SLIDE REVISIONS

 Please note that changes have been made to outage classifications on slides 37, 44, 45, and 47



NGTL System and Foothills Pipeline Customer

Operations Meeting



September 5, 2018

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

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 on the plus-15 level of 5th Avenue Place (425 1st Street SW)

Participating via WebEx:

- Please sign-in through WebEx application <u>including your full name and company</u>
- 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 the moderator will ask your question

Safety Moment: Back to School Means Sharing the Road

Playground Zones Near Schools:

• Designated playground zones are an important part of keeping children safe. There are approximately 1,680 playground zones in Calgary. Playground Zones were created to increase the safety of children from motorists traveling through these areas

When driving through a playground zone, remember:

- Children do not perceive traffic like adults do extra caution is needed
- The maximum permitted speed in playground zones is 30 km/h
- The zones are in effect from 7:30 a.m. to 9 p.m. every day of the year
- You may not pass another vehicle within the playground zone during this time
- Drive carefully and watch for children



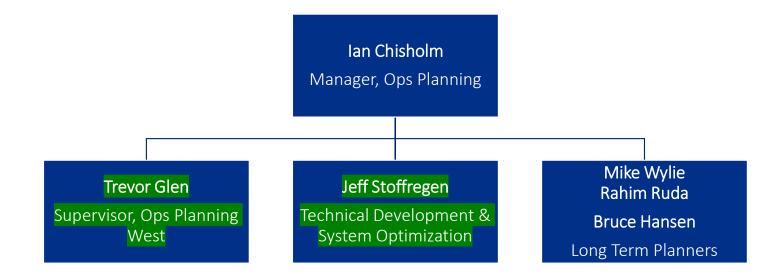
Agenda

- 1. Overview of Organizational Changes in Commercial Operations
- 2. Changes to Outage Communications Tools
- 3. 2018 Operational Outlook Update/Review and Expansion Review
- 4. 2019 Operational Outlook Update/Review

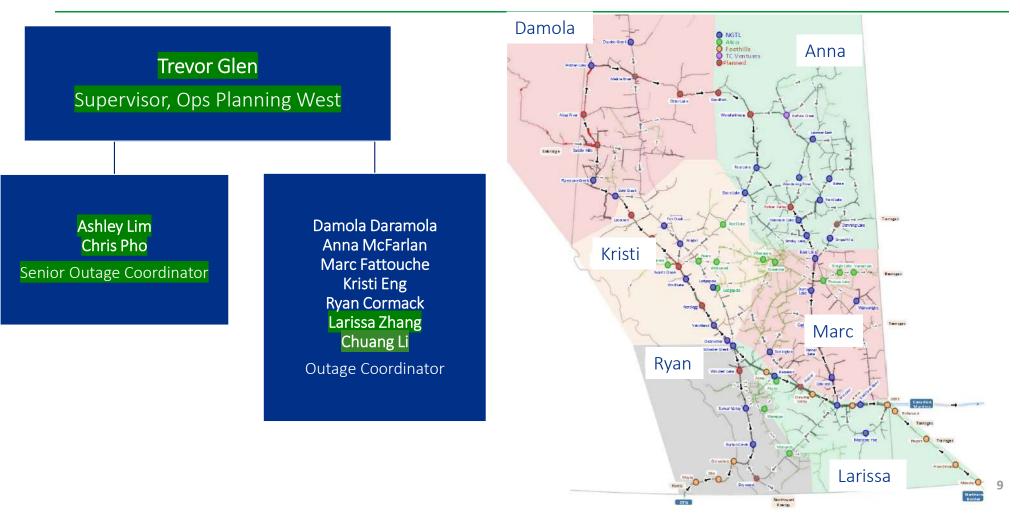
Agenda

- 1. Overview of Organizational Changes in Commercial Operations
- 2. Changes to Outage Communications Tools
- 3. 2018 Operational Outlook Update/Review and Expansion Review
- 4. 2019 Operational Outlook Update/Review

