



# NGTL System and Foothills Pipeline Customer Meeting

May 29, 2018



## Operational Overview and Outlook

Heather Poole, *Director, Commercial Services, Optimization & Design*

# High Utilization, High Expectations:

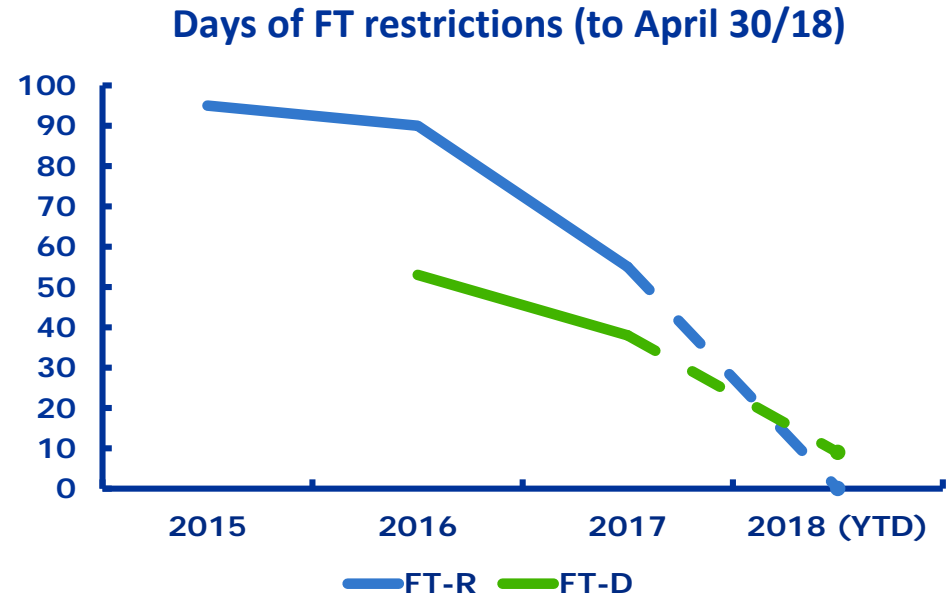
## We're Listening and Acting

- **System Optimization**
- **Reliability Centered Maintenance**
- **Optimized Integrity Program**
- **Customer Communications**

# System Optimization

## Guiding Principles:

- 1) Avoid/minimize firm service restrictions
- 2) Optimize system throughput

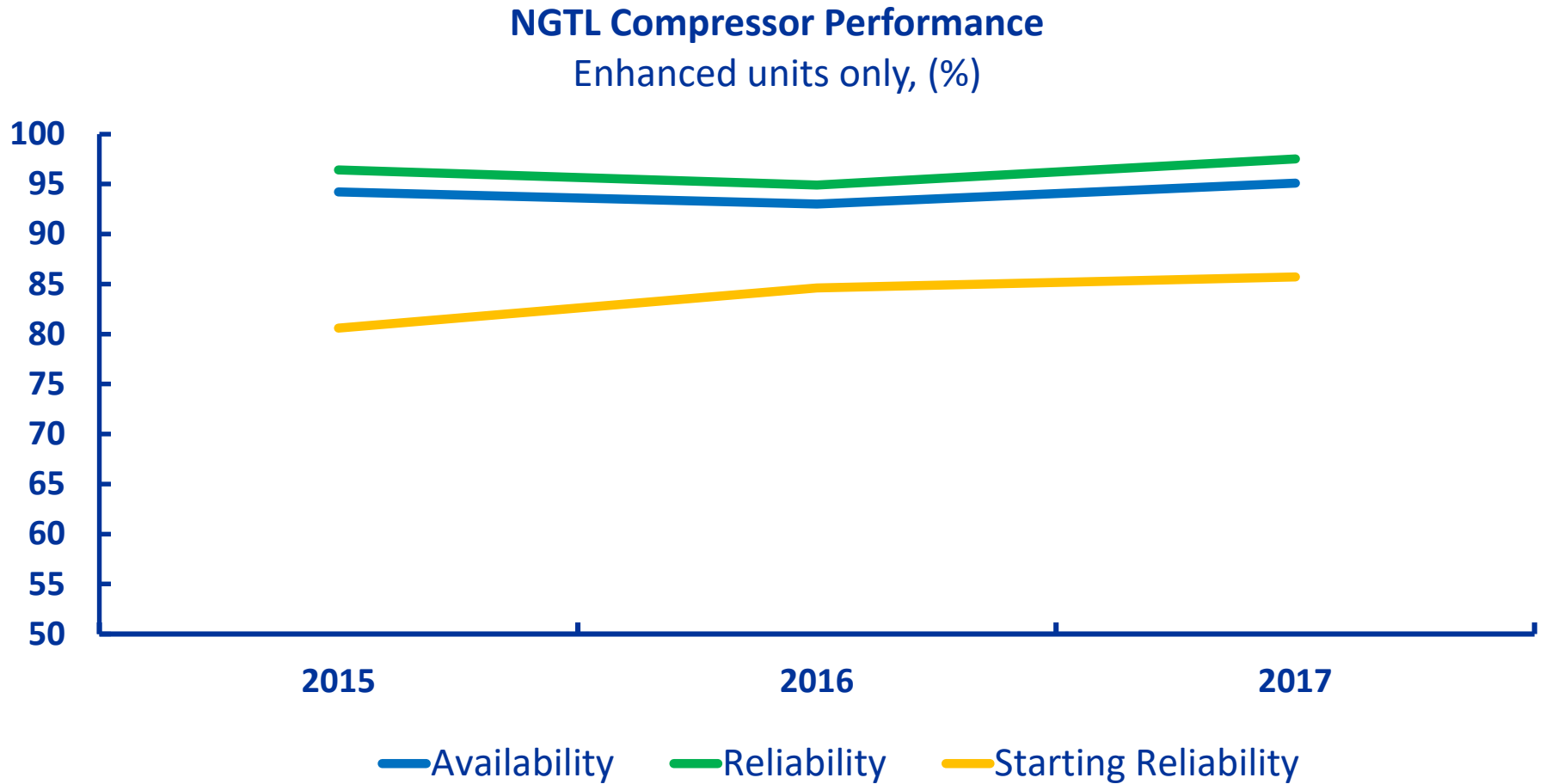


Restriction Dates	Initial Plan	Optimized Plan
May 14 - 22	IT-D Restriction	Partial IT-D Allowed
May 22 - June 2	IT-D Restriction	Partial IT-D Allowed



# Reliability Centered Maintenance

## Fleet Performance



\*Includes all NGTL 'enhanced' units

# Pipe Integrity

## Tools and Process Optimization

- ✓ Pipeline derate process optimization, including internal engineering and NEB approval
- ✓ Pipeline Criticality Forecast supporting PI program optimization

<b>Deliverable</b>	<b>Benefit</b>
<b>Optimized Tools</b>	<b>Increased system availability, reduced cost</b>
<b>Optimized Internal Processes</b>	<b>Appropriate risk mitigation and effective decision making</b>

