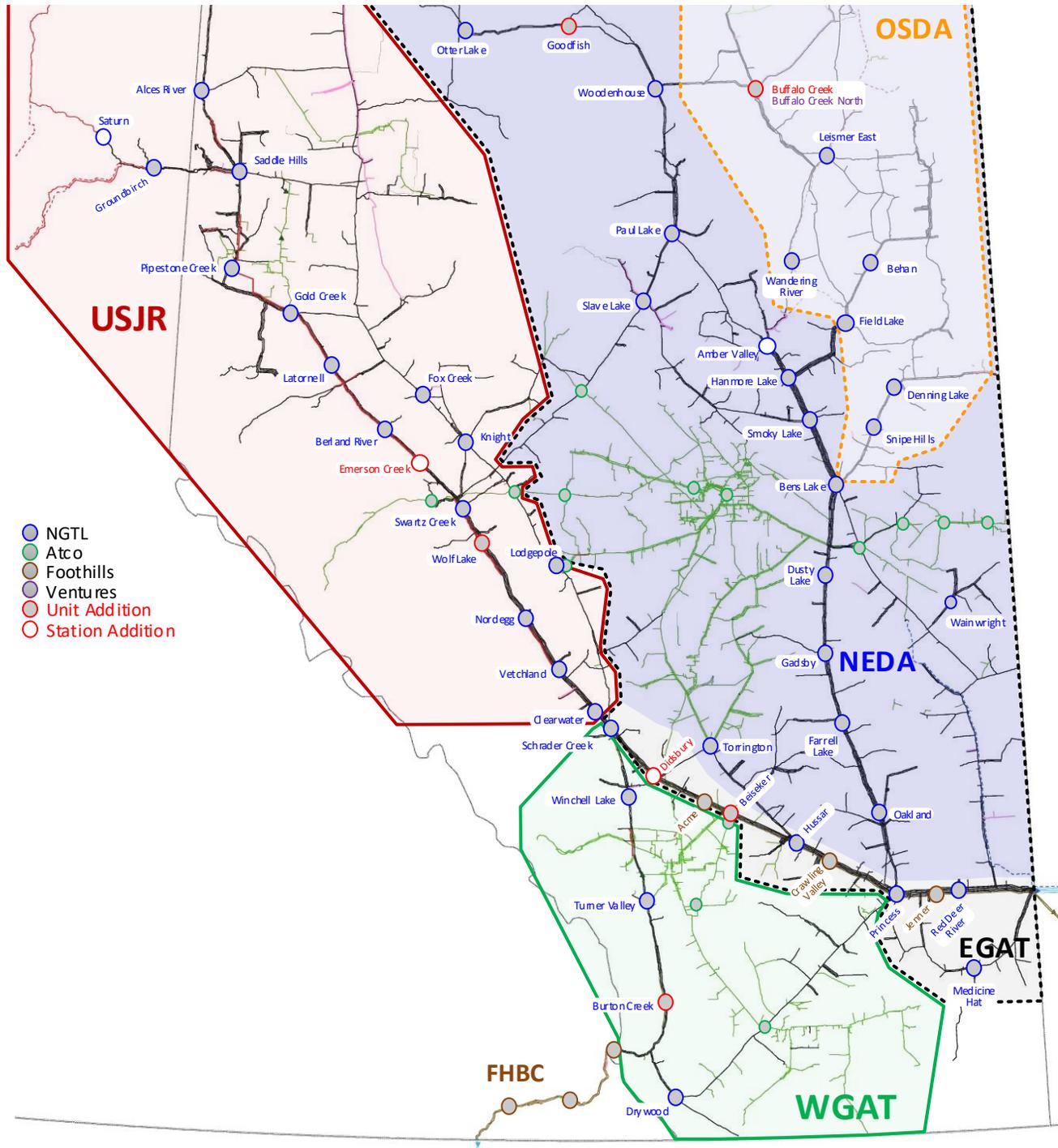
Click [HERE](#) to access the bulletin containing additional information