Operations Planning Personnel Changes



Operations Planning Personnel Changes



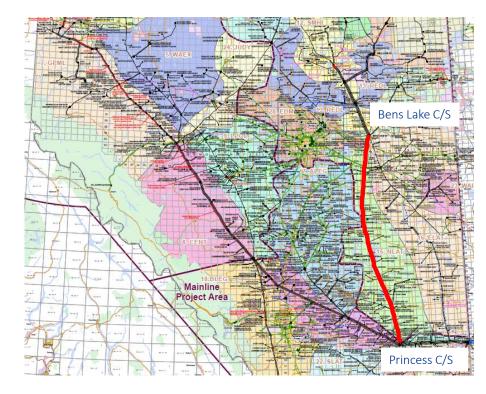
NPS 24/30 North Lateral Loop 2 ILI

North Lateral

- Line between Princess C/S and Bens Lake C/S
- Key flow path to bring gas into NE Alberta (OSDA)

High Priority ILI

- Part of the NEB mandated inspection program
- Complex run (Dual diameter ILI)
- MFL tool in high demand, no contingency days
- Critical flow path to serve OSDA



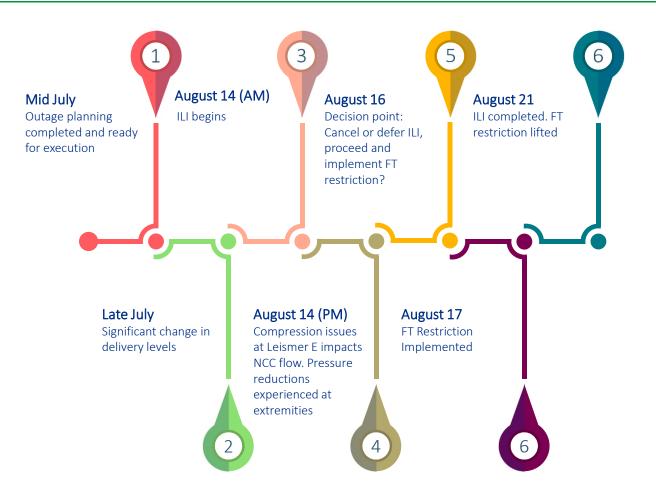
NPS 24/30 North Lateral Loop 2 ILI - Strategy

Execution Strategy

- Pre-pack OSDA
- Stable compression
- Manageable pressure drop during ILI
- Field crews on standby to quickly return NLAT to service

Minimizing FT restriction days requires making strategic risk management decisions

NPS 24/30 North Lateral Loop 2 ILI - Timeline



Contributing Factors

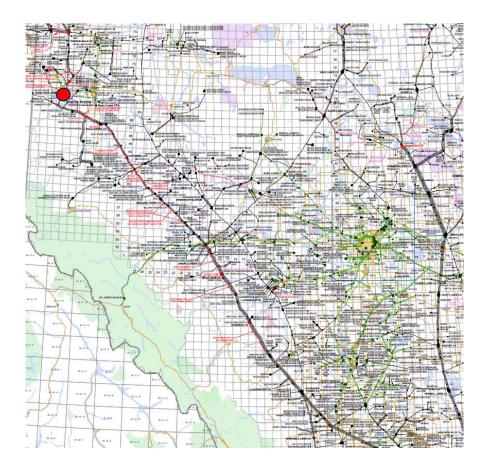
Aggregate demand in the OSDA higher than anticipated:

- Plant Turnaround information critical to operations planning process
- Ops Planning has updated processes to ensure more robust model validation

Leismer East outage:

- Unplanned maintenance event
- Issue was addressed in a timely manner

Pipestone Compressor Station Unplanned Maintenance



July 3rd - Morning

• Pipestone experiences an unplanned outage

July 3rd - Afternoon

• NrG bulletin sent with expected outage end date of July 31st

July 4th - Morning

• NrG bulletin issued, identifying outage as complete

Pipestone Learnings

- 1. Careful consideration of communication of outage duration when uncertain (eg TBD)
- 2. Return to service bulletin lacked appropriate context

Clear and consistent communication is critical

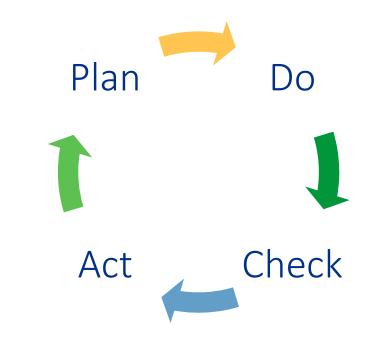
Clear and Consistent Communication



- Dedicated internal focus on improving communication
- Updated NrG bulletin format
- Customer feedback

Future:

• Next generation reporting



NGTL is committed to understanding and closing communication gaps



Agenda

- 1. Overview of Organizational Changes in Commercial Operations
- 2. Changes to Outage Communications Tools
- 3. 2018 Operational Outlook Update/Review and Expansion Review
- 4. 2019 Operational Outlook Update/Review

Progress to date

• Focus on continual improvement:

- Evaluate existing communication tools
- Close gaps in our existing processes
- Progress near term and long term recommendations

• Solicited external feedback:

- Feedback on current perceived gaps
- Suggestions on how we can improve

• Introduce and implement near term changes:

- Changes to NrG Highway bulletins for changes to service authorization levels
- Modifications to Daily Operating Plan 'Service Allowable' classification

Ongoing and evolving process – feedback loop of what is working, what is not, and what we can do to close the gaps

NrG Highway Bulletins

E G		R IT – NPS 42 GPML Loop (Notice 2 of 4)
With		d supply demand distribution and planned inspections on the NPS 42 Grande Prairie Mainline Loon, service
autin	Subje	ct: EGAT IT – NPS 42 GPML Loop (Notice 3 of 4)
	With	averated supply demand distribution and planned increastions on the NDC 42 Crande Desirie Mainline Learn convice
	auth	Subject: WGAT IT - NPS 42 GPML Loop (Notice 4 of 4)
	-	
		With expected supply demand distribution and planned inspections on the NPS 42 Grande Prairie Mainline Loop, service authorization will be revised as follows.
		Notice Type New Interconnects Included in Area of Impact
FT		Outage Type Planned Alberta B.C.
2		Outage Scope Inspection Empress Warwick SE
	- 22	Start May 22, 2018 08:00 MST McNeill Chancellor
Area	F	Expected End June 3, 2018 08:00 MST Cold Lake Carbon Service Type Delivery Unity Severn Creek
P Segn		Service Type Delivery Unity Severn Creek IT Allowable 0% IT-R XIT-S XIT-D XAlberta Montana Crossfield East #2
orb.	-	FT Allowable 100% FT-R FT-P FT-D1 FT-D2 FT-D2 FT-D1 FT-D2 FT-D2
e Pa	Are	Groundbirch East Big Eddy
5	Seg	Boundary Lake
s Part		
N BRAZE	P	Area of Impact Unchanged West Gate Delivery Area
E ELK RI	Par	Segment 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 28 Full F
FERRIE	Fai	Partial
FERRIE	GAR	
GRACE	SHE	Full Segment 21 is included with the following stations excluded as they are part of the Eastern Gate Delivery Area
GREY	100100	CARSELAND COGEN SALES APS- M/S 31017
RICING		GARRINGTON SALES- M/S 3128
STRAC		SHEPARD ENERGY SALES CENTRE- M/S 31127
TAWA		The preceding information supersedes any previously published information and will be reflected and maintained in the
YELLO		next release of the Daily Operating Plan. Updates if required will be communicated through NrG Highway notice
1		otherwise refer to the Daily Operating Plan. All reasonable efforts are made to optimize outage scheduling, minimize
The p		outage duration, and maximize operational capability.
next		NGTL/FH Daily Operating Plan: http://www.tccustomerexpress.com/ngtl-fh-daily-operating-plan.html
other	The	norgan bany operating mark inttp://www.tecustomerexpress.com/ngummaany-operating-plati.it/int
outag	next	
1000000	othe outa	
NGTI	Outd	
NGTL	100000	

"Too many bulletins!!"