# Optimized Integrity Program

Speed Control Cleaning = More effective, less impact

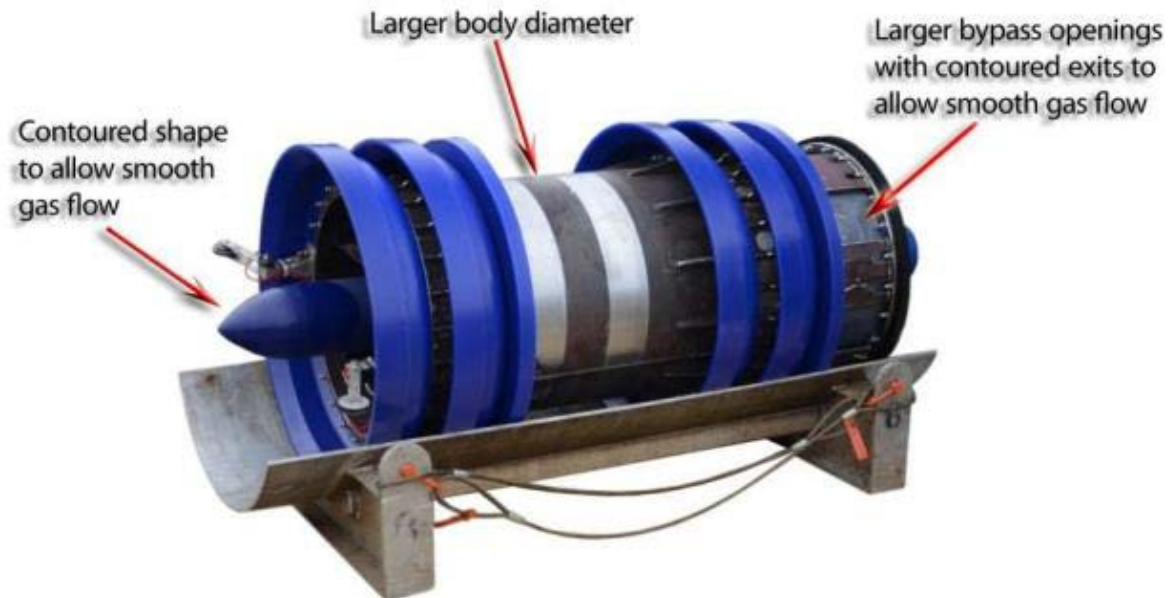
- Speed Control technology allows for effective runs at higher gas velocities
- Higher gas velocities = fewer system restrictions



Figure 2.2:  
Vanes closed.

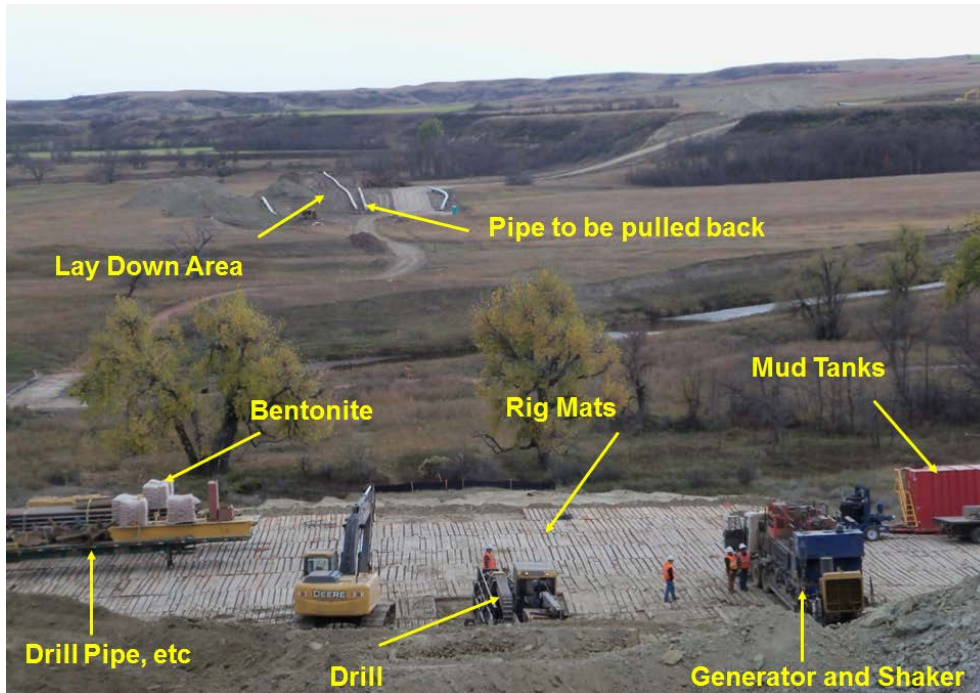


Figure 2.3:  
Vanes opened.



# Optimized Integrity Program

Utilizing new technologies, minimizing throughput impacts



Stopples Bypass →

← Horizontal Directional Drilling





# Customer Communication

- Daily Operating Plan
- NRG bulletins
- Customer Account Managers
- Customer Ops Meetings
- Call Centre

Receipt: Upstream James River Area (USJR)					
Current USJR Base Operational Capability: XXX,XXX 10 <sup>3</sup> m <sup>3</sup> /d <a href="#">USJR capability and historical flow</a> (Last Updated: MM/DD/YYYY)					
Outage ID	Start	End	Capability/ Allowable (10 <sup>3</sup> m <sup>3</sup> /day)	Service Allowable Location/Area	Outage Description
11878357	SEP 09, 2017	SEP 17, 2017	XXX,XXX	Potential IT/FT Receipt Restriction USJR	Outage X - Compressor Station Maintenance
11878543	SEP 18, 2017	SEP 29, 2017	XXX,XXX	Potential IT Receipt Restriction USJR	Outage X - Compressor Station Maintenance
11878318	SEP 18, 2017	SEP 29, 2017	XXX,XXX	Potential IT Receipt Restriction USJR	Outage X - Pipeline Maintenance
11878271	SEP 30, 2017	OCT 04, 2017	XXX,XXX	Potential IT/FT Receipt Restriction USJR	Outage X - Compressor Station Maintenance
11878545	OCT 05, 2017	OCT 09, 2017	XXX,XXX	Potential IT Receipt Restriction USJR	Outage X - Compressor Station Maintenance
11878486	OCT 09, 2017	OCT 20, 2017	XXX,XXX	Potential IT/FT Receipt Restriction USJR	Outage X - Pipeline Maintenance
11878485	OCT 10, 2017	OCT 16, 2017	XXX,XXX	Potential IT/FT Receipt Restriction USJR	Outage X - Compressor Station Maintenance
11878692	MAY 01, 2018	MAY 30, 2018	XXX,XXX	Potential IT/FT Receipt Restriction USJR	Outage X - Pipeline Maintenance (5 days within window)
11878685	AUG 01, 2018	AUG 20, 2018	XXX, XXX	Potential IT/FT Receipt Restriction USJR	Outage X – Pipeline Modification (9 days within window)

**Upstream James River Receipt Area (USJR):** Upstream James River Receipt Area: Groundbirch East, Gordondale, Big Eddy, January Creek, and Rat Creek West interconnects, and all receipt locations in Segments 1, 2, 3, 4, 5, 7, partial 8, partial 9, 24, 26

*Continually working to improve timeliness, quality, and content*

# Responding to Market Demands

## System Optimization

- Continued focus on minimizing service restrictions
- Continued use of operational tools to maximize firm service availability (e.g. tolerance changes, OBAs, use of IT-D restrictions)
- Continued focus on bundling of work to reduce total outage days required

## Reliability Centered Maintenance

- Enhancing maintenance activities at critical compressors stations to improve reliability
- Bundling of construction and maintenance activities to minimize system impacts
- Major equipment and balance-of-plant reliability & spares investments