# 2020 Outage Review

From DOP as of Wednesday, September 30



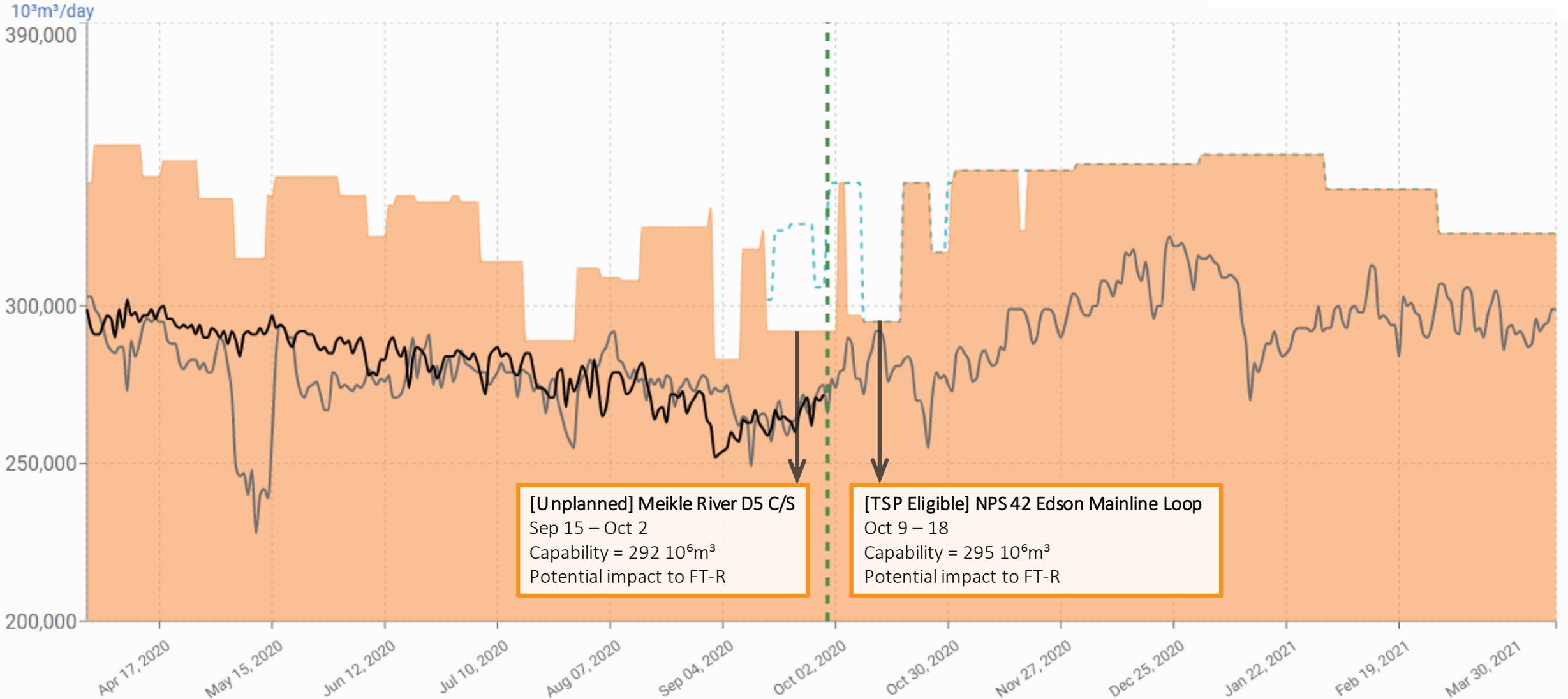


- NGTL
- Atco
- Foothills
- Ventures
- Unit Addition
- Station Addition

Publication: Sep 30, 2020  
 Compared to: Sep 09, 2020

# Upstream James River

■ Capability   
 — Actual Flow   
 — Historical Flow   
 - - Contracts   
 - - Compared to Sept 9 Posted Capability



This slide is NOT applicable beyond the Oct 1, 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 ID	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)	Typical Outage Area Flows (10 <sup>6</sup> m <sup>3</sup> /d)	Location/ Area	Outage Description
17146597	SEP 15, 2020	OCT 2, 2020	292	39	170	150-180	Segments 2, 3, 4, and partial 7 (Upstream of Latornell)	Meikle River D5 - Compressor Station Maintenance
15778219	OCT 5, 2020	OCT 8, 2020	297	42	170	150-180	Segments 2, 3, 4, and partial 7 (Upstream of Latornell)	Paul Lake - Compressor Station Maintenance
17038417	OCT 9, 2020	OCT 18, 2020	295	44	N/A	270-305	Potential impact to FT-R USJR	[TSP Eligible] NPS 42 Edson Mainline Loop - Pipeline Maintenance
15714476	OCT 26, 2020	OCT 30, 2020	317	22	N/A	270-305	Potential impact to FT-R USJR	[TSP Eligible] Vetchland - Compressor Station Maintenance
17139249	NOV 17, 2020	NOV 18, 2020	324	19	N/A	270-305	Potential impact to FT-R USJR	Wolf Lake A2 - Compressor Station Maintenance

This slide is **NOT** applicable beyond the Oct 1, NGTL/Foothills Customer Operations meeting on WebEx. Please refer to the DOP on TC Customer Express for current outage information

# Oil Sands Delivery Area

Publication: Compared to:

Sep 30, 2020

Sep 09, 2020

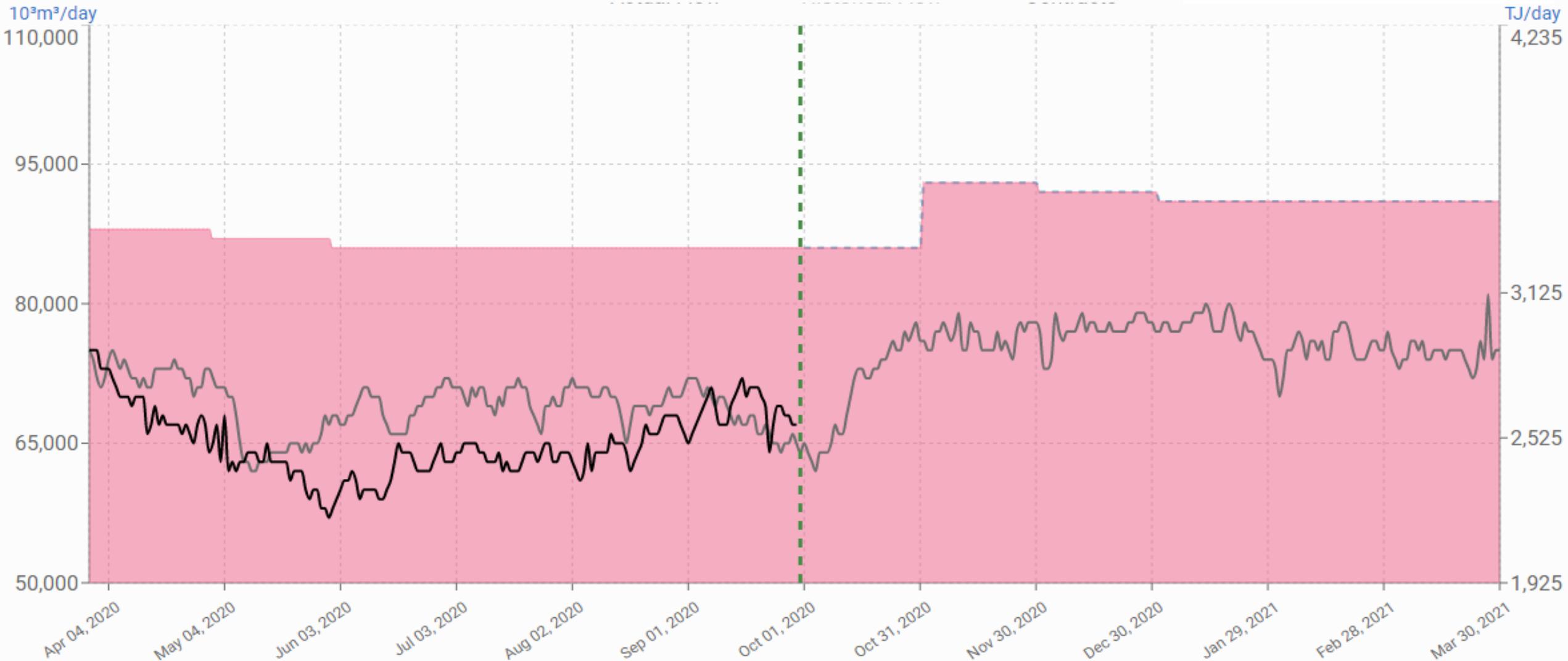
■ Capability

— Actual Flow

— Historical Flow

- - - Contracts

- - - Compared to Sept 9 Posted Capability



This slide is NOT applicable beyond the Oct 1, 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

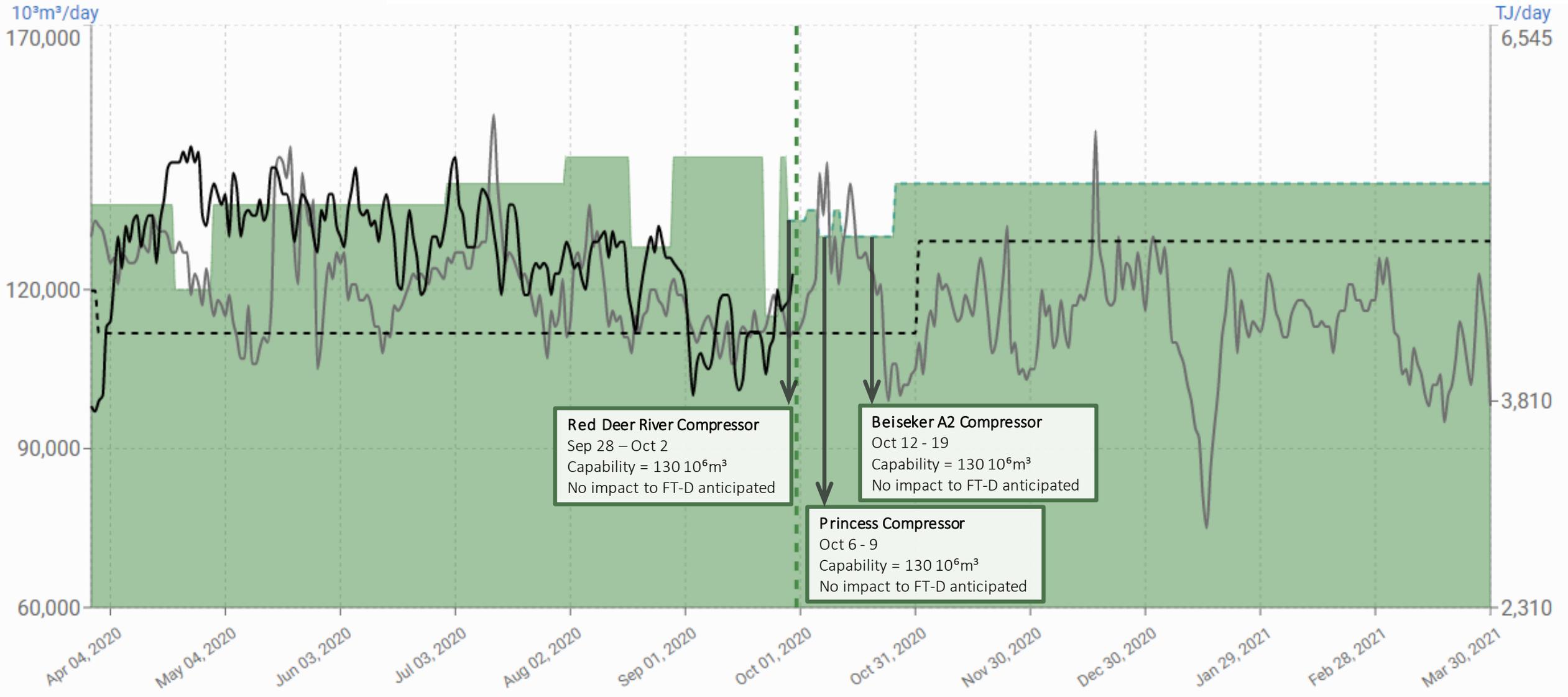
Outage ID	Start	End	Capability/ Allowable (10 <sup>6</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
17146597	SEP 15, 2020	OCT 2, 2020	105	No impact to FT-D anticipated NEDA Segments 6, 10, 11, 12, 13, 14, 15, 16, 17, 23, 24, partial 28	Meikle River D5 - Compressor Station Maintenance
15778219	OCT 5, 2020	OCT 8, 2020	110	No impact to FT-D anticipated NEDA Segments 6, 10, 11, 12, 13, 14, 15, 16, 17, 23, 24, partial 28	Paul Lake - Compressor Station Maintenance