"Which part has changed, where are the most recent ones, and how do I find them?!"

"Am I interpreting this right?"

"I just want to know what the authorization level is across the whole system....in one convenient place!"

NrG Highway Bulletins

			Current and Upcoming Outages	
h expecte	ed supply demand distribution and planned inspections on the NPS 42 Grande P	Prairie Mainline Loon service		of Impact
Subje	ect: EGAT IT - NPS 42 GPML Loop (Notice 3 of 4)		Schrader Creek Compressor Maintenance Planned 🛛 USJR 🗆 V	
			Woodenhouse Compressor Maintenance Planned 🛛 USJR 🖾 V Alces Compressor Maintenance Planned 🖾 USJR 🖾 V	
With	avantes a series of the series	Imada Desiria Maislina Loop, consisa	Alces Compressor Maintenance Planned 🖂 USJR 🖾 V NPS 48 Edson Mainline loop # 4 Pipeline Maintenance Planned 🗌 USJR 🗌 V	
auth	Subject: WGAT IT - NPS 42 GPML Loop (Notice 4 of 4)		NPS 48 Edson Mainline loop # 4 Pipeline Maintenance Planned U OSIR U V	VGAT IZ EC
	With expected supply demand distribution and planned inspections on the NP	25.42 Grande Prairie Mainline Loon, service	Upstream James River Receipt Area	
	authorization will be revised as follows.	o 12 orange i fame mannine 200p, ser nee	Effective: June 2, 2018 at 13:00 MST IT Allowable: 0% XIT-R T-D IT-D IT-S (recei	ipt)
			Expected End: Until further notice FT Allowable: 100% SFT-R SFT-P FT-D2	
	Notice Type New	Interconnects Included in Area of Impact	Interconnects: Boundary Lake, Big Eddy, Gordondale, Groundbirch East, January Creek	
Т	Outage Type Planned	Alberta B.C.	Segments: 1, 2, 3, 4, 5, 7, partial 8, and partial 9	
	Outage Scope Inspection	Empress Warwick SE	Sub Area/Comments: Greater USJR	
	Start May 22, 2018 08:00 MST	McNeill Chancellor		
F		Cold Lake Carbon	West Gate Delivery Area	
9		Unity Severn Creek	Effective: July 22, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D	
gr		Alberta Montana Crossfield East #2	Expected End: Until further notice FT Allowable: 100% FT-R FT-P FT-D1	FT-D2 S
- C.		Gordondale January Creek	Interconnects: Alberta B.C. and Alberta Montana	
Are Are		Groundbirch East Big Eddy	Segments: 22 and partial 21	
Seg		Boundary Lake	Sub Area/Comments: Greater WGAT	
	Area of Impact Unchanged	West Gate Delivery Area		
P	Segment 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16		East Gate Delivery Area	
Par	Full	F F	Effective: August 21, 2018 at 21:00 MST IT Allowable: Partial IIT-R IIT-D	
100	Partial	21 L 21	Expected End: September 1, 2018 at 08:00 MST FT Allowable: 100% FT-R FT-P FT-D1	
CAR			Interconnects: Aeco C, Carbon, Chancellor, Crossfield East # 2, Severn Creek, Empress, McNeill, Unity, W	/arwick SE
GAR SHE	Full Segment 21 is included with the following stations excluded as they are	part of the Eastern Gate Delivery Area	Segments: <u>15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28</u>	
200		•	Sub Area/Comments: Lower EGAT	
Y) NG	CARSELAND COGEN SALES APS- M/S 31017		Effective: September 1, 2018 at 08:00 MST IT Allowable: Partial II-R II-D	
u ic	GARRINGTON SALES- M/S 3128 SHEPARD ENERGY SALES CENTRE- M/S 31127		Expected End: September 10, 2018 at 08:00 MST FT Allowable: 100% FT-R FT-P FT-D1	FT-D2 S
4 1			Interconnects: Aeco C, Carbon, Chancellor, Crossfield East # 2, Severn Creek, Empress, McNeill, Unity, W	/arwick SE
A	The preceding information supersedes any previously published information a	and will be reflected and maintained in the	Segments: 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28	
	next release of the Daily Operating Plan. Updates if required will be communi	icated through NrG Highway notice	Sub Area/Comments: Lower EGAT	
1 1	otherwise refer to the Daily Operating Plan. All reasonable efforts are made to	o optimize outage scheduling, minimize	Effective: September 3, 2018 at 08:00 MST IT Allowable: 0%	
	outage duration, and maximize operational capability.		Expected End: September 10, 2018 at 13:00 MST FT Allowable: 100%	FT-D2 X
			Interconnects: Cold Lake	1102 235
e The	NGTL/FH Daily Operating Plan: <u>http://www.tccustomerexpress.com/ngtl-fh-d</u>	laily-operating-plan.html	Segments: 6, 10, 11, 12, 13, 14, 24	
at next			Sub Area/Comments: Upper EGAT	
othe				-
L outa			The preceding information supersedes any previously published information and will be reflected and maintained in the next r	elease of the
			Operating Plan. Updates, if required, will be communicated through NrG Highway notice otherwise refer to the Daily Operatin	
NGT				No
			New/updated Information	
			Affected Area or Service Type	

