



## NGTL System and Foothills Pipeline Customer Meeting



March 22, 2018

# Welcome and thank you for joining us!

## Safety:

- In case of alarm or emergency, please proceed immediately to the ground-level exit
- Nearest stairs to ground-level exit are outside this room and directly to the left
- Muster point is located at the Milestones restaurant on Stephen Ave.

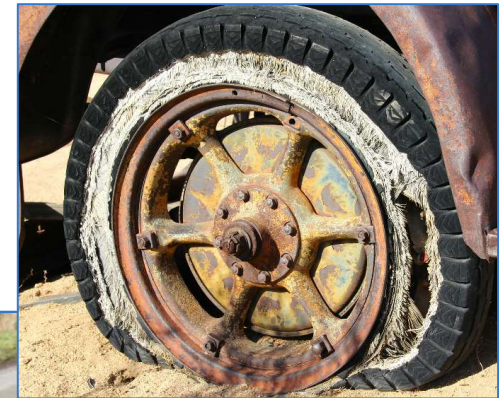
## Participating through WebEx:

- Please sign-in through WebEx application **including your full name and company**
- In response to customer requests to reduce background noise and improve audio quality, all WebEx participants will be placed on mute  Unmuted line  Muted line
- Prior to commenting or asking a question, please remember to take yourself off mute and identify yourself

*Information provided herein 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. TransCanada shall not be liable for damages sustained as a result of any use or reliance on such information.*

# Safety Moment - Vehicle Inspections

- Vehicle inspections and preventive maintenance are effective ways to prevent mechanical issue-related crashes
- A few types of mechanical issues represent the majority of accidents that are caused by vehicle failure:
  - Tire/wheel degradation or failure: 43%
  - Brake degradation or failure: 21%
  - Steering / suspension / transmission failure: 10.5%
- A simple walk around can identify many of these issues
  - Look for low tire pressure
  - Check tire pressure once/month (drivers door jam)
  - Look for tire cracks, bubbles or excessive tread wear
  - Check your lights
  - Start the car and listen for abnormal noises
- Preventative Maintenance
  - Read your owners manual for frequency and see a certified mechanic



# Agenda

- **Western Gate Delivery Area Capability Overview**
- **2018 Operational Outlook Update**
- **Daily Operating Plan (DOP) - Interpretation and Application**



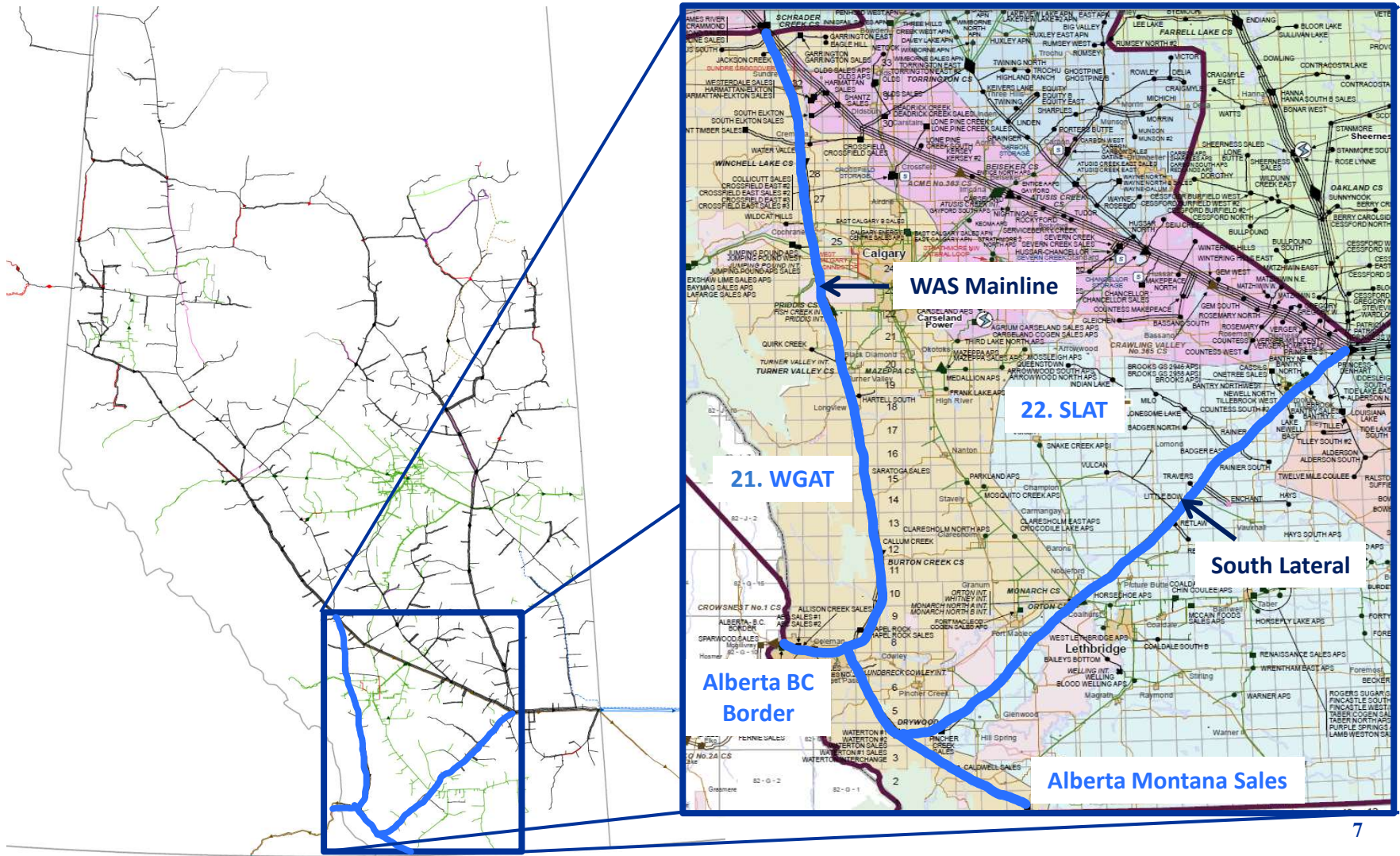
# Western Gate Delivery Area

## Western Gate Delivery Area

- Operational Capability 101
- NPS 42 Sundre Crossover – Operational Benefits

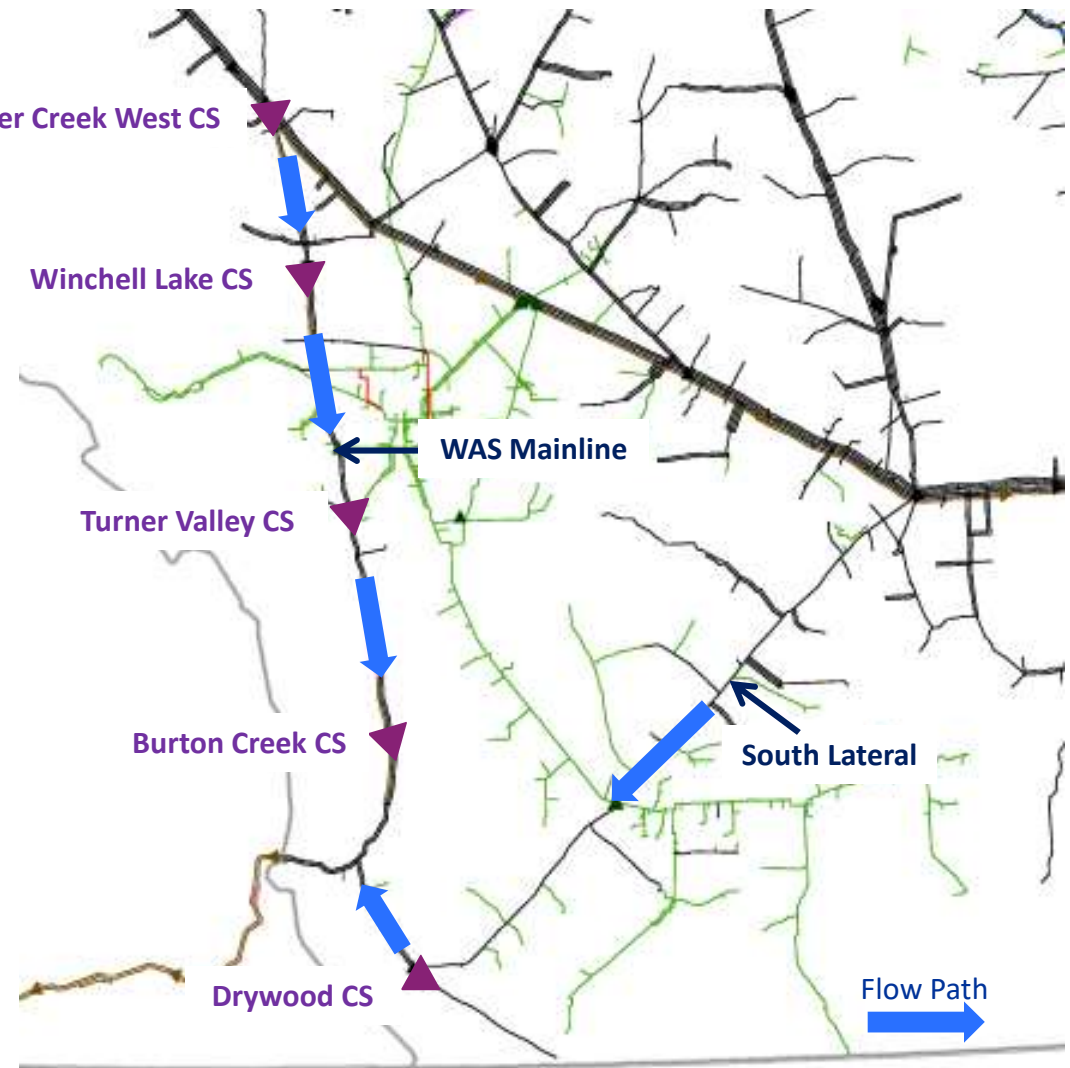
# Western Gate Delivery Area (WGAT)