This slide is **NOT** applicable beyond the Oct 1, NGTL/Foothills Customer Operations meeting on WebEx.  
Please refer to the DOP on TC Customer Express for current outage information

Publication: Sep 30, 2020  
 Compared to: Sep 09, 2020

# East Gate

■ Capability   
 — Actual Flow   
 — Historical Flow   
 - - Contracts   
 - - Compared to Sept 9 Posted Capability



For informational purposes only

This slide is NOT applicable beyond the Oct 1, 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) Foothills Zone 9 (FHSK)

No  
impact to FT

Potential  
impact to FT

Partial  
impact to FT

Outage ID	Start	End	Capability/ Allowable (10 <sup>6</sup> m <sup>3</sup> /day)	Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area	Outage Description
15714465	SEP 28, 2020	OCT 2, 2020	133	12	No impact to FT-D anticipated: Empress/McNeil Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	Red Deer River - Compressor Station Maintenance
15862705	SEP 28, 2020	OCT 25, 2020	135	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 Central Alberta System Mainline Loop - Pipeline Maintenance
15714463	OCT 6, 2020	OCT 9, 2020	130	10	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	Princess - Compressor Station Maintenance
16899071	OCT 12, 2020	OCT 19, 2020	130	10	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	Beiseker A2 - Compressor Station Maintenance
16898499	OCT 20, 2020	OCT 25, 2020	130	10	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	Beiseker A1 - Compressor Station Maintenance
15786231	OCT 15, 2020	OCT 20, 2020	25		Potential impact to FT: McNeill Border Foothills SK	NPS 42 Foothills Zone 9 (Shaunavon to Monchy) Pipeline Maintenance

This slide is **NOT** applicable beyond the Oct 1, NGTL/Foothills Customer Operations meeting on WebEx.  
Please refer to the DOP on TC Customer Express for current outage information

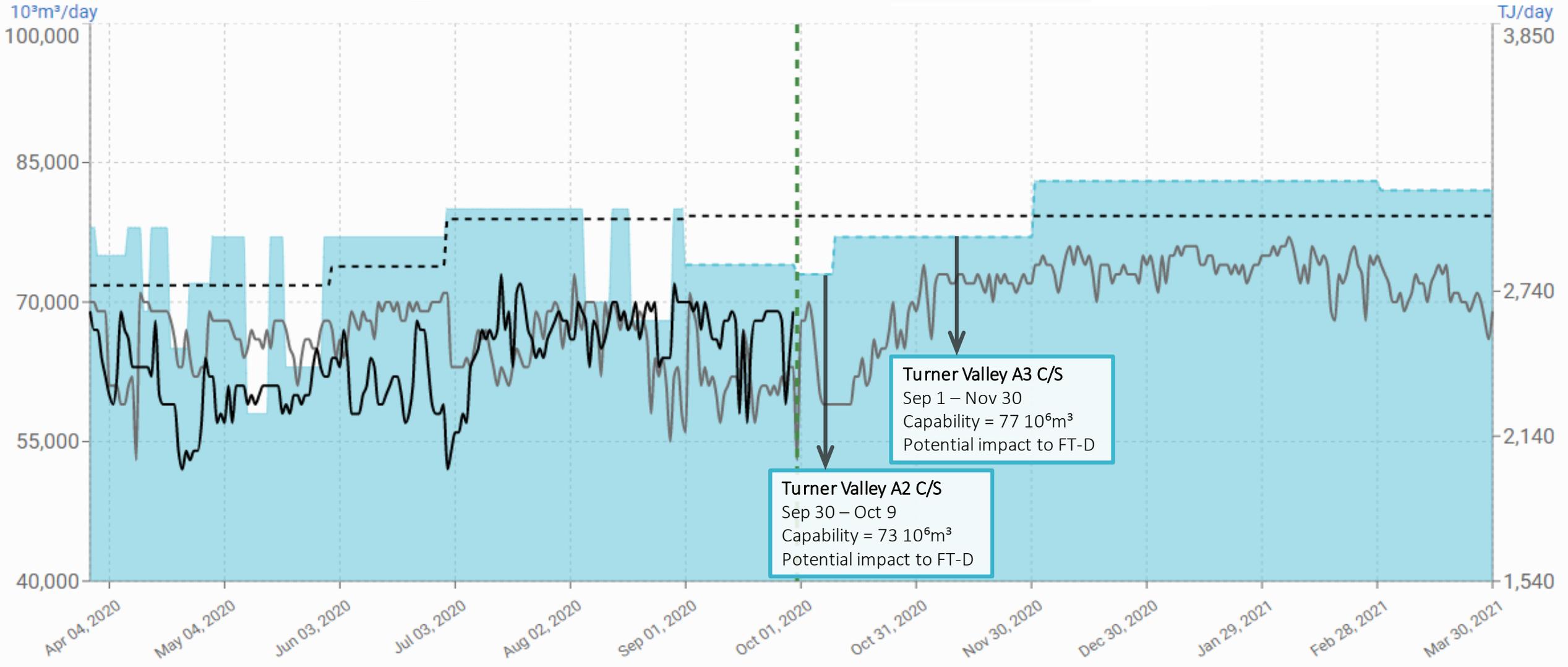
Publication: Compared to:

Sep 30, 2020

Sep 09, 2020

# Alberta-B.C. Border

■ Capability — Actual Flow — Historical Flow - - Contracts - - Compared to Aug 10 Posted Capability



This slide is **NOT** applicable beyond the Oct 1, 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 ID	Start	End	Capability/ Allowable (10 <sup>6</sup> m <sup>3</sup> /day)	Impact (10 <sup>6</sup> m <sup>3</sup> /d)	Service Allowable Location/Area	Outage Description
13638042	SEP 1, 2020	NOV 30, 2020	77	5	Potential impact to FT-D: Alberta/BC Border Segments 22 and partial 21	Turner Valley A3 - Compressor Station Maintenance
15714474	SEP 30, 2020	OCT 9, 2020	73	9	Potential impact to FT-D: Alberta/BC Border Segments 22 and partial 21	Turner Valley A2 - Compressor Station Maintenance

This slide is **NOT** applicable beyond the Oct 1, NGTL/Foothills Customer Operations meeting on WebEx.  
Please refer to the DOP on TC Customer Express for current outage information



Advisory bulletins: transition to standard process

# Advisory Bulletin: Problem Statement

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Unplanned outages are currently not communicated until sufficient confidence of service impact is reached. This results in scenarios where service changes are applied late in the day, resulting in significant customer impacts and price volatility

## Why the delay?

Most often due to time required by field resources to troubleshoot and determine scope/nature of the issue

# Advisory Bulletin: Solution In-Place

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Provide market facing 'advisory' information for unplanned events that have the potential to impact Firm Service

## Why:

COAT and 1:1 customer feedback – customers need information re: potential service impacts early in the day with defined update expectations

- *Early notification allows better decision making, and reduces customer impact and price volatility*

## What events trigger an Advisory Bulletin:

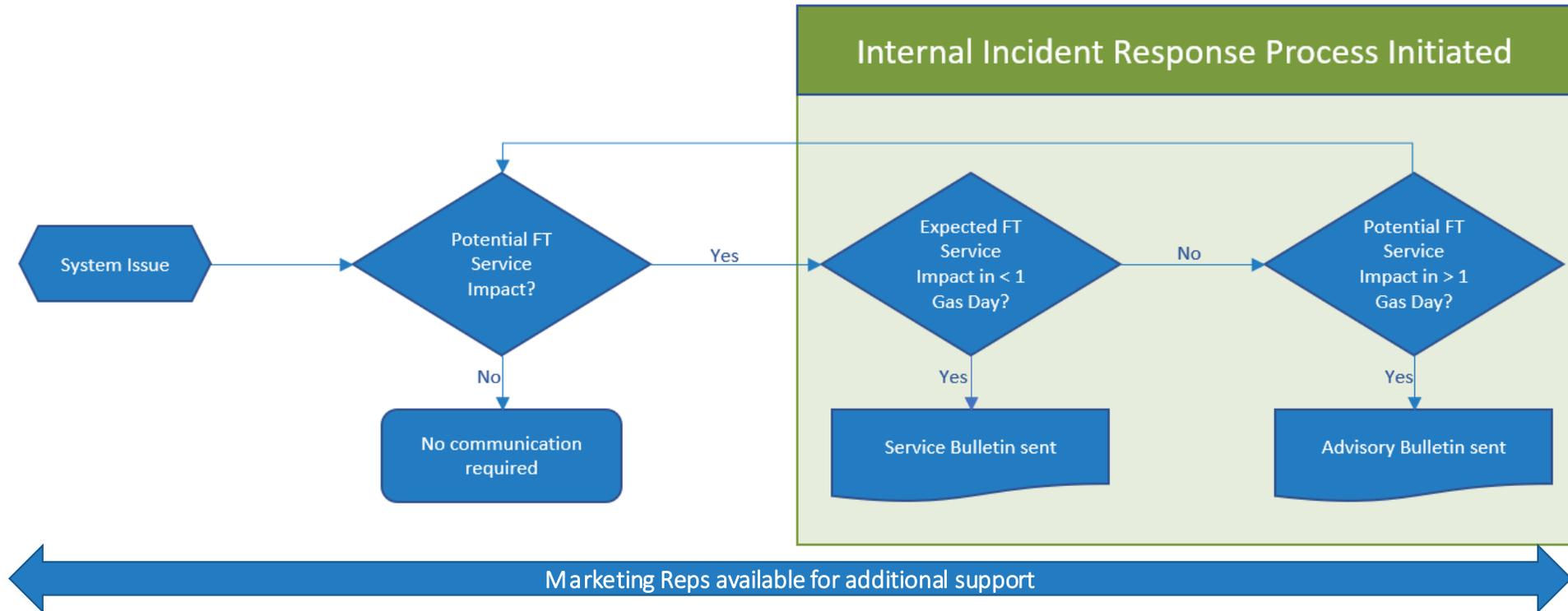
Unplanned outages that threaten FT, and will not meet required confidence level to communicate service authorization change by 8:30am