Bulletin for illustration purposes only

NGTL Service (Update: EGAT IT)

			d Upcoming Outages							
Facility/Ou		Facili	ty Type/Scope	Outage 1	Гуре	Area of Impact				
Schrade	er Creek	Compres	sor Maintenance	Planne	ed	🛛 USJR 🛛	WGAT [EGAT		
Woode	nhouse	Compres	sor Maintenance	Planne	ed	🛛 USJR 🖾 WGAT 🖾 EGA				
Ale	es	Compres	sor Maintenance	Planne	ed	🖾 USJR 🖾 WGAT 🖾 EG				
NPS 48 Edson N	tainline loop # 4	Pipelin	e Maintenance	Planne	ed	USJR [WGAT	EGAT		
	Ups	tream Ja	mes River Receipt Are	a						
Effective:	June 2, 2018 at 13:00 MST		IT Allowable: 0%	State and state when	□IT-D	⊠IT-S (re	eceipt)			
Expected End:	Until further notice		FT Allowable: 100%	⊠FT-R	⊠FT-P					
Interconnects:	Boundary Lake, Big Eddy,	Gordond	lale, Groundbirch East,	January C	reek					
Segments:	1, 2, 3, 4, 5, 7, partial 8, ar	nd partia	19							
Sub Area/Comments:	Greater USJR									
		West G	iate Delivery Area							
Effective:	July 22, 2018 at 08:00 MS	т	IT Allowable: 100%	□IT-R	⊠IT-D					
Expected End:	Until further notice		FT Allowable: 100%	DFT-R	⊠FT-P	FT-D1	⊠FT-D2	⊠STF1		
Interconnects:	Alberta B.C. and Alberta N	Intana								
Segments:	22 and partial 21									
Sub Area/Comments:	Greater WGAT									
		Fast G	ate Delivery Area							
Effective:	August 21, 2018 at 21:00		IT Allowable: Partial	TIT-R	⊠IT-D					
	September 1, 2018 at 08:0					⊠FT-D1	⊠FT-D2	⊠ STET		
	Aeco C, Carbon, Chancello									
	15, 16, 17, 18, 19, 20, 23,									
Sub Area/Comments:										
Effective:	September 1, 2018 at 08:0	DO MST	IT Allowable: Partial	TIT-R	⊠IT-D					
	September 10, 2018 at 08					⊠FT-D1		MOTE		
	Aeco C, Carbon, Chancello									
	15, 16, 17, 18, 19, 20, 23,			reek, emp	1033, 1410	veni, orney	, won wich	JL.		
Sub Area/Comments:		por cror 2.								
Effective:	September 3, 2018 at 08:0	DO MST	IT Allowable: 0%	TIT-R	⊠IT-D					
	September 10, 2018 at 13					⊠FT-D1	⊠FT-D2	⊠ STE		
Interconnects:				Link	22117	211 01	21102	2011		
	6, 10, 11, 12, 13, 14, 24									