## Optimized Integrity Program

- Strong focus on resolution and minimization of pipeline de-rates that affect capacity
- Developing and utilizing new technologies to reduce restrictions and minimize throughput restrictions

## Customer Communication

- Optimizing communications



## 2018/19 Operational Outlook Update

Jeff Stoffregen, Supervisor, *Operations Planning West*

Brooke Penner, Outage Coordinator, *Operations Planning West*

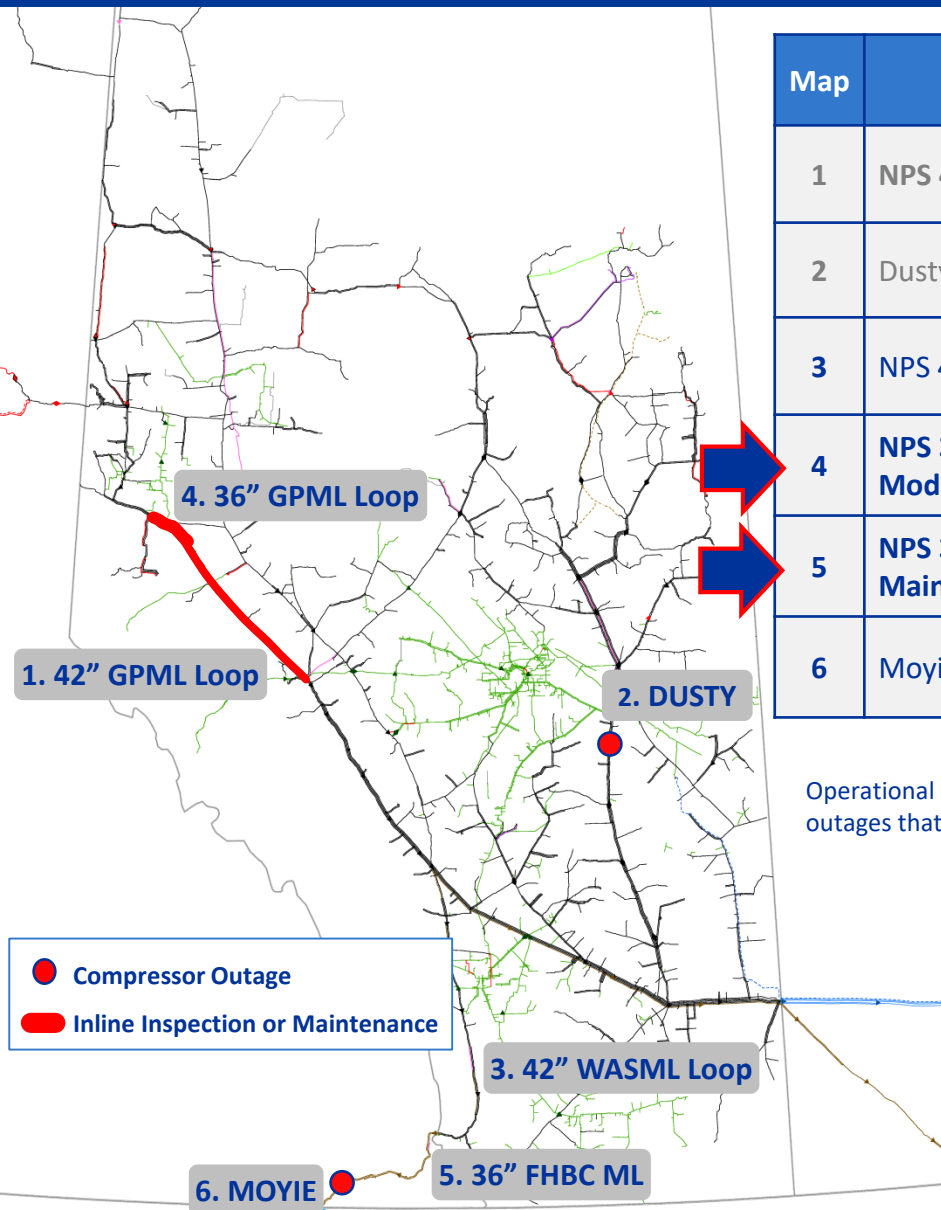
# Agenda

## **2018 Operational Outlook**

- 2018 Significant Outage Highlights
- 2018/2019 Capital Expansion Update
- 2018/2019 Outage Program Update



# 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)	3-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	30-Jul-18	14	FHBC
6	Moyie CS	8-Aug-18	3	FHBC

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

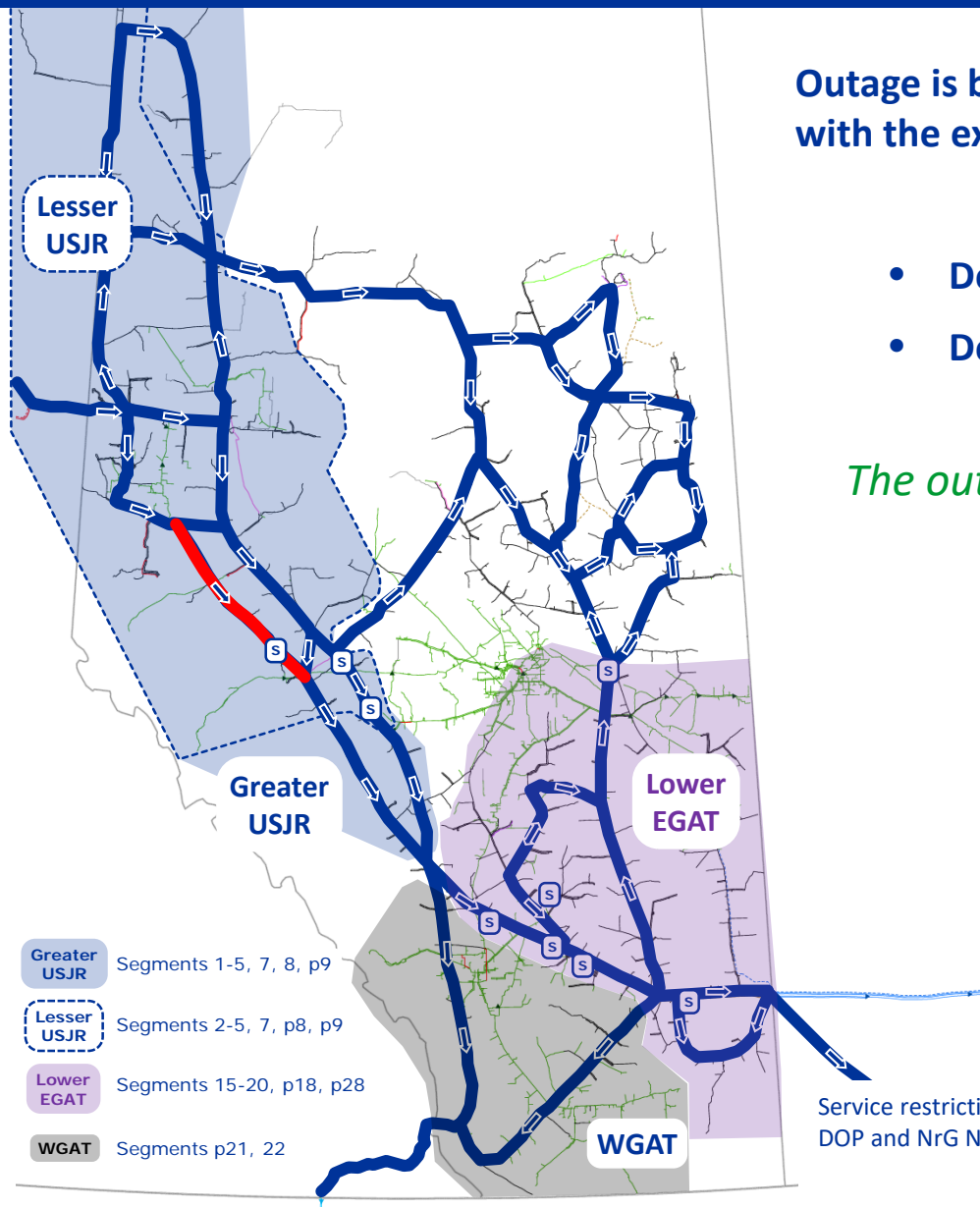
# NPS 42 GPML Loop Inline Inspection

Map as previously illustrated Mar 22, 2018

Outage is being executed as planned and as scheduled with the exception of:

- Downstream IT-D Area of Impact adjustment
- Downstream IT-D % allowable adjustments

*The outage is essentially proceeding as planned.*



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

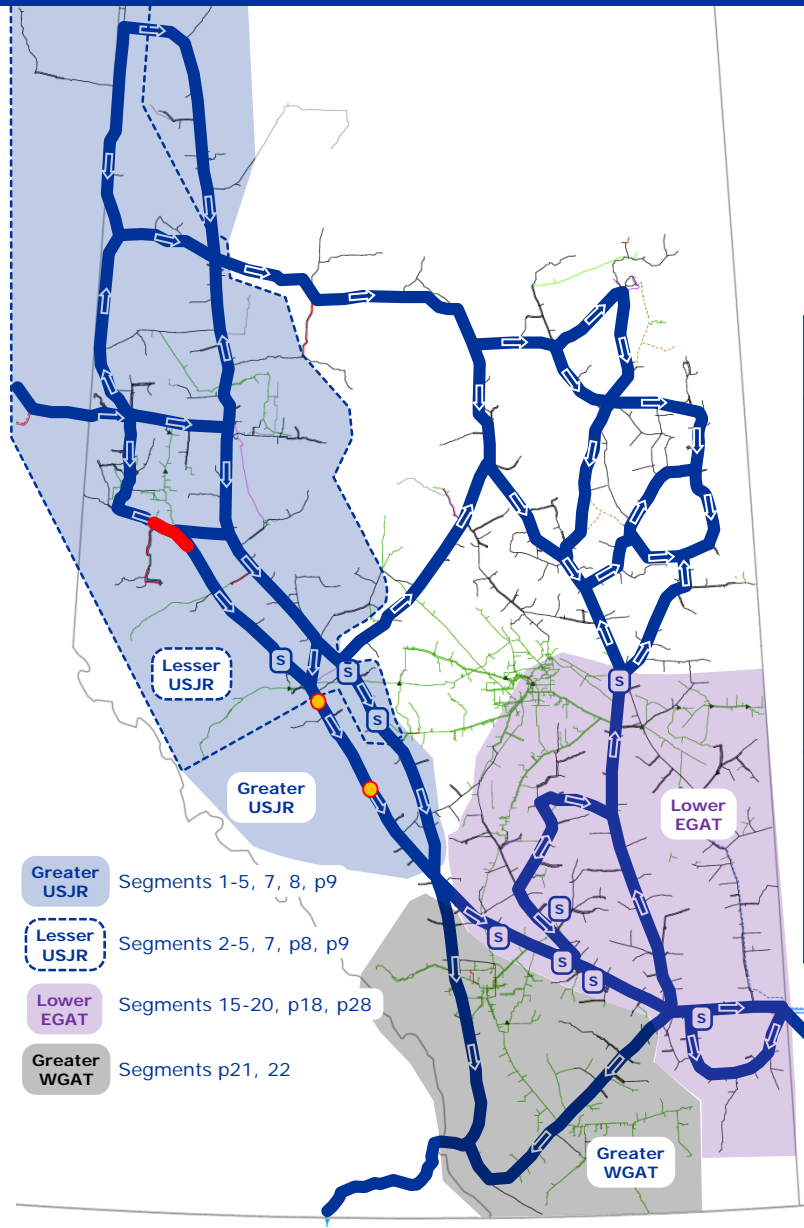
# NPS 36 GPML Pipeline Modifications

## 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

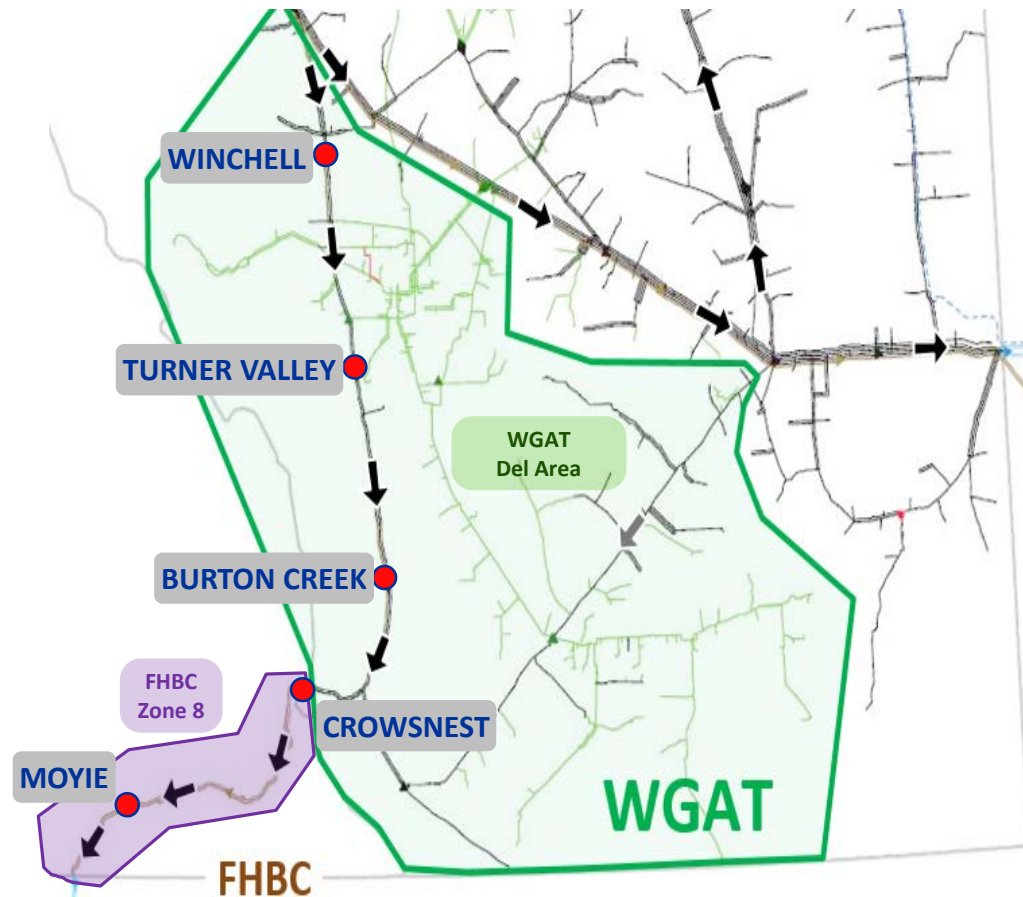
- Integrity digs: Jul 4 – Aug 30, 2018  
Outage Capability = **69**  $10^6\text{m}^3/\text{d}$
- Integrity repairs: Jul 30 – Aug 12, 2018  
Outage Capability = **59**  $10^6\text{m}^3/\text{d}$