## Outcome:

Templated Bulletin outlining

- the nature of the unplanned event
- potential service impact (FT-D, FT-R, location)
- update interval

# Service Change Communication Processes



## Service Change Communication and Execution Timing (NAESB Windows)

Cycle	Communication Deadline*	Nomination Deadline	Effective Time
Timely/Evening	1600	1700	0800 (+1 day)
ID1	800	900	1300
ID2	1230	1330	1700
ID3	1700	1800	2100

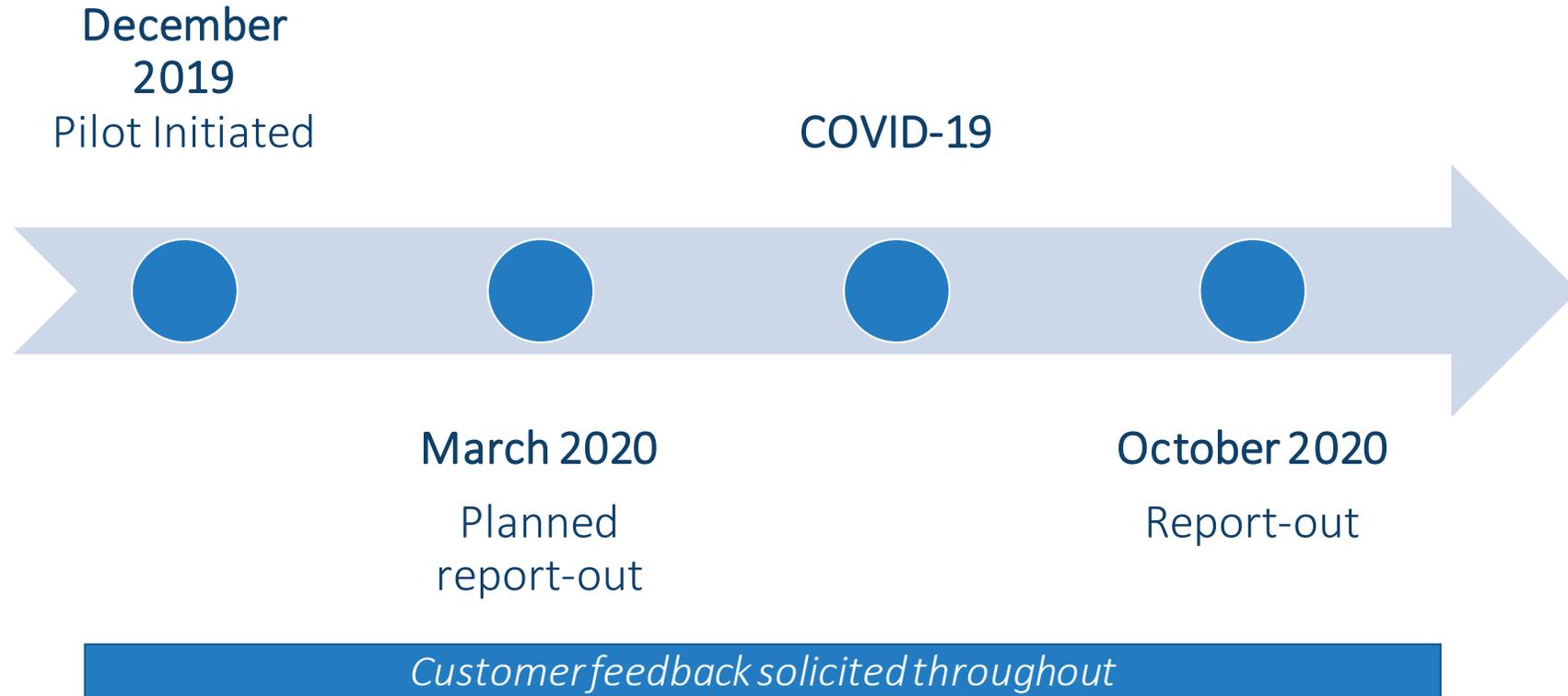
\* Any service change must be communicated via bulletin by the cycle's "Communication Deadline"