WGAT Area: Alberta BC Border, Alberta Montana Sales, Segments 22 and Partial 21



# Factors Affecting Operational Capability

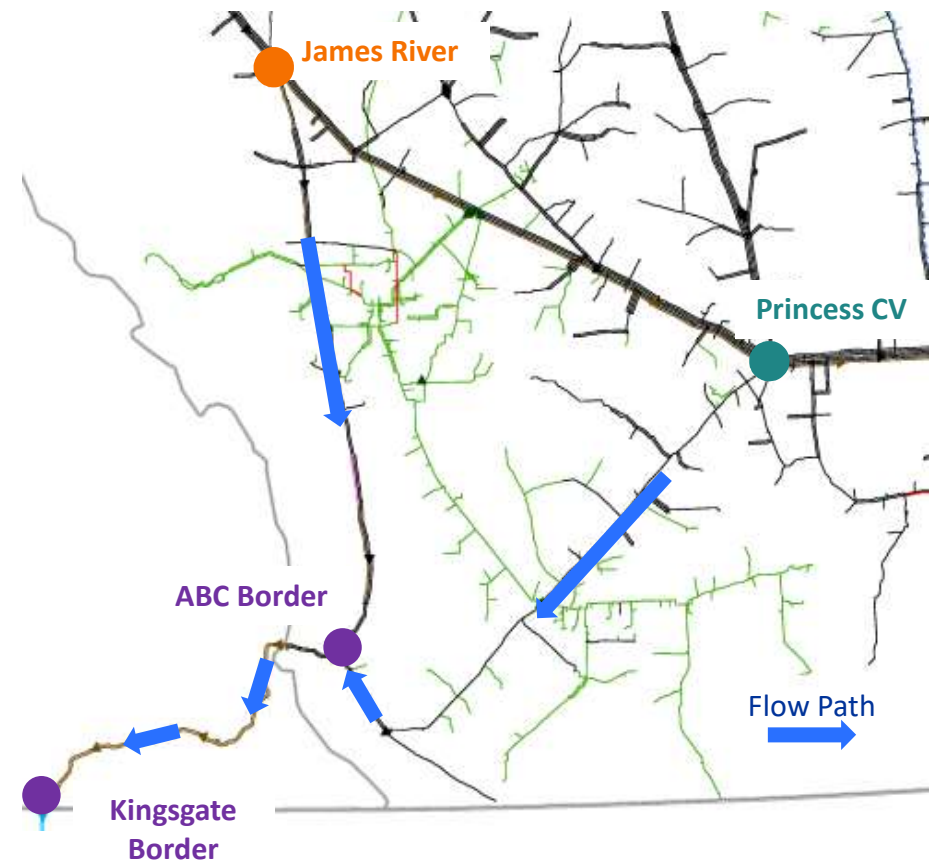
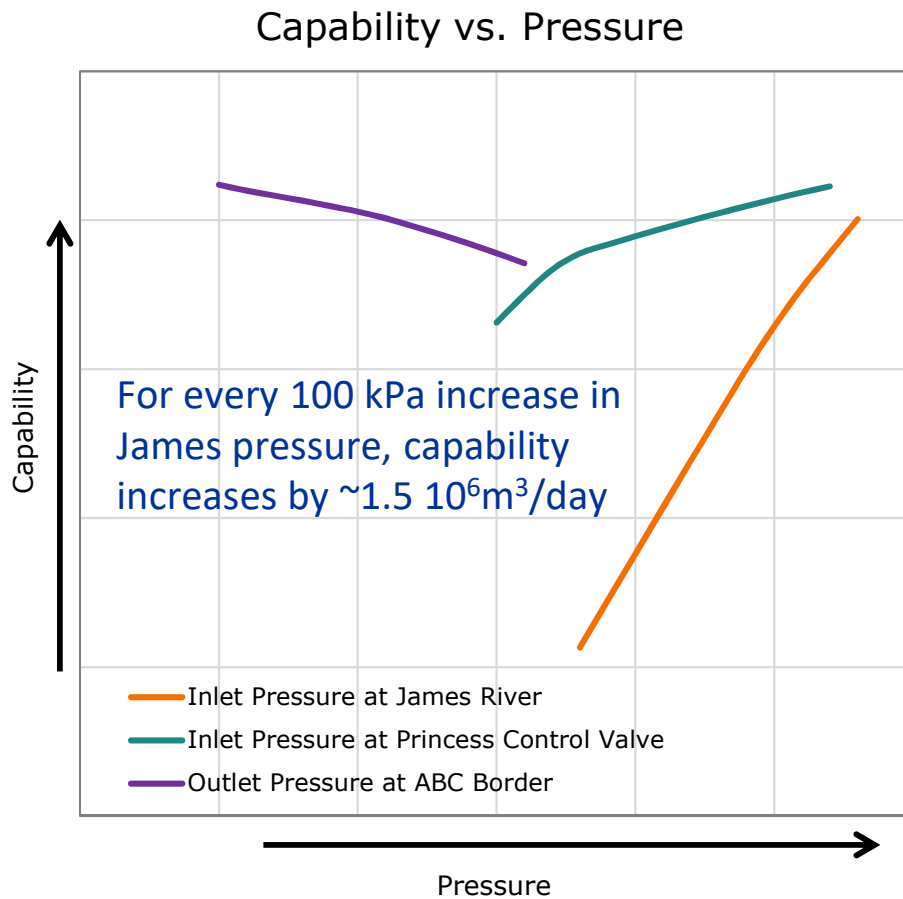
- Facilities Available
- Inlet and Outlet Pressures
- WGAT Area Gas Consumption
- Air and Soil Temperature
- WGAT Area Supply



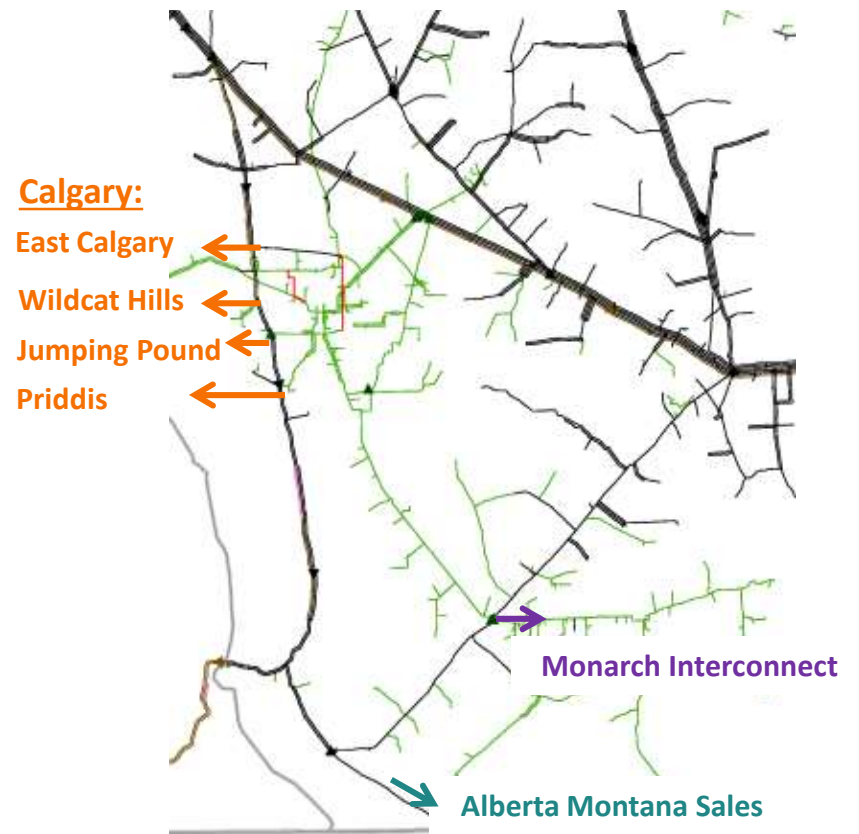
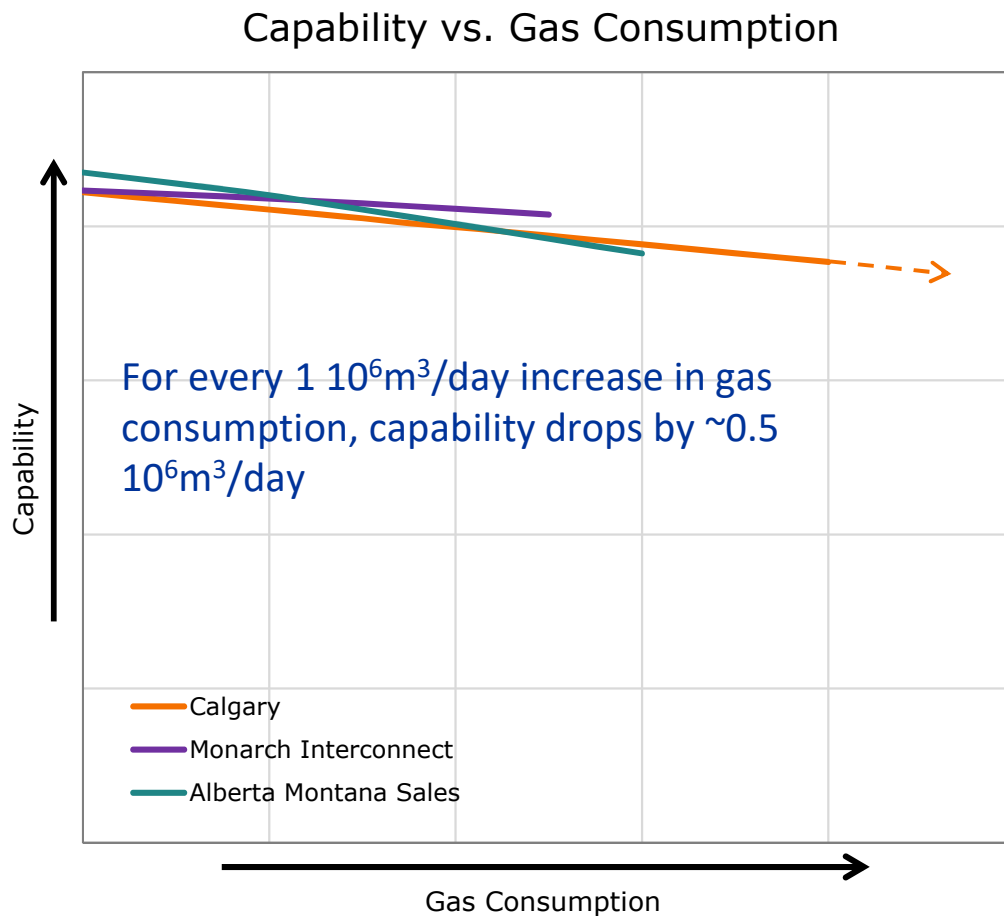


# Factors Affecting Operational Capability – Pressure

Inlet Pressure at James River is the major 'pressure' input in capability determination



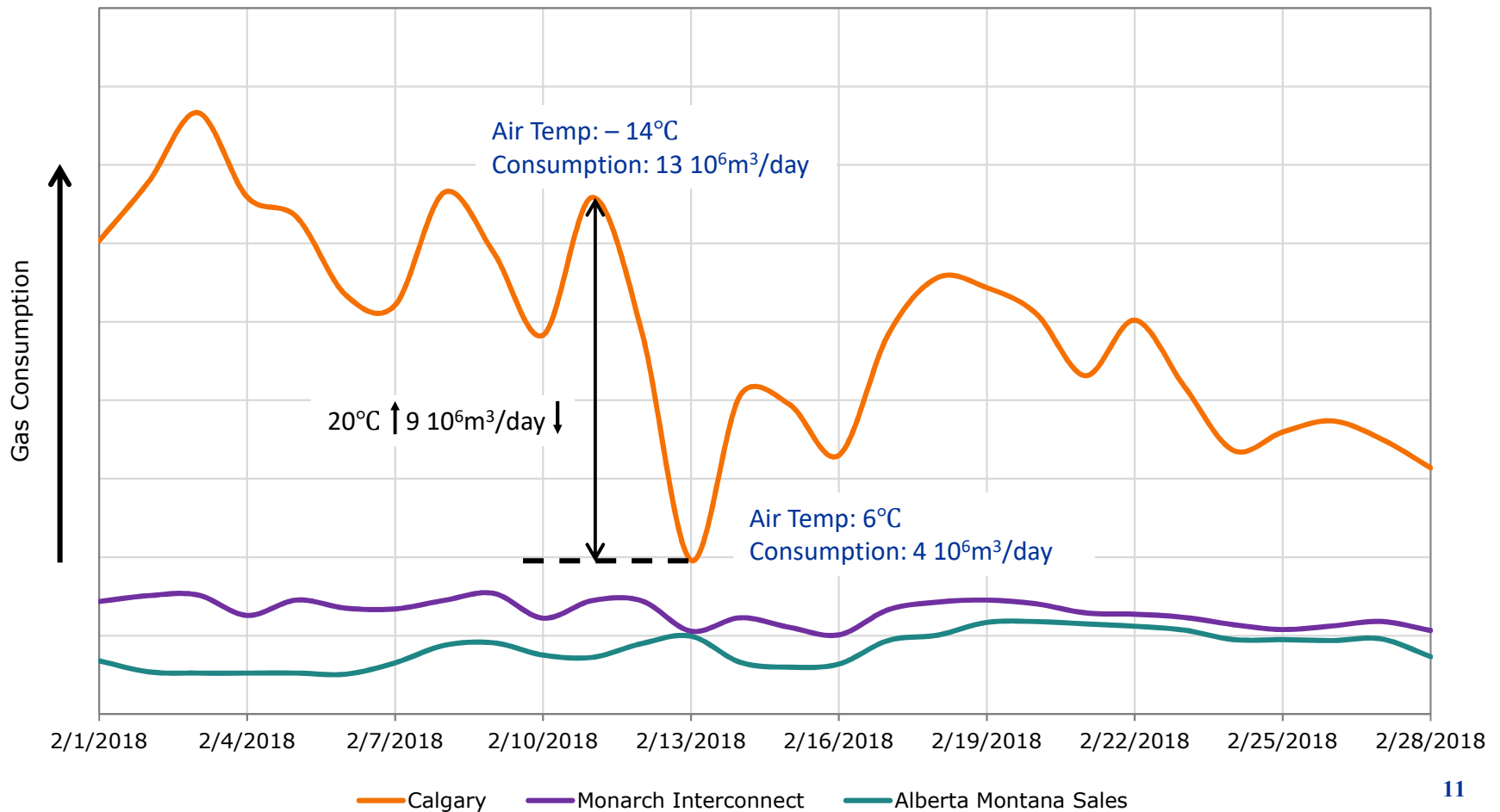
# Factors Affecting Operational Capability – Gas Consumption