## ABC Border Base Capability:

Jul – Aug 2018 = **73**  $10^6\text{m}^3/\text{d}$ ; Sep 2018 = **75**  $10^6\text{m}^3/\text{d}$

## Bundled maintenance:

Burton Creek #1, Burton Creek CS  
Winchell Lake CS  
Turner Valley #1, Turner Valley CS  
Crowsnest A  
Moyie CS





# Outage Program Status

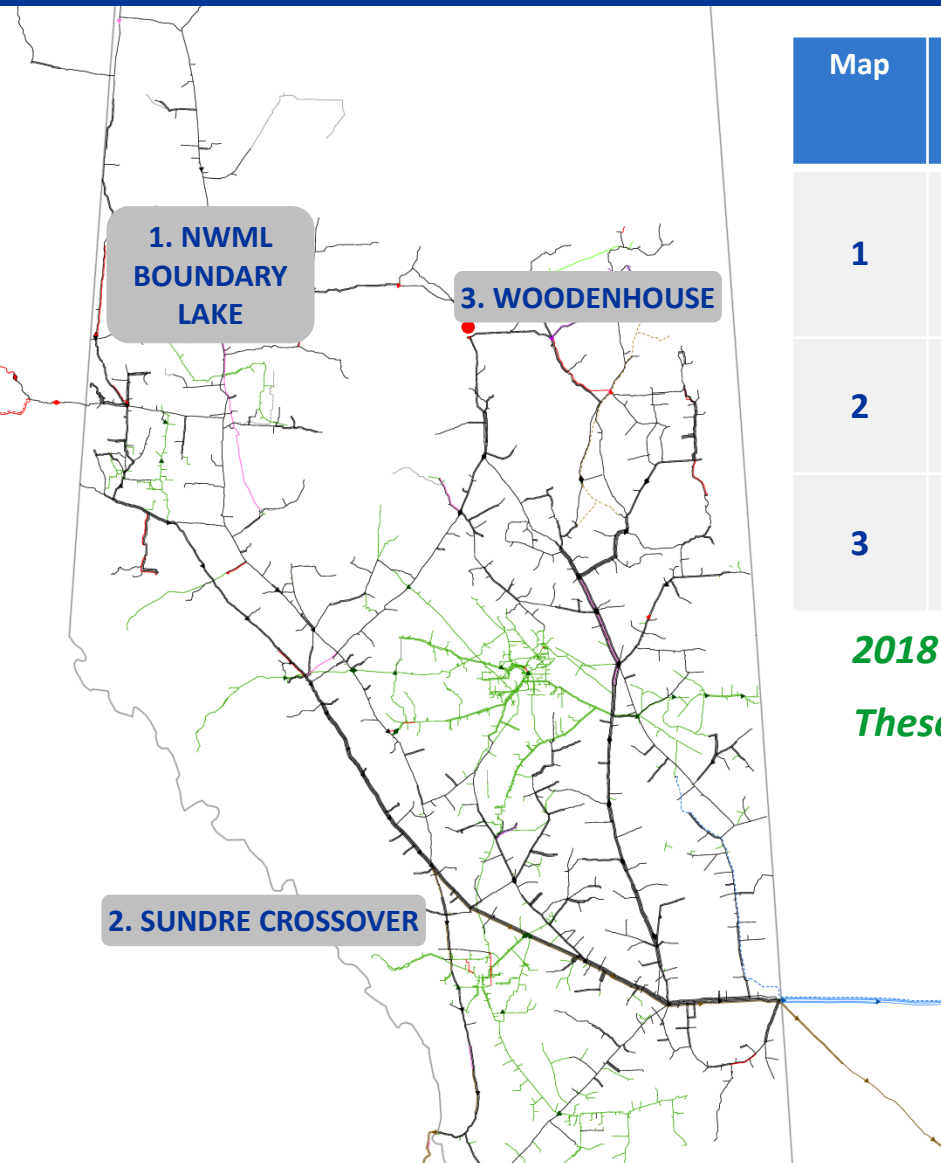
## 2018 Outage Program Status

- Currently in outage execution phase with continual focus on integrating all work, bundling activities, and optimizing the overall program
- Planning Capital Expansion Outages

## 2019 Outage Program Status

- Planning phase for ILI and L/R programs has commenced
- Working on strategy, preliminary hydraulic analysis and identifying bundling opportunities
- Planning Capital Expansion Outages

# 2018 Capital Expansion Facility Review

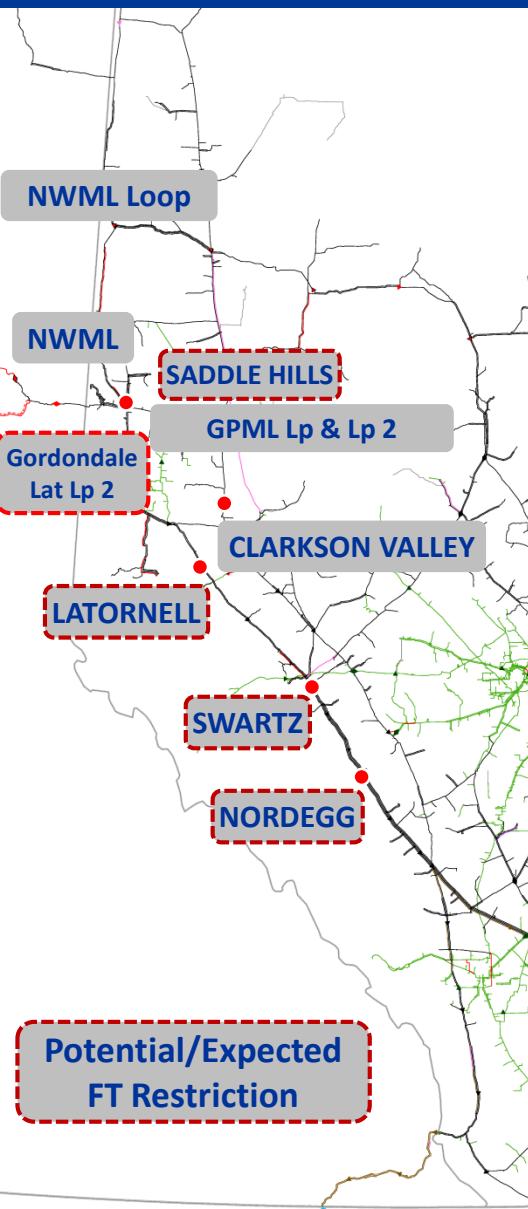


Map	Increased Area Capability	Facility Description	Timing
1	USJR NEDA	NWML Boundary Lake NW70 – NW80	In Service Mar 29 2018
2	WGAT	Sundre Crossover	In Service Apr 9 2018
3	USJR NEDA	Woodenhouse C/S Unit addition	Nov 2018

**2018 Capital Expansion program outages are complete.  
These outages were executed without impact to firm or interruptible service.**