The preceding information supersedes any previously published information and will be reflected and maintained in the next release of the Daily Operating Plan. Updates, if required, will be communicated through NrG Highway notice otherwise refer to the <u>Daily Operating Plan</u>.

New/updated Information

☑ Affected Area or Service Type
□ Unaffected Area or Service Type

'One stop shop' that:

- Includes all events that are affecting service levels
- Summarizes service levels across the NGTL system in one single bulletin
- Eliminates the need for 'Start', 'Update', and 'End' classifications
- Supersedes any previous publications

Bulletin for illustration purposes only

NGTL Service (Update: EGAT IT)

	Cu	rrent ar	nd Upcoming Outages							
Facility/Ou	itage Name	Facili	ty Type/Scope	Outage T	ype	Area of Impact				
Schrade	er Creek	Compre:	ssor Maintenance	Planne	d	USJR [WGAT	EGAT		
Woode	nhouse (Compre	ssor Maintenance	Planne	d	SUSJR WGAT EGA				
Al	ces (Compre	ssor Maintenance	Planne	d	SUSJR [EGAT			
NPS 48 Edson N	Nainline loop # 4	Pipelir	ne Maintenance	Planne	d	USJR [WGAT	EGAT		
	Upst	ream Ja	mes River Receipt Are	a						
Effective:	June 2, 2018 at 13:00 MST		IT Allowable: 0%		□IT-D	⊠IT-S (re	eceipt)			
Expected End:	Until further notice		FT Allowable: 100%	⊠FT-R	⊠FT-P	EFT-D2	10.00			
Interconnects:	Boundary Lake, Big Eddy,	Gordono	dale, Groundbirch East,	January C	reek					
	1, 2, 3, 4, 5, 7, partial 8, an	d partia	<u>l 9</u>							
Sub Area/Comments:	Greater USJR		and the second se							
4		West 0	Gate Delivery Area							
Effective:	July 22, 2018 at 08:00 MST	r.	IT Allowable: 100%	□IT-R	⊠IT-D					
Expected End:	Until further notice		FT Allowable: 100%	DFT-R	⊠FT-P	⊠FT-D1	⊠FT-D2	⊠ STF1		
Interconnects:	Alberta B.C. and Alberta N	Iontana								
Segments:	22 and partial 21									
Sub Area/Comments:	Greater WGAT									
		East G	ate Delivery Area							
Effective:	August 21, 2018 at 21:00 M		IT Allowable: Partial	TIT-R	⊠IT-D					
	September 1, 2018 at 08:0					⊠FT-D1	⊠FT-D2	⊠ STET		
	Aeco C, Carbon, Chancello									
	15, 16, 17, 18, 19, 20, 23,									
Sub Area/Comments:										
Effective:	September 1, 2018 at 08:0	0 MST	IT Allowable: Partial	TIT-R	⊠IT-D					
	September 10, 2018 at 08				⊠FT-P	⊠FT-D1	⊠FT-D2	⊠STF1		
	Aeco C, Carbon, Chancello				ress. Mcl	Neill, Unity	. Warwick	SE		
	15, 16, 17, 18, 19, 20, 23,									
Sub Area/Comments:										
Effective:	September 3, 2018 at 08:0	0 MST	IT Allowable: 0%	□IT-R	⊠IT-D					
Expected End:	September 10, 2018 at 13	OO MST	FT Allowable: 100%	DFT-R	⊠FT-P	⊠FT-D1	⊠FT-D2	⊠ STFT		
Interconnects:										
Segments:	6, 10, 11, 12, 13, 14, 24									
Sub Area/Comments:										