# Factors Affecting Operational Capability – Gas Consumption

Gas Consumption within Calgary fluctuates the most and is therefore the major 'gas consumption' input in capability determination

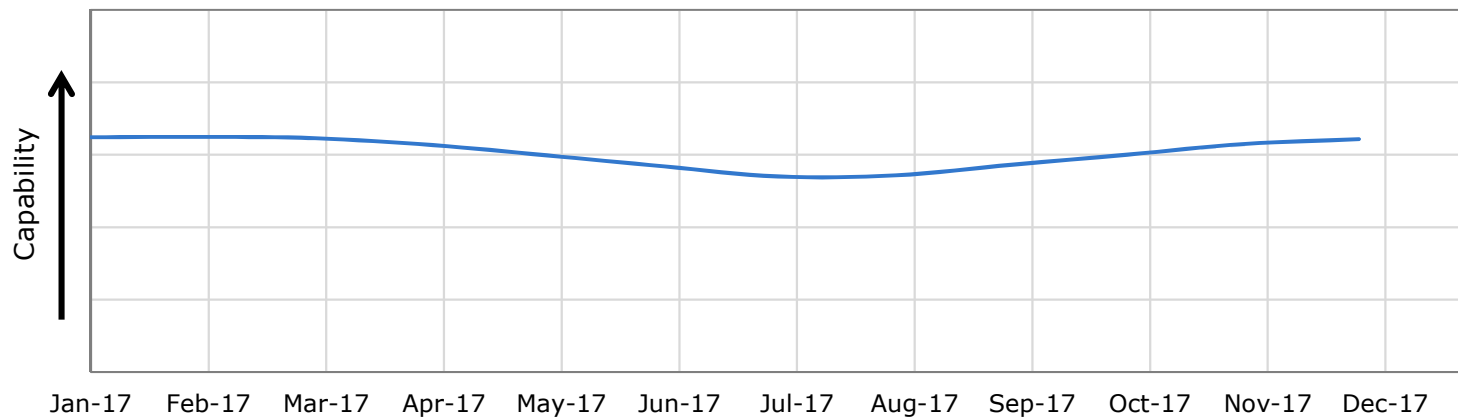
Gas Consumption during the month of February



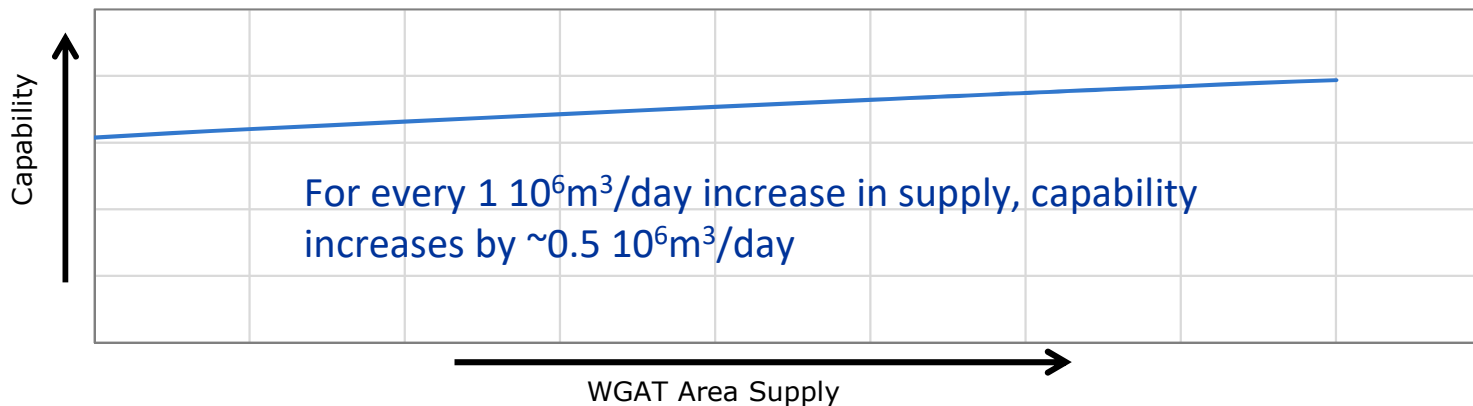
# Factors Affecting Operational Capability – Other

Temperature change and WGAT Area Supply have a minor impact on the capability

Temperature Change vs. Capability



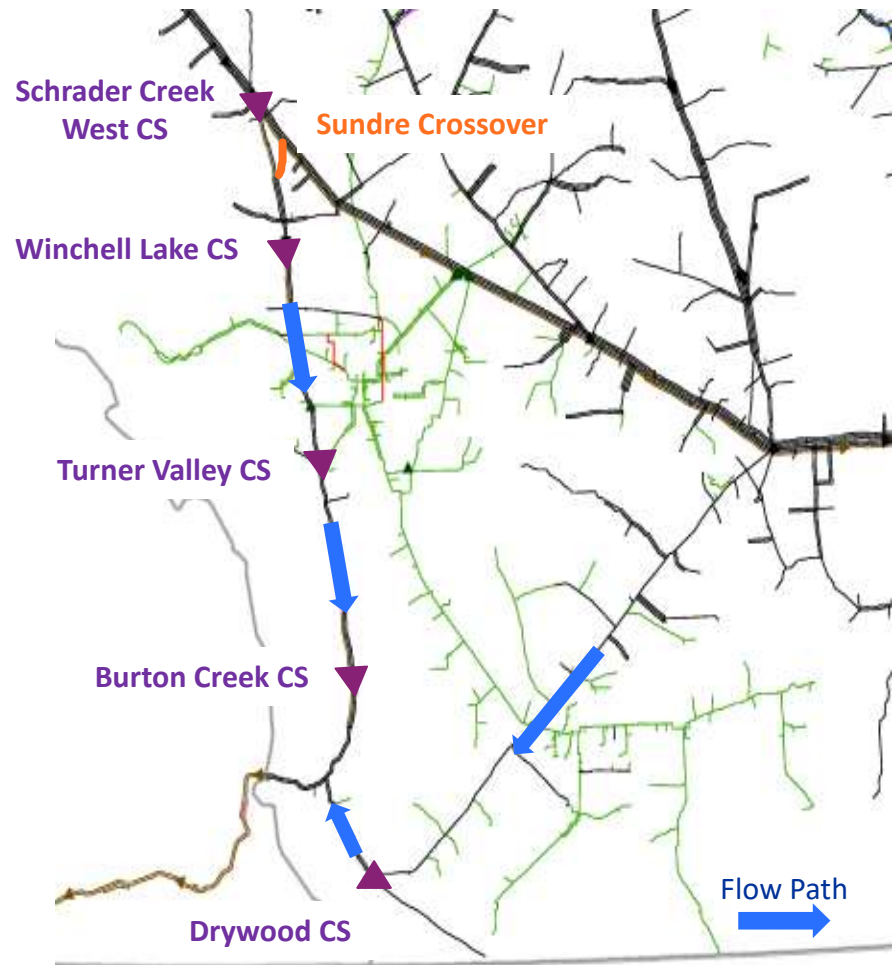
WGAT Area Supply vs. Capability



# NPS 42 Sundre Crossover – Operational Benefits Expected In-service April 1, 2018

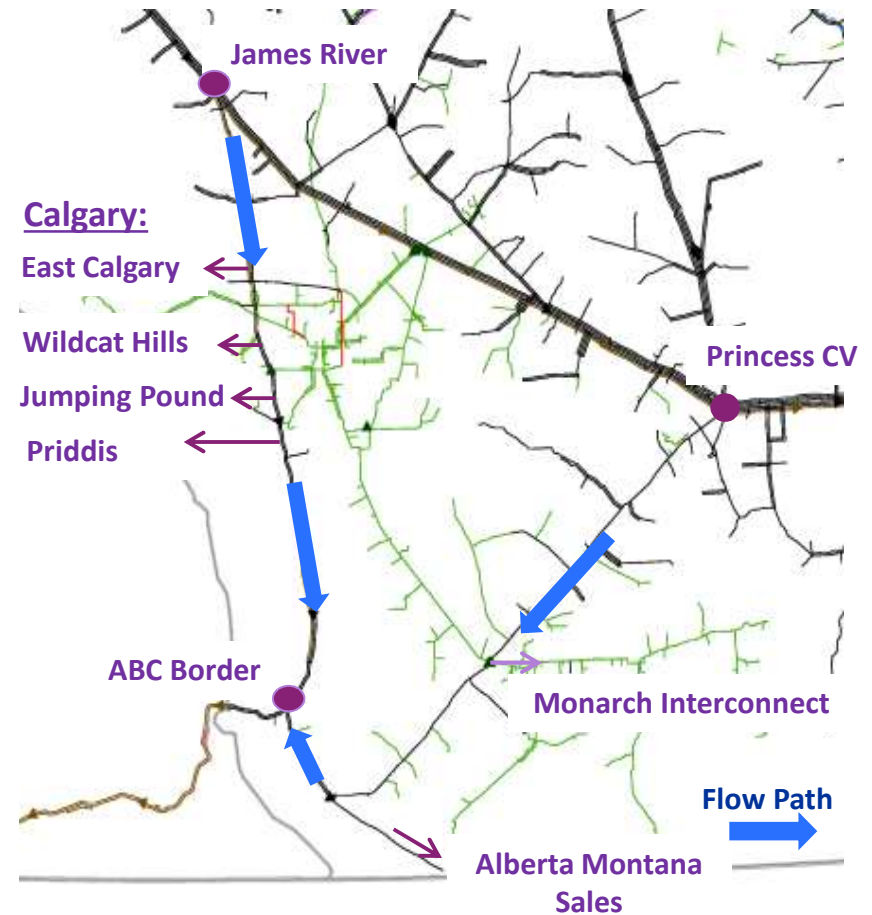
- Operational base capability increases
- Capability loss of outages is minimized

	Capability without Sundre Crossover (10 <sup>6</sup> m <sup>3</sup> /day)	Capability with Sundre Crossover (10 <sup>6</sup> m <sup>3</sup> /day)
Base	67	73
Schrader Creek West CS Outage	62	72
NPS 36 WAS Mainline ILI	58	72
Winchell Lake CS Outage	57	63
Turner Valley CS Outage	60	61
Burton Creek CS Outage	62	62



# Factors Affecting Operational Capability

- Facilities Available
- Inlet Pressure at James River
- Inlet Pressure at Princess CV
- Outlet Pressure at ABC Border
- Gas Consumption within Calgary
- Monarch Interconnect Flow
- Alberta Montana Flow
- WGAT supply
- Air and soil temperature



Questions?