### Considerations

- NGTL must ensure communication of any market moving information is completed symmetrically to all customers (completed via Bulletin)
- The Advisory Bulletin can be sent off-cycle as a means of ensuring symmetric information of FT service risk to all customers

# Pilot Timeline

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## Critical Stats

Since December 2019, 5 events were communicated, resulting in 22 bulletins (average of 4 bulletins/event)

# What's Next

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Effective immediately, the Advisory Bulletin will transition from pilot to standard process

- The Advisory Bulletin has broad customer support and has proven valuable in improving communication and transparency of unplanned operational events

# Enhancements to *my.TC*

1

*Unit Conversion*

2

*Area Heat Values*

3

*Data Download*

Unit Conversion 1

35 Local Area/Location Outages not displayed on the map

**USJR**

- ⚠️ 2 Sep 23, 2020
- 🕒 4 Next 30 days
- 🕒 1 After 30 Days
- 11.689 Bcf/day
- 🔧 40.5 GJ/10<sup>3</sup>m<sup>3</sup>

**OSDA**

- ⚠️ 0 Sep 23, 2020
- 🕒 0 Next 30 days
- 🕒 0 After 30 Days
- 3.037 Bcf/day
- 🔧 39.5 GJ/10<sup>3</sup>m<sup>3</sup>

**NEDA**

- ⚠️ 1 Sep 23, 2020
- 🕒 2 Next 30 days
- 🕒 0 After 30 Days
- 🔧 39.5 GJ/10<sup>3</sup>m<sup>3</sup>

**EGAT**

- ⚠️ 1 Sep 23, 2020
- 🕒 5 Next 30 days
- 🕒 0 After 30 Days
- 5.121 Bcf/day
- 🔧 38.5 GJ/10<sup>3</sup>m<sup>3</sup>

**FHBC**

- ⚠️ 1 Sep 23, 2020
- 🕒 0 Next 30 days
- 🕒 0 After 30 Days

**WGAT**

- ⚠️ 3 Sep 23, 2020

**FHSK**

- ⚠️ 0 Sep 23, 2020
- 🕒 1 Next 30 days
- 🕒 0 After 30 Days

Heat Value 2

# OUTAGES

Publication: Compared to:

Sep 23, 2020 Sep 22, 2020

USJR AB/BC EGAT OSDA Compared to  
Actual Flow Historical Flow Contracts

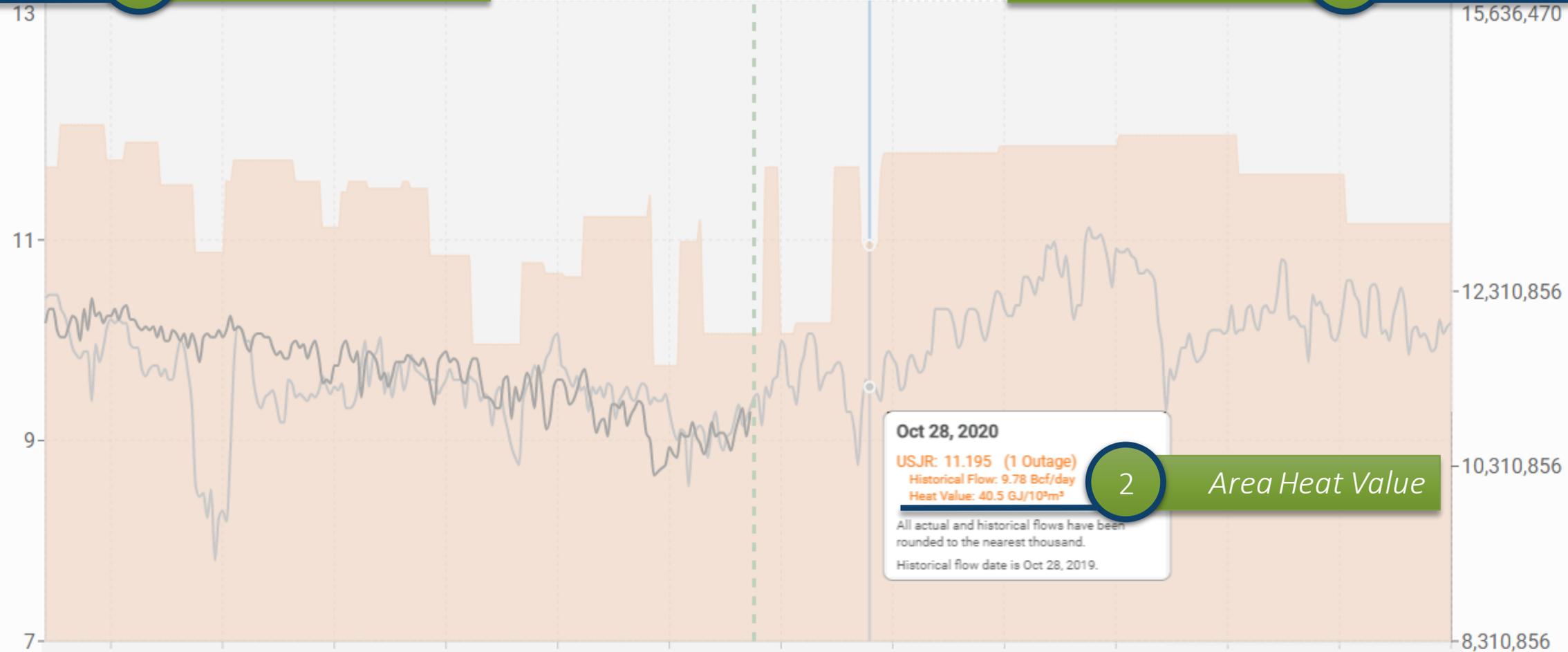
\*ASSUMPTIONS

Bcf/day

1 Volume

Energy

1 GJ/day



**Oct 28, 2020**  
**USJR: 11.195 (1 Outage)**  
**Historical Flow: 9.78 Bcf/day**  
**Heat Value: 40.5 GJ/10<sup>6</sup>m<sup>3</sup>**

All actual and historical flows have been rounded to the nearest thousand.  
 Historical flow date is Oct 28, 2019.

2 Area Heat Value

# Continuity of enhancements

Publication: Compared to:  
 Sep 23, 2020 Sep 22, 2020

Receipt

**Upstream James River** 40.5 GJ/10<sup>3</sup>m<sup>3</sup>  
 Base Operational Capability 11.689 Bcf/day

- 2 Sep 23, 2020
- 4 Next 30 days
- 1 After 30 Days

Delivery

**West Gate** 38.5 GJ/10<sup>3</sup>m<sup>3</sup>  
 Base Operational Capability 2.86 Bcf/day

- 3 Sep 23, 2020
- 1 Next 30 days
- 0 After 30 Days

For informational purposes only

Area Heat Value 2

Base Operational Capability 11.689 Bcf/day  
 From Sep 01, 2020 to Sep 30, 2020

Heat Value 40.5 GJ/10<sup>3</sup>m<sup>3</sup>

17146597

Impact 1.377 Bcf/day	Outage Capability 10.312 Bcf/day	Local Area Impact 0.777 Bcf/day	Local Area Out
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Maintenance Potential impact to FTR Segments 2, 3, 4, and partial 7 (Upstream of Latornell)

2 Volume Conversion

15781939

Impact 0.177 Bcf/day	Outage Capability 11.513 Bcf/day	Local Area Impact 0.177 Bcf/day	Local Area Out 5.368 Bcf/day
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System Mainline Potential impact to FTR Segments 2, 3, 4, and partial 7 (Upstream of Pipestone Creek)

15871033

Impact 0.883 Bcf/day	Outage Capability 10.806 Bcf/day	Local Area Impact N/A	Local Area Out N/A Bcf/day
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tation Potential impact to FTR USJR

-  NGTL Outages
-  Bulletins
-  Contact & FAQ
-  Subscriptions

<b>Publication:</b> Sep 23, 2020	<b>Compared to:</b> Sep 22, 2020	<b>Base Operational Capability</b> 11,689 bcf/day From Sep 01, 2020 to Sep 30, 2020	<b>Heat Value</b> 40.5 GJ/10 <sup>6</sup> m <sup>3</sup>	<b>Displayed Values:</b> Bcf/day
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*All system capabilities reported are based on many assumptions related to factors which affect operational capability. These factors and the system capabilities will be reviewed on a daily basis which may result in revision of operational capability and authorized quantities. TC Energy shall not be liable for damages sustained as a result of any use or reliance on information contained.*

*Empress-McNeil Border delivery capability is determined assuming zero storage receipt and deliveries. All delivery locations within a defined area of impact are hydraulically equivalent. This includes Group 1 (export), Group 2 (intra), and storage locations.*

*Coordinating NGTL System and Foothills maintenance with Customer maintenance can help minimize Customer impact of planned maintenance. Whenever possible, TC Energy will align its maintenance with Customer maintenance activities. In order to maximize coordination opportunities, please complete and return the [Plant Turnaround Request Form](#). This form can be used to submit information on either receipt or delivery scheduled facility maintenance.*

*For service related matters, please contact your Marketing Representative.*

*For further information, please contact The Pipe Line at 403-620-7472 or toll-free 1-877-620-7472.*

**Other Links**

- [Gas Day Summary Report](#)
- [Current System Report](#)
- [NGTL System - Segment Codes & Project Areas Map](#)
- [NGTL Systems - Operational Areas Map](#)
- [Plant Turnaround Request Form](#)
- [Plant Turnaround Data](#)
- [Administrator Login](#)
- [Base Capability Table](#)
- [Privacy Policy](#)

*Data Download* **3**

# What's Next

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## TC Energy

1. Chart Data Download (TBD)
2. COAT Team Project Debrief (TBD)
3. Next COAT Topic (TBD)

## Our customers

Your feedback: [Marketing Reps](#) | [Talk To Us](#)

# Contact information

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