The preceding information supersedes any previously published information and will be reflected and maintained in the next release of the Daily Operating Plan. Updates, if required, will be communicated through NrG Highway notice otherwise refer to the <u>Daily Operating Plan</u>.

New/updated Information

☑ Affected Area or Service Type
□ Unaffected Area or Service Type

Current and Upcoming Outages:

- Facility Name
- Facility Type/Scope
- Outage Type (planned or unplanned)
- Area of Impact (USJR, WGAT, or EGAT)
 - 🛛 indicates affected area
 - 🛛 indicates unaffected area

Yellow indicates new or updated information

NGTL Service (Update: EGAT IT)

house C es C ainline loop # 4 Cupstr June 2, 2018 at 13:00 MST Until further notice Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	FT Allowable: 100% ordondale, Groundbirch Eas	⊠IT-R ⊠FT-R	ed ed ed ⊡IT-D ⊠FT-P	USJR D USJR D USJR D USJR D	WGAT WGAT WGAT WGAT	EGAT EGAT EGAT
house C es C ainline loop # 4 Uune 2, 2018 at 13:00 MST Until further notice Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	ompressor Maintenance ompressor Maintenance Pipeline Maintenance eam James River Receipt A IT Allowable: 0% FT Allowable: 10% ordondale, Groundbirch Ea:	Planne Planne Planne Mit-R S SFT-R	ed ed ed □IT-D ⊠FT-P	USJR D USJR D USJR D USJR D	WGAT WGAT WGAT WGAT	S EGAT
es C ainline loop # 4 June 2, 2018 at 13:00 MST Until further notice Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	ompressor Maintenance Pipeline Maintenance eam James River Receipt A IT Allowable: 0% FT Allowable: 100% ordondale, Groundbirch Ea:	Planne Planne rea ⊠IT-R § ⊠FT-R	ed ed □IT-D ⊠FT-P	USJR D USJR D	WGAT	EGAT
ainline loop # 4 Upstr June 2, 2018 at 13:00 MST Until further notice Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	Pipeline Maintenance eam James River Receipt A IT Allowable: 0% FT Allowable: 100% ordondale, Groundbirch Ea:	Planne rea ⊠IT-R §⊠FT-R	ed □IT-D ⊠FT-P	USJR E	WGAT [
Upstr June 2, 2018 at 13:00 MST Until further notice Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	eam James River Receipt A IT Allowable: 0% FT Allowable: 100% ordondale, Groundbirch Ea:	rea ⊠IT-R S ⊠FT-R	□IT-D ⊠FT-P	⊠IT-S (re		S EGAT
June 2, 2018 at 13:00 MST Until further notice Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	IT Allowable: 0% FT Allowable: 100% ordondale, Groundbirch Eas	⊠IT-R ⊠FT-R	⊠FT-P		ceipt)	
June 2, 2018 at 13:00 MST Until further notice Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	IT Allowable: 0% FT Allowable: 100% ordondale, Groundbirch Eas	⊠IT-R ⊠FT-R	⊠FT-P		ceipt)	
Boundary Lake, Big Eddy, G 1, 2, 3, 4, 5, 7, partial 8, and	ordondale, Groundbirch Eas	FT-R	⊠FT-P			
1, 2, 3, 4, 5, 7, partial 8, and		st, January C				
	l nortial 0		reek			
Greater LISIP	parual 9					
Greater OSIK						5
2	West Gate Delivery Area					
		TIT-R	⊠IT-D			18
				⊠FT-D1	⊠FT-D2	⊠ STFT
	ontana					(mm) - 10 ()
22 and partial 21						
			Eliz o			
				Eler Da		FIGTER
		creek, Emp	ress, ivicr	vein, onity,	, warwick	SE
	di (idi 21, di lu pai (idi 20					