## 2018 Operational Outlook Update



# Agenda

## 2018 Operational Outlook

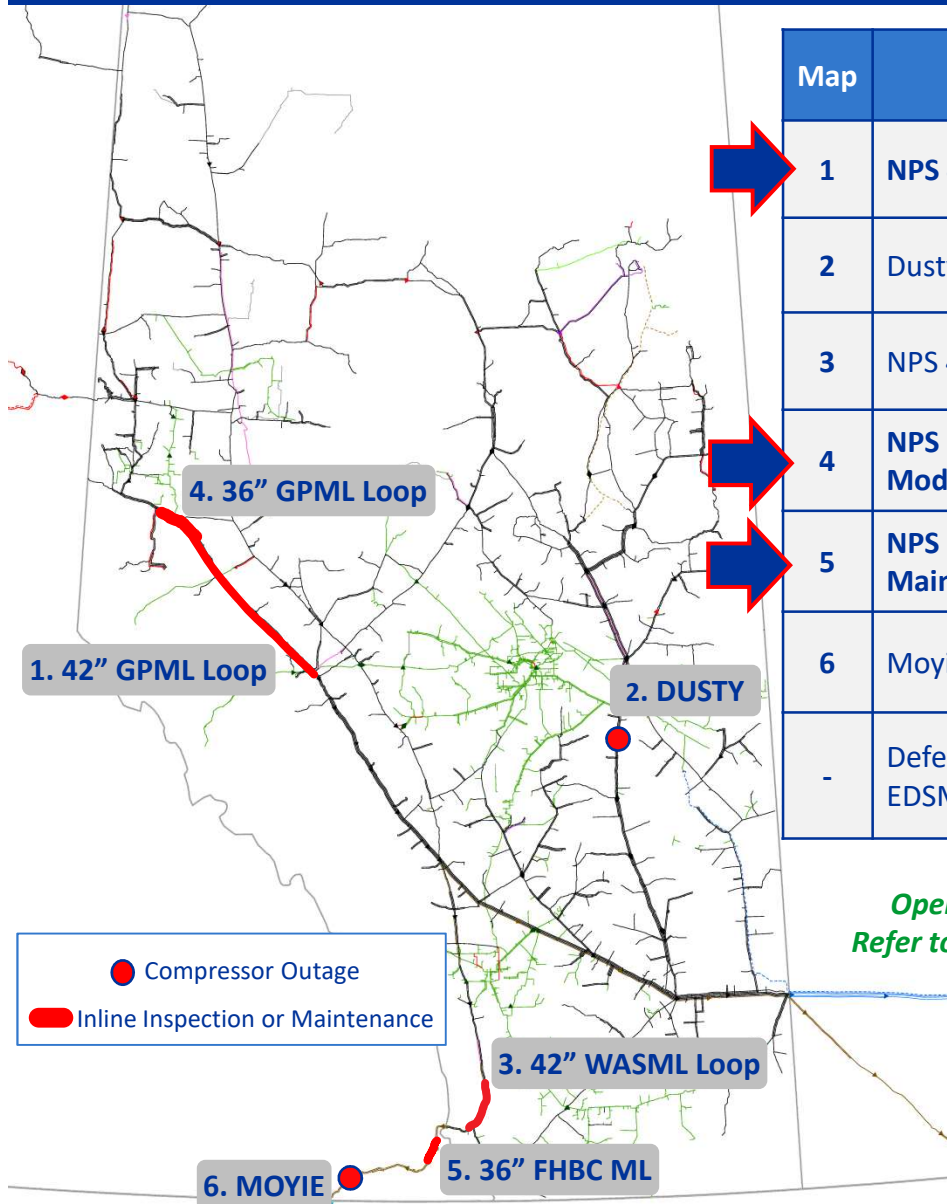
- 2018 Outage Highlights
- 2018/2019 Capital Expansion – Outage Overview
- 2018/2019 Outage Program Update

## 2018 Significant Outage Highlights

- **Information provided in the following slides is for the current set of known 2018 outages that have:**
  - A high likelihood of impacting Firm Transportation
  - A certain level of confidence in proceeding as planned
- **Plant Turnaround (PTA) alignment opportunities**
  - Service restrictions may be adjusted or avoided based on PTA activity
- **Planning, hydraulic analysis and bundling activities complete**
  - Subject to change
- **The majority of 2018 outages and applicable information is available on DOP**

***The majority of 2018 outages and applicable information is available on the DOP***

# 2018 Outages with Expected Firm Service Impact



Map	Facility Outage	Start Date	Duration (days)	Area
1	NPS 42 GPML Loop (Gold to Edson) – ILI	22-May-18	12	USJR
2	Dusty Lake CS	28-May-18	4	NEDA
3	NPS 42 WASML Loop ILI (WAS60 to ABC)	4-Jun-18	9	WGAT
4	NPS 36 GPML (GPM90 - GPM70) – Pipeline Modifications	11-Jun-18	5	USJR
5	NPS 36 Foothills BC Mainline - Integrity Maintenance	01-Sep-18	15	FHBC
6	Moyie CS	4-Sep-18	4	FHBC
-	Deferred to 2019: NPS 48 GPML Loop 2, EDSML Loop 3 (GPM20 to Schrader Creek)	2019	-	USJR

*Operational capability, timing and impacts are provided in DOP tables  
Refer to DOP for additional outages that have potential firm service impacts*

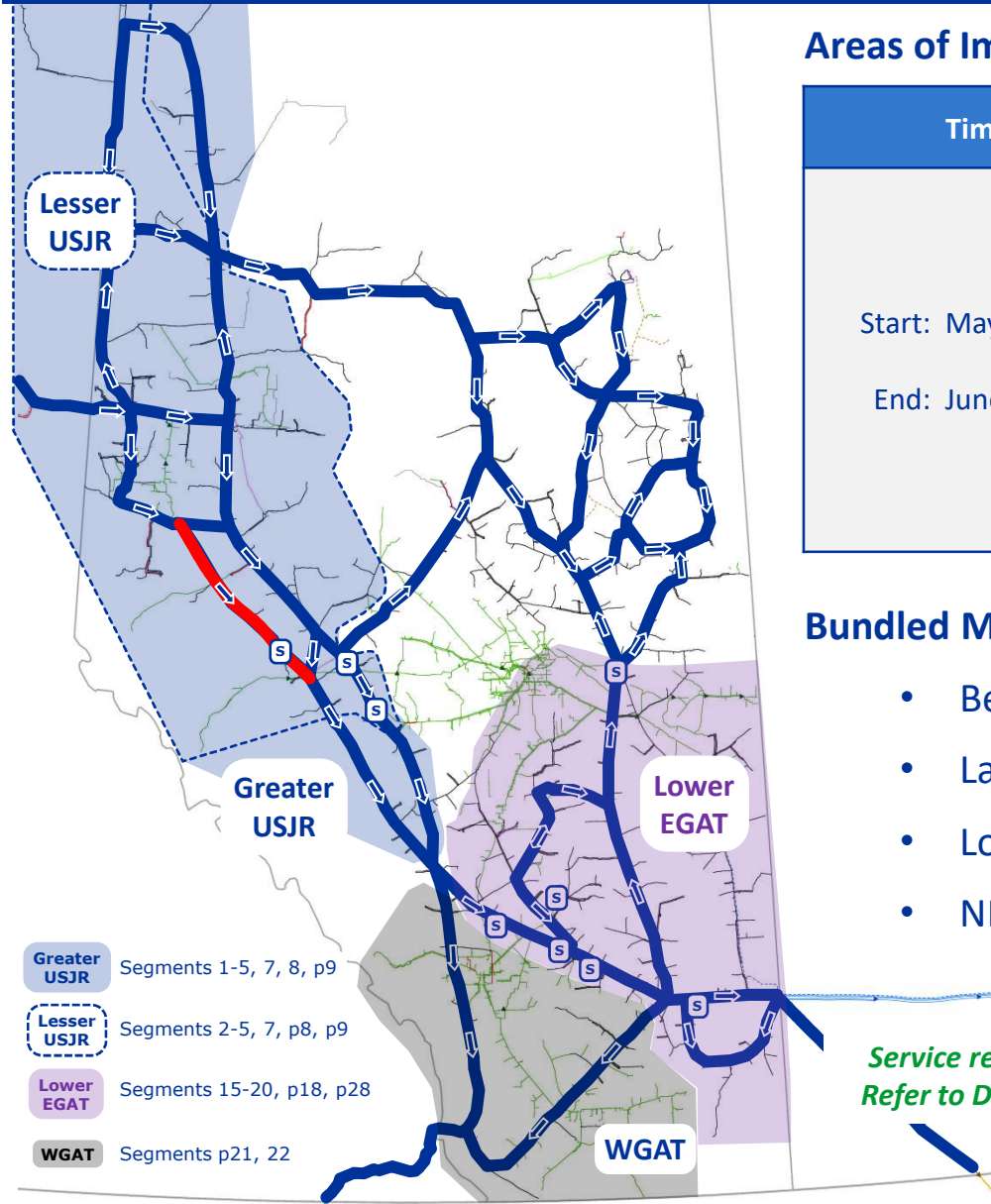
# NPS 42 GPML Loop Inline Inspection

## Areas of Impact and Service Allowable:

Timing	Area	Service Allowable
Start: May 22, 2018 End: June 2, 2018	Lower EGAT Delivery Area	Zero IT
	WGAT Delivery Area	
	Greater USJR Receipt Area	
	Lesser USJR Receipt Area	Partial Firm Service

## Bundled Maintenance (no additional impact):

- Berland River CS
- Latornell CS
- Lodgepole CS
- NPS 36 WAS ML ILI



# June System Maintenance

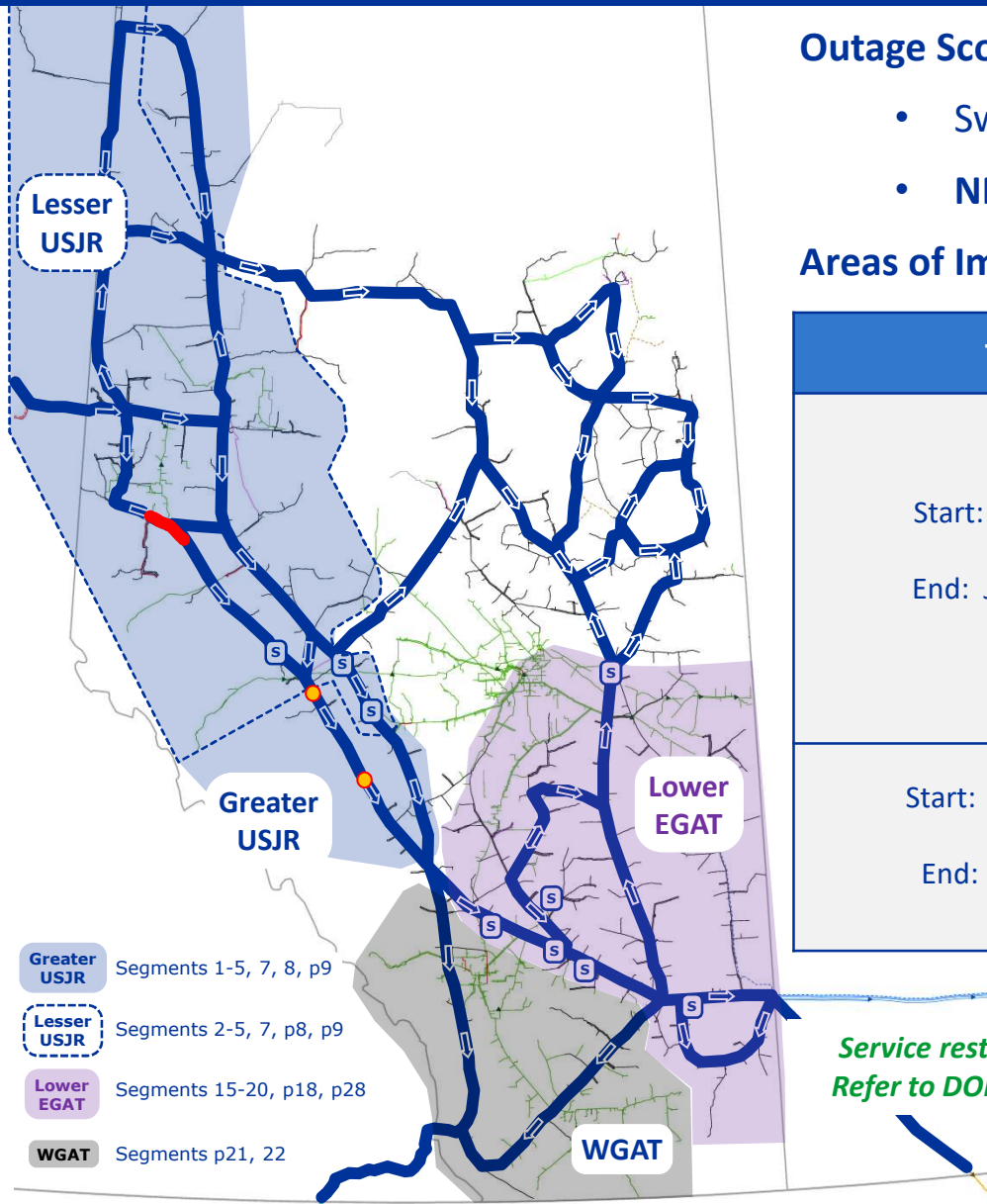
## Outage Scope:

- Swartz Creek CS, Nordegg CS
- **NPS 36 Grande Prairie Mainline**

## Areas of Impact and Service Allowable:

Timing	Area	Service Allowable
Start: June 3, 2018 End: June 20, 2018	Lower EGAT Delivery Area	Zero IT
	WGAT Delivery Area	
	Greater USJR Receipt Area	
Start: June 11, 2018 End: 15-Jun-2018	Lesser USJR Receipt Area	Partial Firm Service