# 2019 Capital Expansion – Outage Overview

Receipt: Upstream James River Area



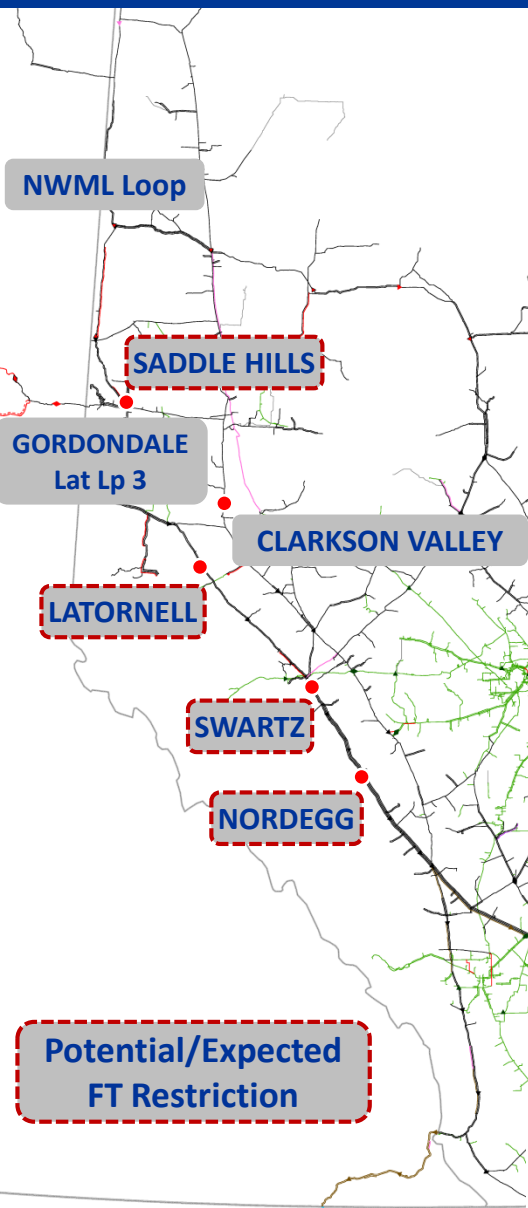
## Expected Timing, Area of Impact and Service Allowable:

Expansion Facility Description	Outage Requirement	Outage Timing	Estimated Impact TJs/d	Service Allowable	
Saddle Hills, new unit	NPS 36 GPML Lp 2	Sep 10-16, 2018	200	USJR Potential IT/FT	
	Saddle Hills CS	Nov 7-13, 2018	450		
	NPS 30 GPML Lp	Nov 20-26, 2018	150		
Latornell, new unit + cooler	Latornell CS	Nov 27-Dec 3, 2018	400		
Saddle Hills, new unit	NPS 36 NWML	Jan 15-23, 2019	200		
	NPS 42 Gordondale Lat Lp 2	Jan 29-Feb 8, 2019	600		
Nordegg, new unit + cooler	Nordegg CS	Jan 29-Feb 11, 2019	400		
Swartz Creek, new unit + cooler	Swartz Creek CS	Feb 20-28, 2019	400		
NPS 36 Gordondale Lat Lp 3	No impact	Q4 2018	-		-
Clarkson Valley CV	No impact	Q4 2018 - Q1 2019	-		-
NPS 36 NWML Loop	No impact	Q4 2018 - Q1 2019	-	-	

# 2019 Capital Expansion – Outage Overview

Receipt: Upstream James River Area

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

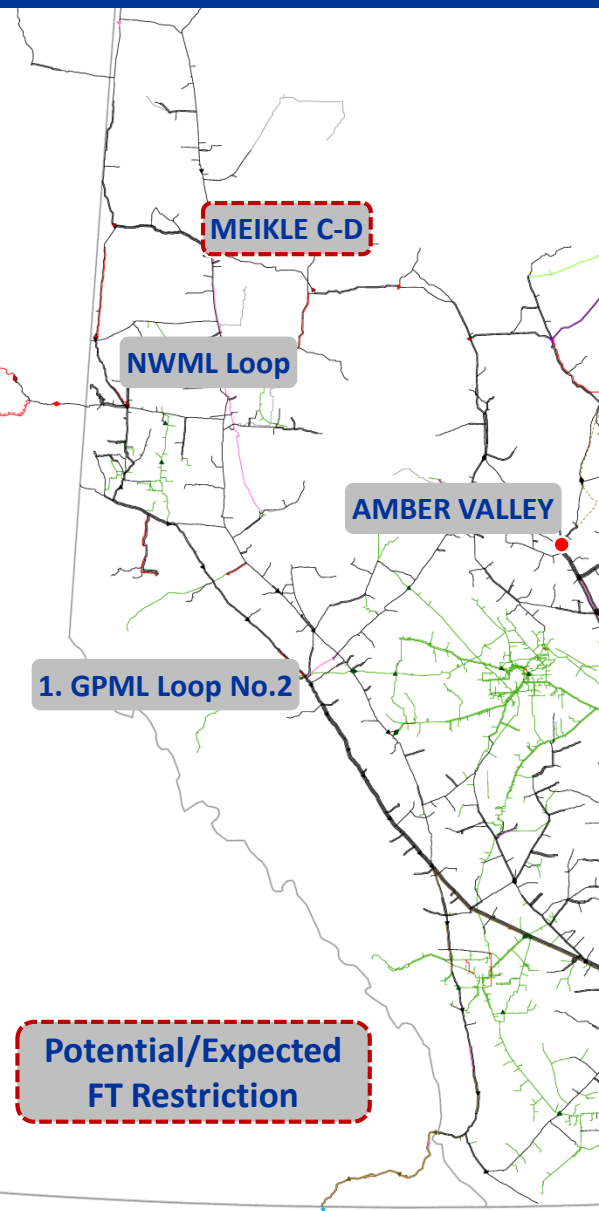


Expansion Facility Description	Outage Requirement	Outage Timing	Estimated Impact TJs/d	Service Allowable	
Saddle Hills, new unit	NPS 36 GPML Lp 2	Sep 10-16, 2018	200	USJR Potential IT/FT	
	Saddle Hills CS	Nov 7-13, 2018	450		
	NPS 30 GPML Lp	Nov 20-26, 2018	150		
Latornell, new unit + cooler	Latornell CS	Nov 27-Dec 3, 2018	400		
Saddle Hills, new unit	NPS 36 NWML	Jan 15-23, 2019	200		
	NPS 42 Gordondale Lat Lp 2	Jan 29-Feb 8, 2019	600		
Nordegg, new unit + cooler	Nordegg CS	Jan 29-Feb 11, 2019	400		
Swartz Creek, new unit + cooler	Swartz Creek CS	Feb 20-28, 2019	400		
NPS 36 Gordondale Lat Lp 3	No impact	Q4 2018	-		-
Clarkson Valley CV	No impact	Q4 2018 - Q1 2019	-		-
NPS 36 NWML Loop	No impact	Q4 2018 - Q1 2019	-	-	



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

Receipt: Upstream James River Area



## Expected 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 C3 CS	Jun 17-Jul 6, 2019	200	USJR Potential IT/FT
	Meikle B & C4 CS	Jul 8-27, 2019	250	
	Meikle D CS	Jul 29-Aug 17, 2019	400	
	Meikle C3 & C4 CS	Aug 19-31, 2019	350	
Amber Valley, new unit	No impact	Q1-Q3 2019	-	-
NPS 48 GPML Loop No.2 McLeod River North	No impact	Q1-Q3 2019	-	-
NWML Loop – Bear Canyon North NWML Loop – Peace River Crossing	No impact	Q1-Q3 2019	-	-

Outages will be added to DOP when hydraulic analysis and/or bundling activities are complete.