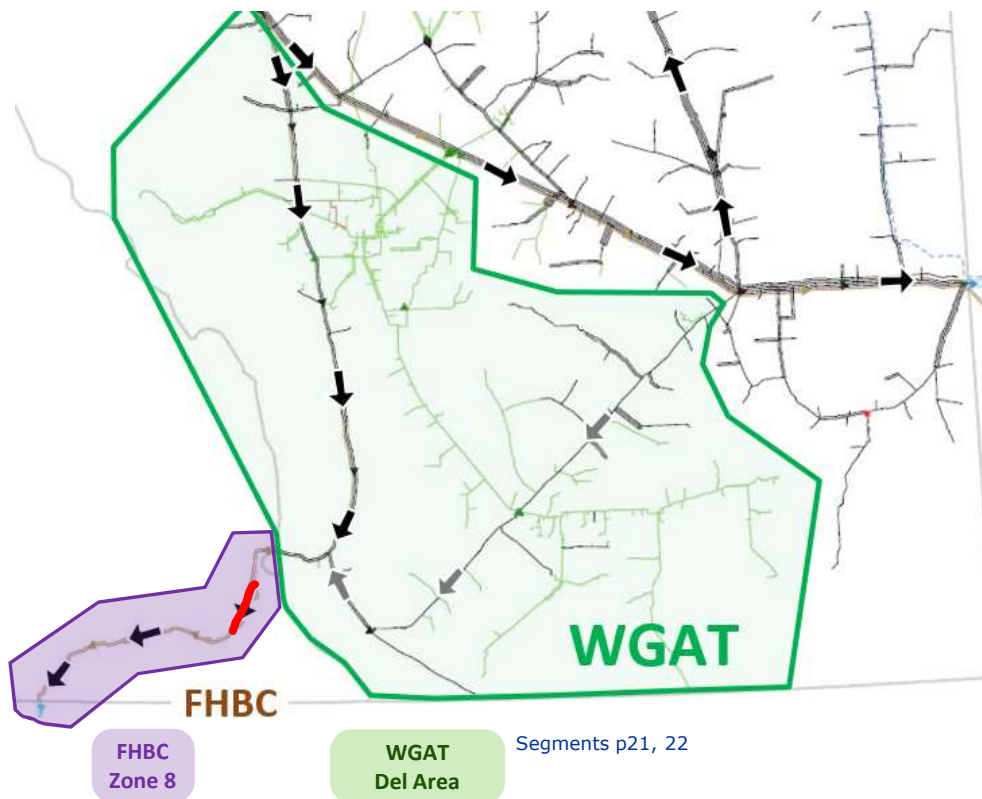
*Service restriction specifics (date, time, area, type) are subject to change. Refer to DOP and NrG Notice for official outage related service availability*



# Foothills BC Integrity Maintenance

## Outage Scope:

- NPS 36 Foothills BC Mainline Pipeline Integrity Maintenance
  - Integrity digs (Jul 16 – Aug 31, 2018)
  - Integrity repairs (Sep 1-15, 2018)



# Foothills BC Integrity Maintenance

## ABC Border Base Capability:

Jul – Aug 2018 = **73** 10<sup>6</sup>m<sup>3</sup>/d; Sep 2018 = **75** 10<sup>6</sup>m<sup>3</sup>/d

## During this maintenance, FHBC Receipt is limiting:

### Outage Capabilities

Jul 16 – Aug 31, 2018 = **65** 10<sup>6</sup>m<sup>3</sup>/d [Integrity Digs]

Sep 1 – 15, 2018 = **60** 10<sup>6</sup>m<sup>3</sup>/d [Integrity Repairs]

Sep 4 – 7, 2018 = **52** 10<sup>6</sup>m<sup>3</sup>/d [Moyie CS]

## Bundled Maintenance (no additional impact):

Burton Creek CS

Turner Valley #1

Turner Valley CS

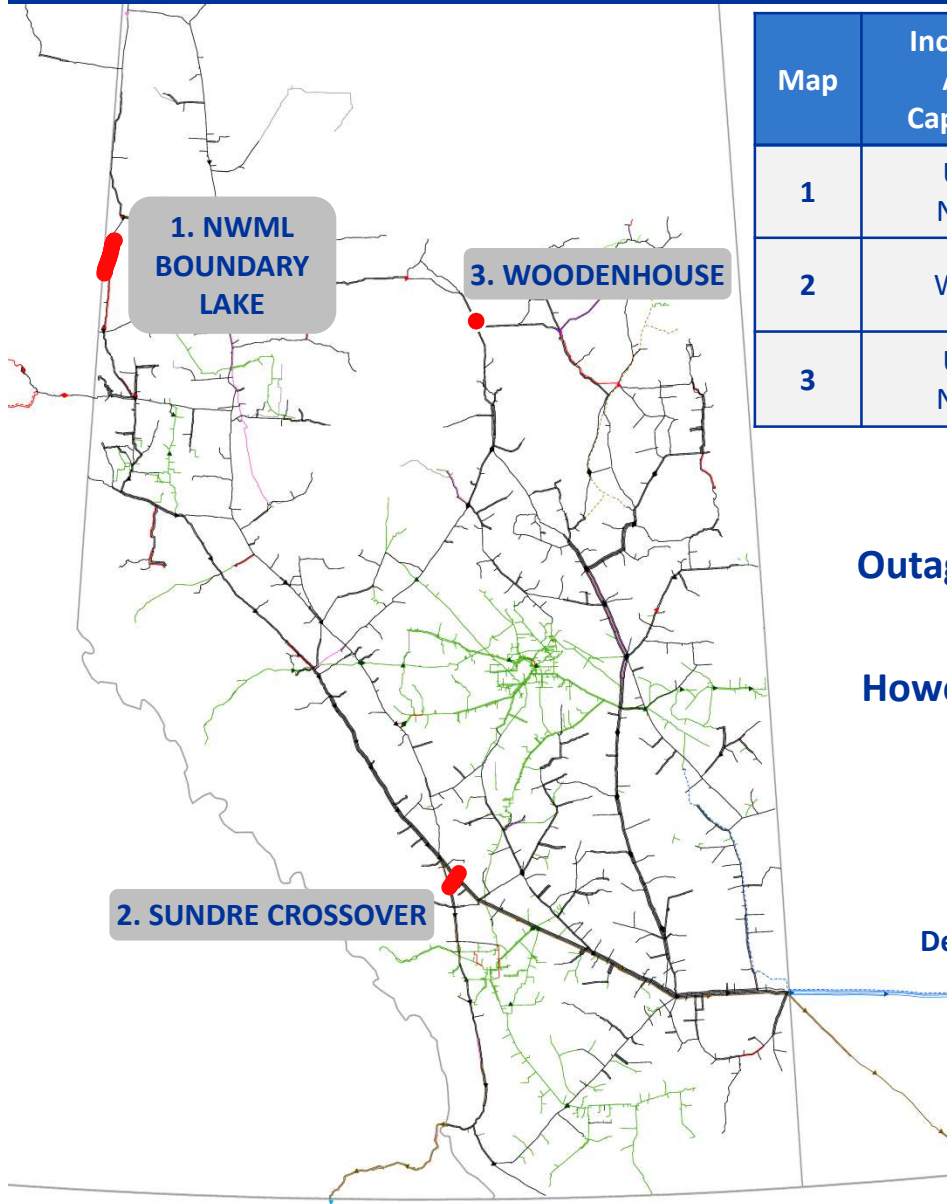
Crowsnest K CS

Winchell Lake CS



*Service restriction specifics (date, time, area, type) are subject to change.  
Refer to DOP and NrG Notice for official outage related service availability*

# 2018 Capital Expansion Facility Review



Map	Increased Area Capability	Facility Description	Timing
1	USJR NEDA	NWML Boundary Lake NW70 – NW80	Apr 2018
2	WGAT	Sundre Crossover	Apr 2018
3	USJR NEDA	Woodenhouse C/S Unit addition	Nov 2018

**Outages are required to bring the 2018 Capital Expansion facilities into service.**

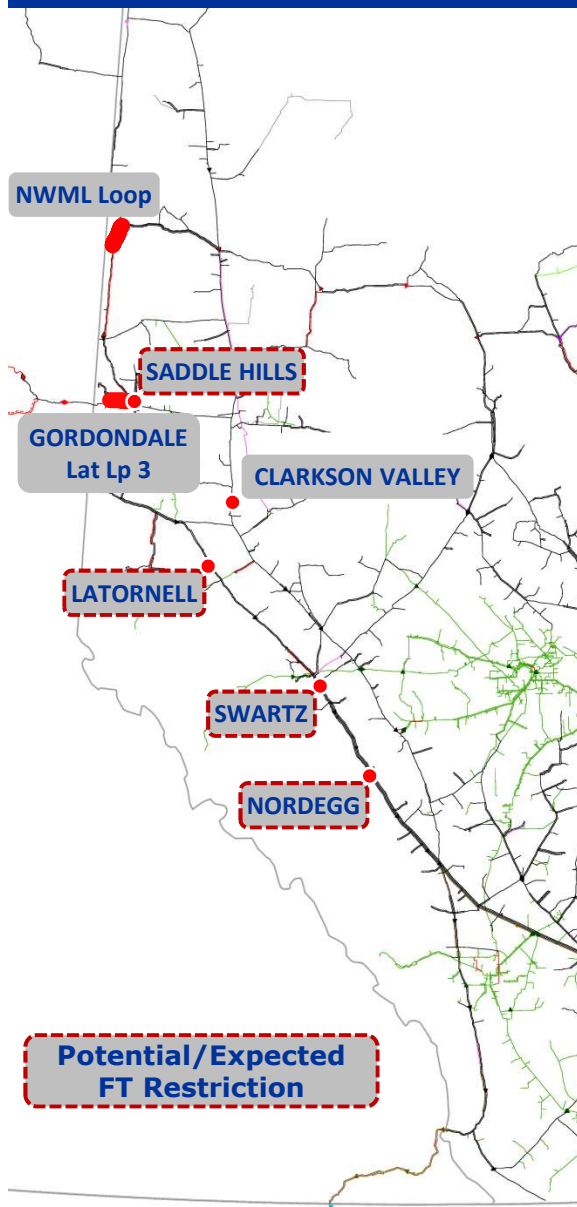
**However, the required outages are not expected to drive firm service restrictions.**

**Design capability increases are provided in the NGTL Annual Plan and operational capability increases are provided in DOP charts.**



# 2019 Capital Expansion – Outage Overview

## Receipt: Upstream James River Area



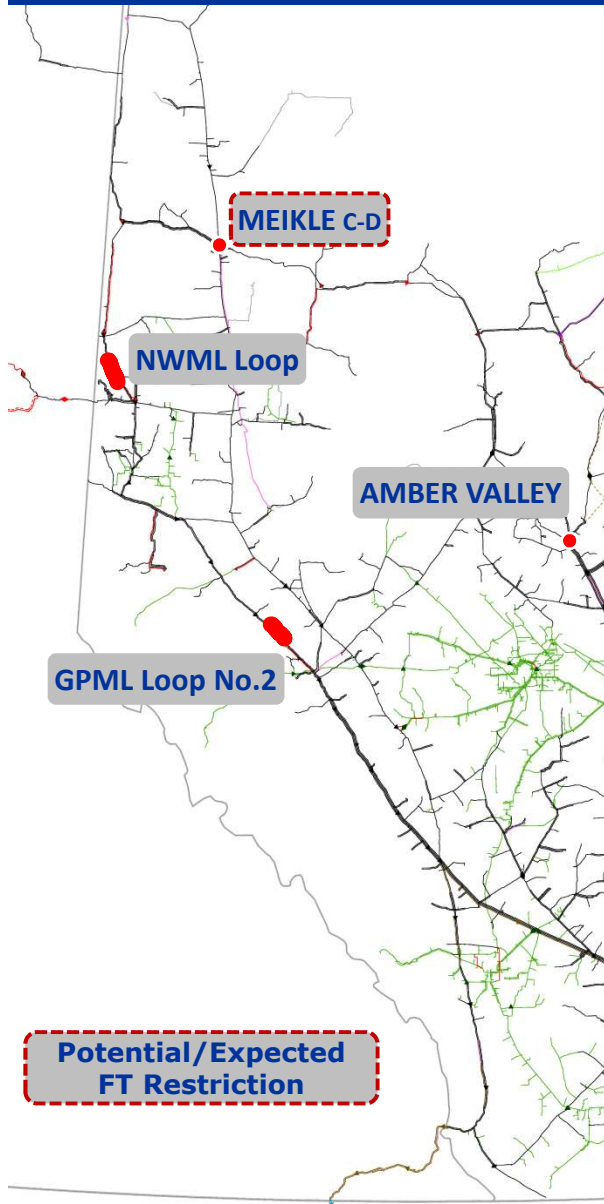
### Preliminary Timing, Area of Impact and Service Allowable:

Expansion Facility Description	Outage Requirement	Outage Timing	Estimated Impact TJs/d	Service Allowable
Saddle Hills, new unit	Saddle Hills CS	Q3 18 - Q1 19	400	USJR Potential IT/FT
	NPS 30 GPML Lp	Q4 18 - Q1 19	200 - 400	
	NPS 36 GPML Lp 2	Q4 18 - Q1 19	200 - 400	
	NPS 36 NWML	Q1 19	200 - 400	
	NPS 42 Gordondale Lat Lp 2	Q1 19	400 - 600	
Latornell, new unit + cooler	Latornell CS	Q3 18 - Q1 19	400	
Swartz Creek, new unit + cooler	Swartz Creek CS	Q4 18 - Q1 19	400	
Nordegg, new unit + cooler	Nordegg CS	Q4 18 - Q1 19	400	
Clarkson Valley CV	No impact	-	-	-
NPS 36 Gordondale Lat Lp 3	No impact	-	-	-
NPS 36 NWML Loop	No impact	-	-	-

*When schedule and impacts are determined, outages will be added to DOP.*

# 2019 Capital Expansion – Outage Overview (con't)

## Receipt: Upstream James River Area



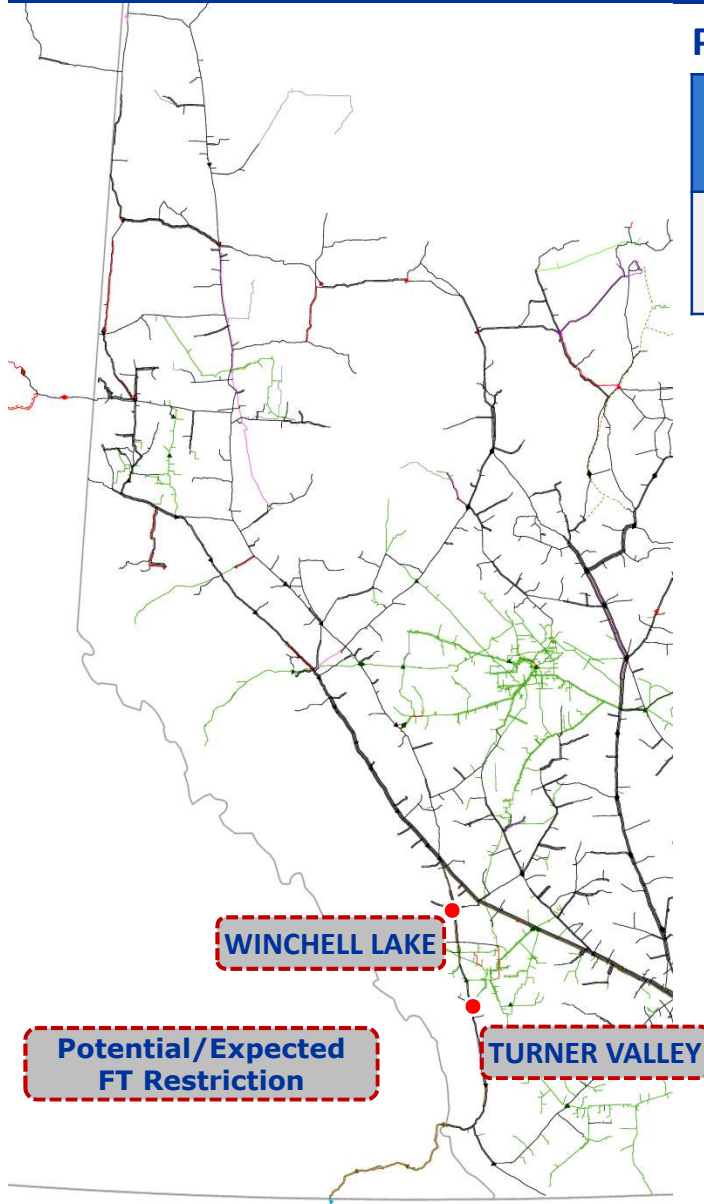
### Preliminary Timing, Area of Impact and Service Allowable:

Expansion Facility Description	Outage Requirement	Outage Timing	Estimated Impact TJs/d	Service Allowable
Meikle River C-D CS Modifications	Meikle D CS	May – June 2019	400	USJR Potential IT/FT
	Meikle C3 CS		200	
	Meikle B & C4 CS		250	
	Meikle B, C3 & C4 CS		350	
Amber Valley, new unit	No impact	-	-	-
NPS 48 GPML Loop No.2 McLeod River North	No impact	-	-	-
NWML Loop – Bear Canyon North NWML Loop – Peace River Crossing	No impact	-	-	-

*When schedule and impacts are determined, outages will be added to DOP*

# 2019 Capital Expansion – Outage Review

## Delivery: West Gate Delivery Area



### Preliminary Timing, Area of Impact and Service Allowable:

Expansion Facility Description	Outage Requirement	Outage Timing	Estimated Impact TJs/d	Service Allowable Location/Area
Winchell Lake, new unit	Winchell Lake CS	2019	300 - 400	WGAT Partial Firm Service

*When schedule and impacts are determined, outages will be added to DOP*

# Outage Program Status

## 2018 Outage Program Update:

- 2018 program is progressing as planned with continual focus on:
  - Integrating all work
  - Bundling activities
  - Optimizing the overall program
- 2019 Capital Expansion outages will be incorporated into the 2018/2019 outage programs once we have sufficient confidence in outage duration and required timing

## 2019 Outage Program Update:

- Part way into developing the 2019 outage program with continual focus on earlier planning and communication to industry

Questions?





# NGTL Outage Communication Tools Updates

- **NGTL/FH Daily Operating Plan (DOP)**
  - Plant Turnaround Tables
  - Foothills Zone 8 and Foothills Zone 9
  - CSV File
- **Evaluating Service Availability**
  - Base Capability vs. Outage Capability
  - Considerations and Characterization
  - Examples
- **Operational Segment Definitions**

# NGTL/FH Daily Operating Plan Plant Turnaround Tables

- Timeline extended from next 6 weeks to next 6 months

<b>Receipt: Plant Turnaround Activity</b>	
<b>Date</b>	<b>Flow (10<sup>3</sup>m<sup>3</sup>/day)</b>
MAR 26, 2018 to MAR 31, 2018	1,080
APR 01, 2018 to APR 04, 2018	6,740
APR 05, 2018 to APR 16, 2018	1,080
MAY 07, 2018 to MAY 11, 2018	100
MAY 18, 2018 to MAY 26, 2018	1,700
MAY 27, 2018 to JUN 02, 2018	2,880
JUN 03, 2018	3,630
JUN 04, 2018 to JUN 05, 2018	4,380
JUN 06, 2018 to JUN 07, 2018	3,200
JUN 08, 2018	7,500
JUN 09, 2018	8,275
JUN 10, 2018	10,475
JUN 11, 2018 to JUN 13, 2018	10,450
JUN 14, 2018	5,400
JUN 15, 2018	3,200
JUN 16, 2018 to JUN 17, 2018	1,700
JUN 23, 2018 to JUN 29, 2018	800

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

<b>Delivery: Plant Turnaround Activity</b>	
<b>Date</b>	<b>Flow (10<sup>3</sup>m<sup>3</sup>/day)</b>
MAY 20, 2018 to JUN 14, 2018	1,250

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



# NGTL/FH Daily Operating Plan

## Foothills Zone 8 and Foothills Zone 9

- Added “Service Availability Location/Area” Column

Before:

Receipt: Foothills Zone 8 (FHZ8)				
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Outage Description
13015492	MAR 26, 2018	MAR 29, 2018	63,000	Elko - Compressor Station Maintenance
13015502	MAY 28, 2018	MAY 30, 2018	57,000	Crowsnest A - Compressor Station Maintenance
13015504	MAY 30, 2018	JUN 01, 2018	69,000	Crowsnest B - Compressor Station Maintenance
13025450	JUL 04, 2018	JUL 15, 2018	63,000	NPS 36 BC Mainline - Pipeline Maintenance
13474463	JUL 16, 2018	AUG 31, 2018	65,000	NPS 36 Foothills BC - Pipeline Maintenance

After:

Receipt: Foothills Zone 8 (FHZ8)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13015492	MAR 26, 2018	MAR 29, 2018	63,000	Potential IT Receipt Restriction Alberta/BC Border Foothills BC	Elko - Compressor Station Maintenance
13015502	MAY 28, 2018	MAY 30, 2018	57,000	Potential FT Receipt Restriction Alberta/BC Border Foothills BC	Crowsnest A - Compressor Station Maintenance
13015504	MAY 30, 2018	JUN 01, 2018	69,000	Potential IT Receipt Restriction Alberta/BC Border Foothills BC	Crowsnest B - Compressor Station Maintenance
13025450	JUL 04, 2018	JUL 15, 2018	63,000	Partial FT Receipt Restriction Alberta/BC Border Foothills BC	NPS 36 BC Mainline - Pipeline Maintenance
13474463	JUL 16, 2018	AUG 31, 2018	65,000	Partial FT Receipt Restriction Alberta/BC Border Foothills BC	NPS 36 Foothills BC - Pipeline Maintenance

# NGTL/FH Daily Operating Plan

## CSV File Column Definitions

Outage Id	Table	Start	End	Capability	Typical Flow	Type of Restriction	Area for Stated Capability	Other Restricted Segments	Description
13014689	USJR	22-May-18	2-Jun-18	267000		Partial FT Receipt Restriction	USJR		NPS 42 Grande Prairie Mainline Loop - Pipeline Maintenance
12926181	USJR	3-Jun-18	10-Jun-18	285000		Potential IT/FT Receipt Restriction	USJR		Swartz Creek - Compressor Station Maintenance
13210399	USJR	11-Jun-18	15-Jun-18	279000		Partial FT Receipt Restriction	USJR		NPS 36 Grande Prairie Mainline - Pipeline Modifications
12945371	LCLR	10-Apr-18	13-Apr-18	0	190		Wayne North		NPS 6 Wayne North Lateral - Pipeline Modifications
13204473	LCLR	20-Apr-18	26-Apr-18	0	150		Carson Creek		Meter Station Modifications
13315948	LCLR	25-Apr-18	(4H)	0	45		Boggy Hall		Government Run Inspection
13014689	WGAT	20-May-18	2-Jun-18	69000		Potential IT Delivery Restriction	Alberta/BC Border	Segments 22 and partial 21	NPS 42 Grande Prairie Mainline Loop - Pipeline Maintenance
13025451	WGAT	23-May-18	2-Jun-18	72000		Potential IT Delivery Restriction	Alberta/BC Border	Segments 22 and partial 21	NPS 36 Western Alberta System Mainline - Pipeline Maintenance
12926181	WGAT	3-Jun-18	10-Jun-18	69000		Potential IT Delivery Restriction	Alberta/BC Border	Segments 22 and partial 21	Swartz Creek - Compressor Station Maintenance
13014689	EGAT	20-May-18	2-Jun-18	116000		Potential IT Delivery Restriction	Empress/McNeill Borders	Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	NPS 42 Grande Prairie Mainline Loop - Pipeline Maintenance
12966586	EGAT	24-May-18	28-May-18	86000		Potential IT Delivery Restriction	OSDA		NPS 16 Flat Lake Lateral Loop Extension - Pipeline Maintenance
13015497	EGAT	28-May-18	31-May-18	110000		Potential IT/FT Delivery Restriction	NEDA		Dusty Lake - Compressor Station Maintenance
13020572	EGAT	2-Jun-18	11-Jun-18	128000		Potential IT Delivery Restriction	Empress/McNeill Borders	Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	NPS 34 Eastern Alberta System Mainline - Pipeline Maintenance
12937564	LCLD	13-Mar-18	(12H)	0	55		Slave Lake Pulp		Meter Station Maintenance
13025452	LCLD	18-Jul-18	30-Jul-18	500 - 1000	1000 - 2000		Cold Lake Border Sales		NPS 10 Saddle Lake Lateral - Pipeline Maintenance
13317492	LCLD	9-Aug-18	(4H)	0	1.5		Paddy Creek Sales		Government Run Inspection

### Outage ID:

Event specific identifier (will be the same if there are multiple areas impacted for a single outage event)

### Table:

Table for which the outage is listed on the HTML report

### Outage Start and End date:

Estimated timeframe of restriction

### Capability:

Outage Specific Capability for the area defined in the 'Area for Stated Capability' column

### Service Allowable Location/Area:

[Type of Restriction]; [Area for Stated Capability]; [Other Restricted Segments];

### Description Column:

[Facility Name] – [Facility Type] [Maintenance/Modification]

# Evaluating Service Availability

## Base Operational Capability

### Base Operational Capability:

Capability assuming no outages with known and expected operational constraints

#### Assumptions:

- All compression available
- Expected operational derates
- Expected system configuration
- Average receipt and delivery flows
- Zero storage
- Maximum pressure at receipt extremities or minimum pressure at delivery extremities
- Monthly soil and air temperatures

# Evaluating Service Availability

## Base Operational Capability

### Base Operational Capability:

Capability assuming no outages with known and expected operational constraints

#### NGTL/FH Daily Operating Plan

Please select a report for viewing.