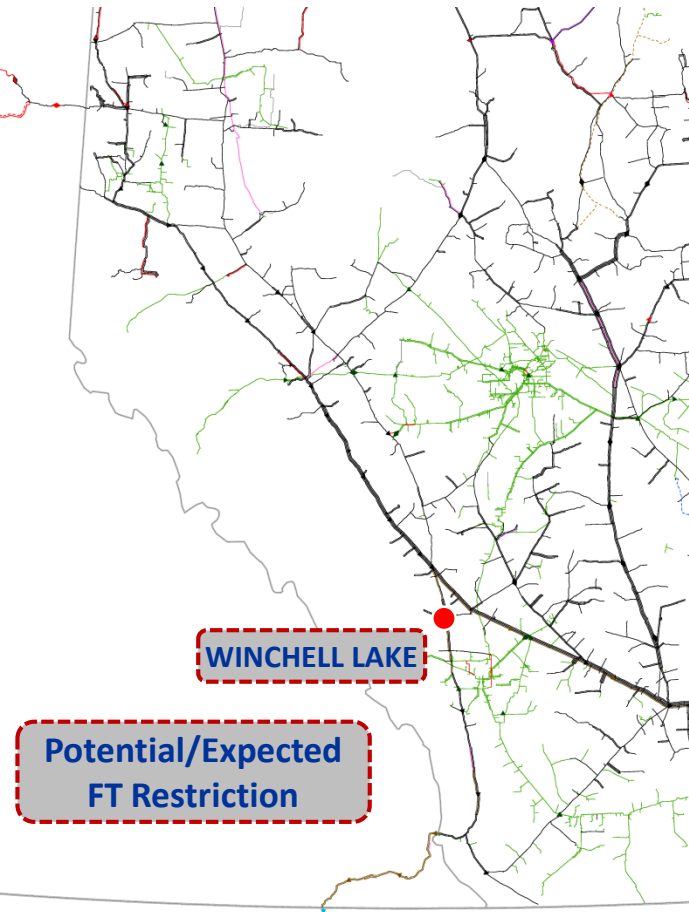
# 2019 Capital Expansion – Outage Review

## Delivery: West Gate Delivery Area

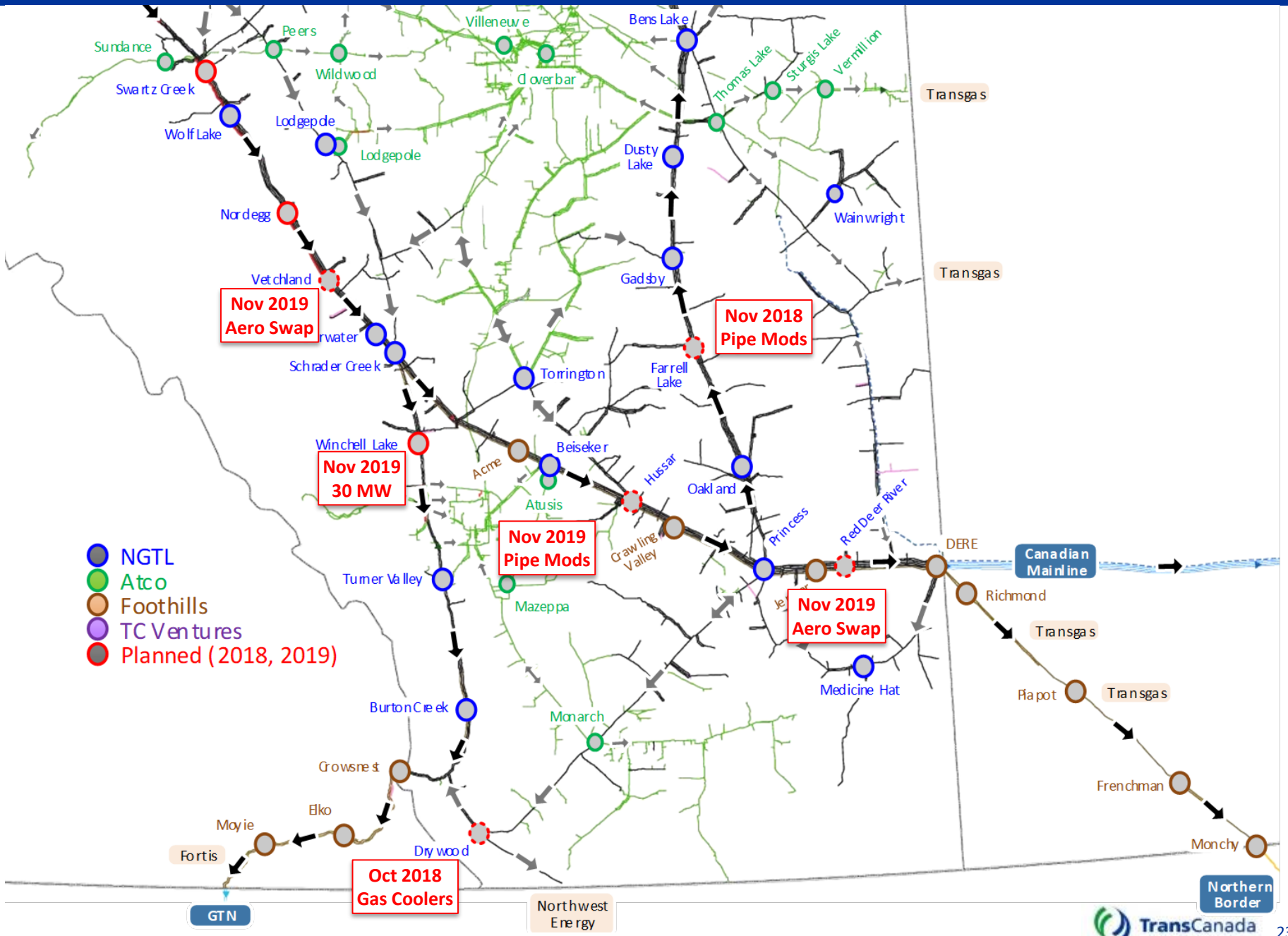
### Expected Timing, Area of Impact and Service Allowable:

Expansion Facility Description	Outage Requirement	Outage Timing	Estimated Impact TJs/d	Service Allowable Location/Area
Winchell Lake, new unit	Winchell Lake CS	Jul 8-21, 2019	300 - 400	WGAT Partial Firm Service

Outages will be added to DOP when hydraulic analysis and/or bundling activities are complete.