Report naming follows:

YYYY\_MM\_DD\_hh\_mm

2018\_03\_02\_14\_44 ([HTML](#), [CSV](#))

2018\_03\_01\_16\_24 ([HTML](#), [CSV](#))

2018\_02\_28\_15\_10 ([HTML](#), [CSV](#))

2018\_02\_27\_15\_04 ([HTML](#), [CSV](#))

2018\_02\_26\_15\_05 ([HTML](#), [CSV](#))

2018\_02\_23\_15\_16 ([HTML](#), [CSV](#))

2018\_02\_22\_16\_19 ([HTML](#), [CSV](#))



Receipt: Upstream James River Area				
Current USJR Base Operational Capability: 293,000 10 <sup>3</sup> m <sup>3</sup> /d				
USJR Capability and Historical Flow (Last Updated: March 15, 2018)				
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area
13327232	MAR 20, 2018	MAR 20, 2018	283,000	Potential IT Receipt Restriction USJR
13321687	MAR 26, 2018	APR 01, 2018	283,000	Potential IT/FT Receipt Restriction USJR
12950119	APR 01, 2018	APR 05, 2018	201,000	Potential IT/FT Receipt Restriction

# Evaluating Service Availability

## Base Operational Capability

### Base Operational Capability:

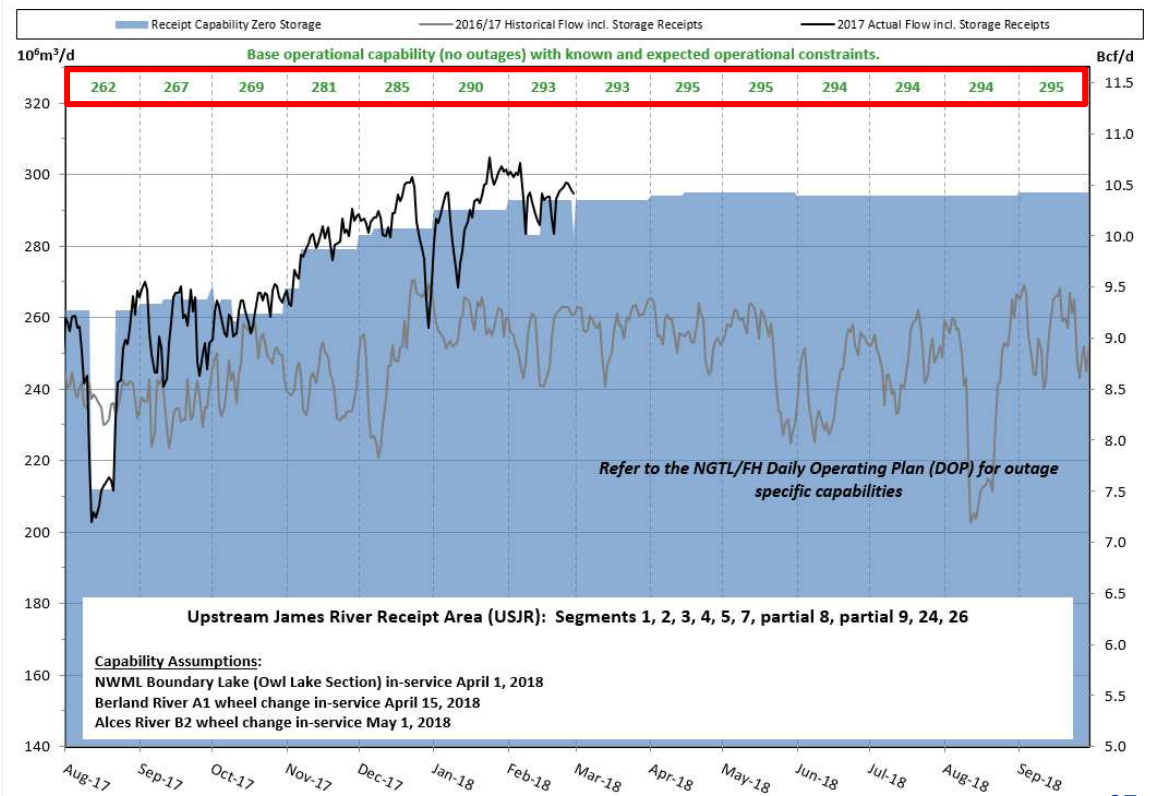
Capability assuming no outages with known and expected operational constraints

#### Capability and Historical Flow Charts

- ▶ Alberta/British Columbia Border ( PDF )
- ▶ Empress/McNeill Border ( PDF )
- ▶ Oil Sands Delivery Area ( PDF )
- ▶ Upstream James River Receipt Area ( PDF )

#### Other Information

- ▶ Base Capability Table ( CSV )



# Evaluating Service Availability

## Base Operational Capability

### Base Operational Capability:

Capability assuming no outages with known and expected operational constraints

#### Capability and Historical Flow Charts

- ▶ Alberta/British Columbia Border ( PDF )
- ▶ Empress/McNeill Border ( PDF )
- ▶ Oil Sands Delivery Area ( PDF )
- ▶ Upstream James River Receipt Area ( PDF )

#### Other Information

- ▶ Base Capability Table ( CSV )



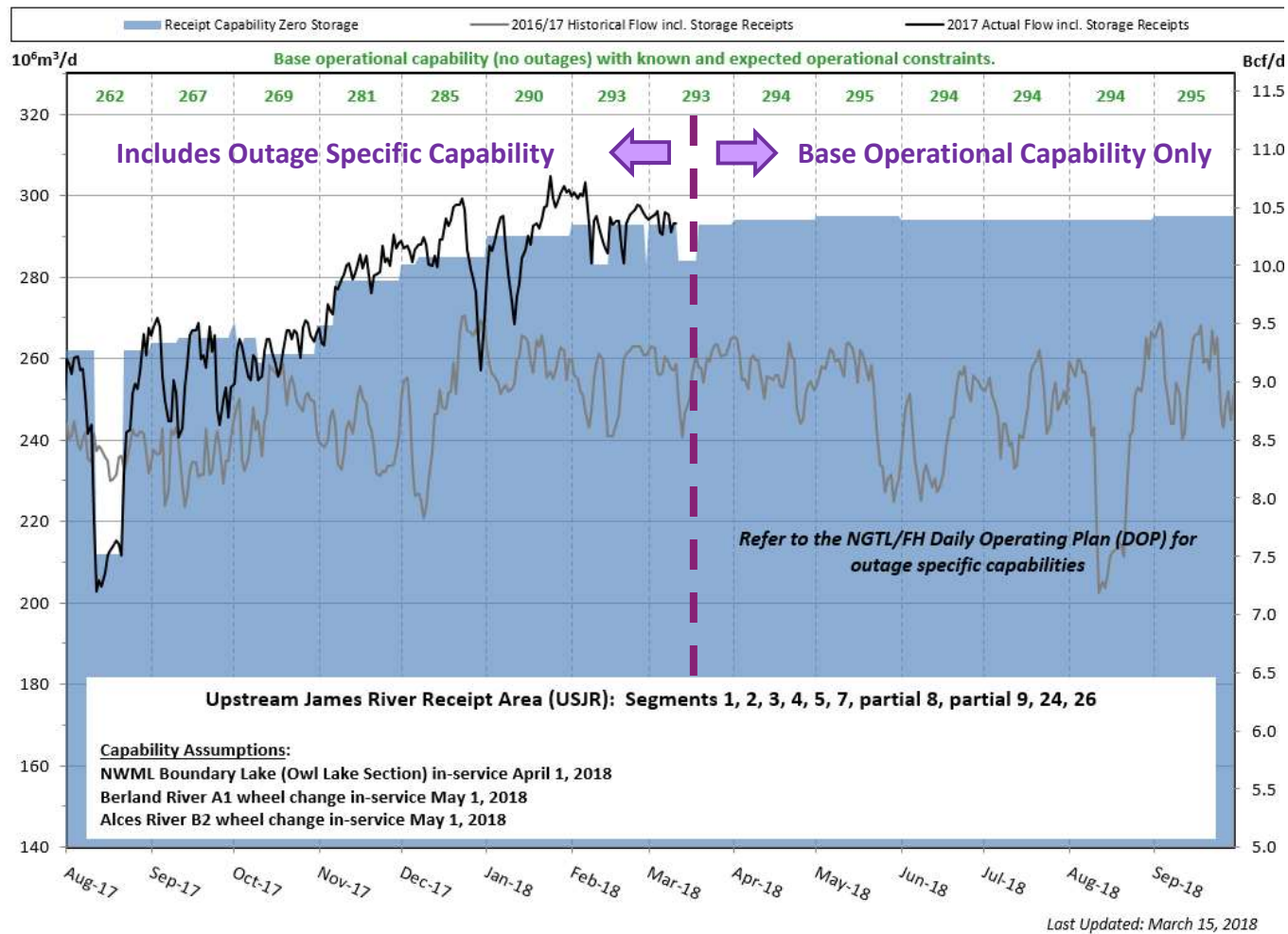
mmm-yy	USJR	WGAT	EGAT	OSDA
Jan-18	290	69	128	85
Feb-18	293	69	128	85
Mar-18	293	69	129	85
Apr-18	294	73	130	86
May-18	295	73	129	88
Jun-18	294	73	130	88
Jul-18	294	73	129	87
Aug-18	294	73	127	87
Sep-18	295	75	128	88
Oct-18	296	75	132	89
Nov-18	298	77	133	90
Dec-18	300	77	130	91

# Evaluating Service Availability

## Outage Specific Capability

### Outage Specific Capability:

Base operational capability less expected capability loss due to facility outages



# Evaluating Service Availability Considerations and Characterization

## Considerations:

- Capability loss
- Duration of the outage
- Location of facility on the system

## Characterization:

- Potential IT Restriction (Zero IT)
- Potential IT/FT Restriction
  - Associated upstream or downstream “Potential IT Restriction”
- Partial FT Restriction
  - Associated upstream or downstream “Potential IT Restriction”



# Evaluating Service Availability

## Examples – Potential IT Restriction

### “Potential IT Restriction”

High capability impact, short duration (no associated downstream restrictions):

Receipt: Upstream James River Area (USJR)					
Current USJR Base Operational Capability: 293,000 10 <sup>3</sup> m <sup>3</sup> /d USJR Capability and Historical Flow (Last Updated: March 15, 2018)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13327232	MAR 20, 2018	MAR 20, 2018	283,000	Potential IT Receipt Restriction USJR	Nordegg - Compressor Station Maintenance

Low capability impact, multiple days (no associated downstream restrictions):

Receipt: Upstream James River Area (USJR)					
April USJR Base Operational Capability: 294,000 10 <sup>3</sup> m <sup>3</sup> /d USJR Capability and Historical Flow (Last Updated: March 15, 2018)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13019316	APR 17, 2018	APR 23, 2018	292,000	Potential IT Receipt Restriction USJR	NPS 24 Grande Prairie Mainline Loop - Pipeline Maintenance

# Evaluating Service Availability

## Examples – Potential IT/FT Restriction

### “Potential IT/FT Restriction”

High capability impact, multiple days:

Receipt: Upstream James River Area (USJR)					
June USJR Base Operational Capability: 294,000 10 <sup>3</sup> m <sup>3</sup> /d USJR Capability and Historical Flow (Last Updated: March 15, 2018)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13015494	JUN 11, 2018	JUN 20, 2018	284,000	Potential IT/FT Receipt Restriction USJR	Nordegg - Compressor Station Maintenance

Associated downstream IT delivery restrictions:

Delivery: West Gate Delivery Area (WGAT)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13015494	JUN 11, 2018	JUN 20, 2018	69,000	Potential IT Delivery Restriction Alberta/BC Border Segments 22 and partial 21	Nordegg - Compressor Station Maintenance

Delivery: East Gate Delivery Area (EGAT)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13015494	JUN 11, 2018	JUN 20, 2018	116,000	Potential IT Delivery Restriction Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	Nordegg - Compressor Station Maintenance

# Evaluating Service Availability

## Examples – Partial FT Restriction

### “Partial FT Restriction”

Significant capability impact, multiple days:

Receipt: Upstream James River Area (USJR)					
May USJR Base Operational Capability: 295,000 10 <sup>3</sup> m <sup>3</sup> /d USJR Capability and Historical Flow (Last Updated: March 15, 2018)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13014689	MAY 22, 2018	JUN 02, 2018	267,000	Partial FT Receipt Restriction USJR (upstream Wolf Lake and Lodgepole Compressor Stations)	NPS 42 Grande Prairie Mainline Loop - Pipeline Maintenance

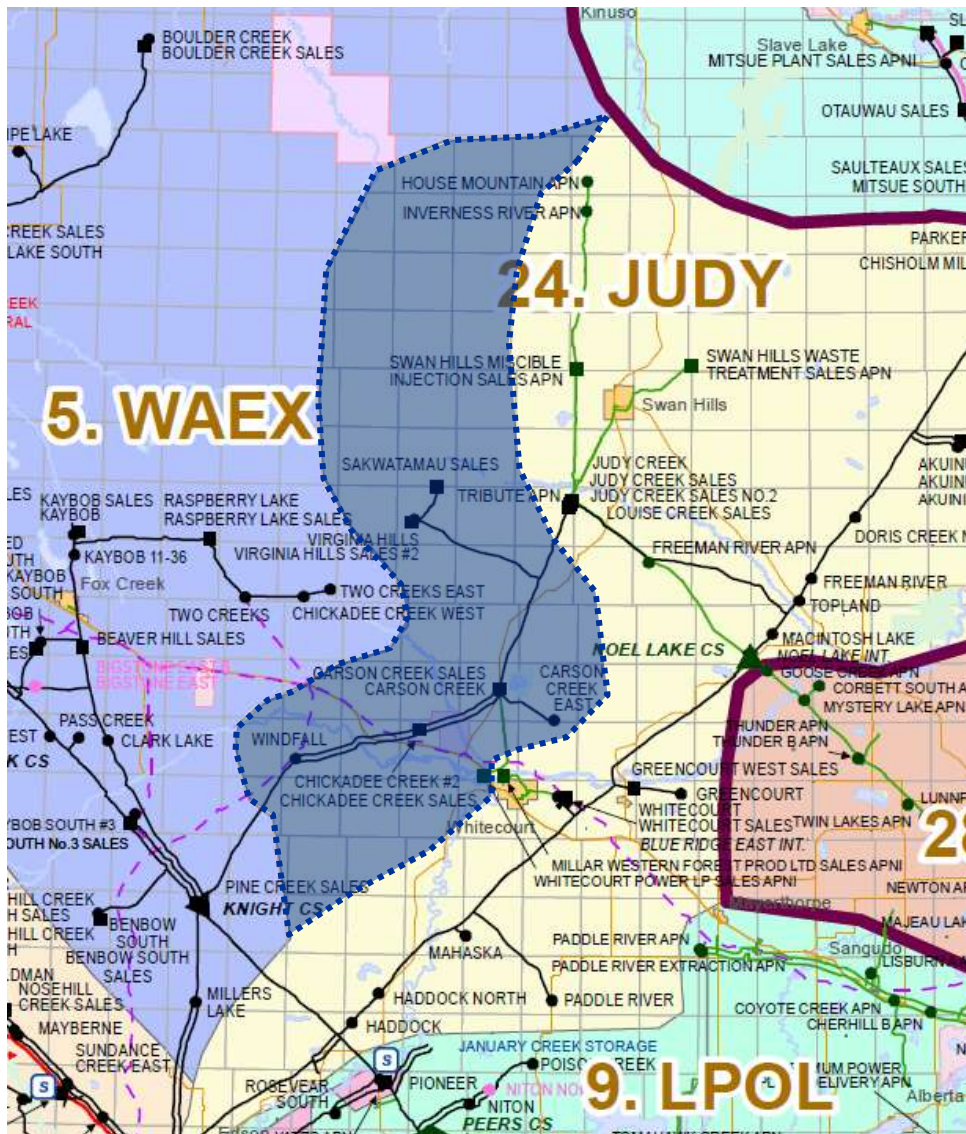
Associated downstream IT delivery restrictions:

Delivery: West Gate Delivery Area (WGAT)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13014689	MAY 22, 2018	JUN 02, 2018	69,000	Potential IT Delivery Restriction Alberta/BC Border Segments 22 and partial 21	NPS 42 Grande Prairie Mainline Loop - Pipeline Maintenance

Delivery: East Gate Delivery Area (EGAT)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
13014689	MAY 22, 2018	JUN 02, 2018	116,000	Potential IT Delivery Restriction Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	NPS 42 Grande Prairie Mainline Loop - Pipeline Maintenance

# Operational Segment Definitions

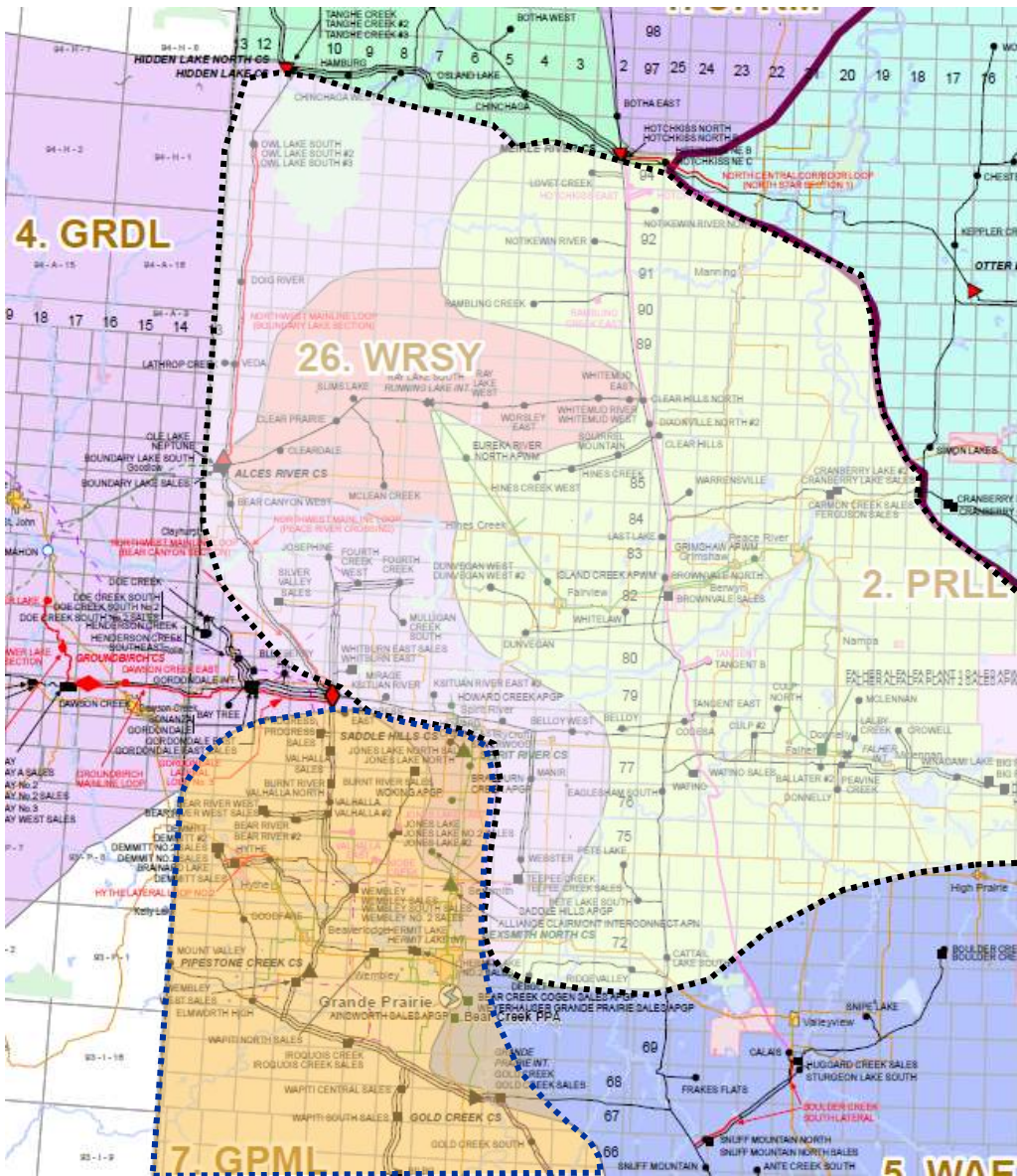
## 5. WAEX and 24. JUDY



- Segment 5. WAEX boundary extended to include locations south and west of Tribute APN
- Whitecourt Power LP Sales APNI is part of Segment 5. WAEX
- Millar Western Forest Prod LTD Sales APNI is part of Segment 24. JUDY

# Operational Segment Definitions

## 2. PRL, 4. GRDL, and 26. WRSY



- Segment 2. PRL extends east to include all of Segment 26. WRSY and part of Segment 4. GRDL (thereby retiring Segment 26. WRSY)
- Segment 7. GPML extends to include:
  - Part of Segment 4. GRDL (AP Grande Prairie system)
  - Part of Segment 5. WAEX (Bear Creek and Gold Creek areas)
- Segment 4. GRDL thus only describes locations west of Saddle Hills

Questions?



## Your NGTL and Foothills Contact Information

Inquiries	Availability	Team	Functions	Contact Information
General assistance	7am-10 pm MT, 7 day/week	TransCanada Call Centre	Customer service for nominations, allocations, and measurement	403-920-PIPE (7473) or toll-free at 1-877-920-PIPE (7473); and <a href="mailto:nominations@transcanada.com">nominations@transcanada.com</a>
Contracts and Billing	Business hours	Contracts	Support for contracts	<b>NGTL:</b> <a href="mailto:ngtl_contracting@transcanada.com">ngtl_contracting@transcanada.com</a>
		Billing	Support for billing	<b>FH:</b> <a href="mailto:ab_ft_openseason@transcanada.com">ab_ft_openseason@transcanada.com</a> <a href="mailto:ngtl_billing@transcanada.com">ngtl_billing@transcanada.com</a>
Real-time operator to operator interface	24 hour/day, 7 day/week (shift rotation)	Gas Control	Executes operating plans and strategies and system surveillance and event/emergency management	403-920-2401 403-920-2402 403-920-2403
Operations planning and outage coordination	Business hours	Operations Planning	New facility integration, operating plan strategies, outage planning and coordination, linepack management, connected pipeline agreements, event/emergency management	<a href="http://www.transcanada.com/customer-express/2880.html">http://www.transcanada.com/customer-express/2880.html</a>

## Your NGTL and Foothills Contact Information

Inquiries	Availability	Team	Functions	Contact Information
Sales and service	Business hours	Customer Account Managers	Service inquiries and new service requests	<b>NGTL:</b> <a href="http://www.tccustomerexpress.com/875.html">http://www.tccustomerexpress.com/875.html</a> <b>FH:</b> Ashley Stowkowy: 920-5828
Multi-stakeholder interests	Business hours	Commercial Collaboration	Multi-stakeholder initiatives, customer meetings, and the Tolls, Tariff, Facilities and Procedures (TTFP) committee	<a href="http://www.tccustomerexpress.com/872.html">http://www.tccustomerexpress.com/872.html</a>
All other contacts		TransCanada Natural Gas Pipelines		<a href="http://www.tccustomerexpress.com/852.html">http://www.tccustomerexpress.com/852.html</a>