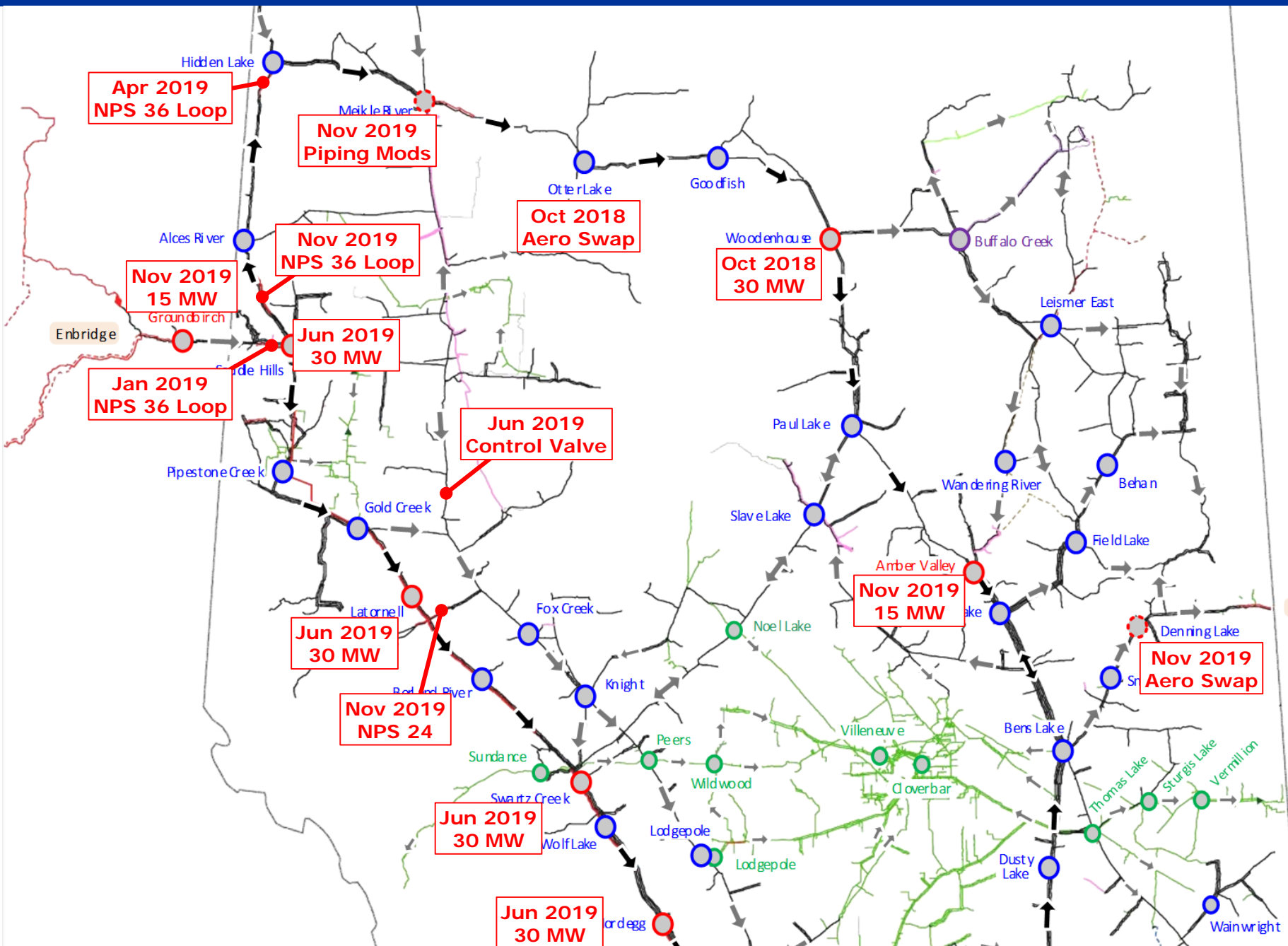


# NGTL Expansion Review – Southern Alberta



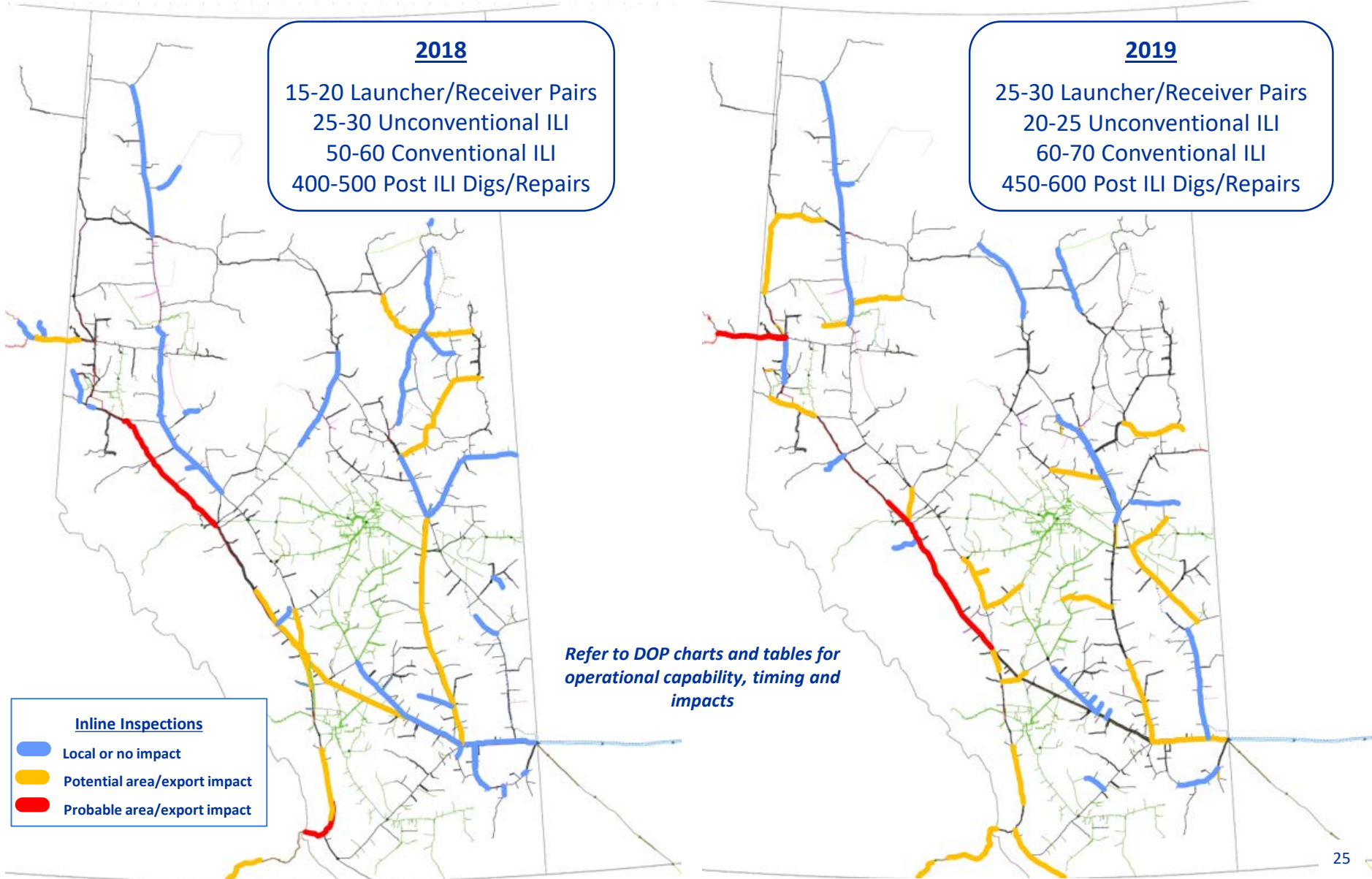
- NGTL
- Atco
- Foothills
- TC Ventures
- Planned (2018, 2019)

# NGTL Expansion Review – Northern Alberta





# 2018/2019 Pipeline Integrity Programs





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>

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>