	MAST IT Allowable: Portic		MITO			
				Eler or		FROTET
		creek, Emp	ress, ivici	veiii, onity,	, warwick	SE
	di tidi 21, di lu pai tidi 20					
	MACT IT Allowable: 0%		MITO			
				MICT D4	MICT DO	Meter
	JUINIST FLAIIOWADIE: 100%		MEI-P	WFI-U1	MET-D2	M21F1
Construction of the second s						
	Greater USJR July 22, 2018 at 08:00 MST Until further notice Alberta B.C. and Alberta M: 22 and partial 21 Greater WGAT August 21, 2018 at 21:00 N September 1, 2018 at 08:00 Aeco C, Carbon, Chancellor 15, 16, 17, 18, 19, 20, 23, p Lower EGAT September 10, 2018 at 08:00 September 10, 2018 at 08:00 September 10, 2018 at 08:00 September 3, 2018 at 08:00	Greater USJR West Gate Delivery Area Uly 22, 2018 at 08:00 MST IT Allowable: 100% Alberta B.C. and Alberta Montana Za and partial 21 Greater WGAT East Gate Delivery Area August 21, 2018 at 21:00 MST IT Allowable: 100% Acco C, Carbon, Chancellor, Crossfiel East # 2, Severn 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28 Lower EGAT September 10, 2018 at 08:00 MST IT Allowable: Partia September 10, 2018 at 08:00 MST IT Allowable: Partia September 10, 2018 at 08:00 MST IT Allowable: 0% September 10, 2018 at 13:00 MST IT Allowable: 100% Cold Lake 6, 10, 11, 12, 13, 14, 24	West Gate Delivery Area July 22, 2018 at 08:00 MST IT Allowable: 100% IT-R July 22, 2018 at 08:00 MST IT Allowable: 100% IT-R Allberta B.C. and Alberta Montana 22 and partial 21 Greater WGAT Image: State S	West Gate Delivery Area July 22, 2018 at 08:00 MST IT Allowable: 100% IT-R I	West Gate Delivery Area Duly 22, 2018 at 08:00 MST IT Allowable: 100% IT-R OIT-D July 22, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D FT-DI Alberta B.C. and Alberta Montana 22 and partial 21 Greater WGAT IT-R IT-R IT-P IT-D September 1, 2018 at 21:00 MST IT Allowable: Partial IT-R IT-D September 1, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D September 1, 2018 at 08:00 MST IT Allowable: Partial IT-R IT-D September 1, 2018 at 08:00 MST IT Allowable: Partial IT-R IT-D September 1, 2018 at 08:00 MST IT Allowable: Partial IT-R IT-D September 10, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D September 10, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D September 10, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D September 10, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D September 10, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D	West Gate Delivery Area July 22, 2018 at 08:00 MST IT Allowable: 100% IT-R IT-D Uniti further notice FT Allowable: 100% IT-R ST-P ST-D1 ST-D1<

The preceding information supersedes any previously published information and will be reflected and maintained in the next release of the Daily Operating Plan. Updates, if required, will be communicated through NrG Highway notice otherwise refer to the <u>Daily Operating Plan</u>.

New/updated Information

Affected Area or Service Type

- Split into 3 main areas (similar to the Daily Operating Plan):
 - Upstream James River (USJR)
 - West Gate (WGAT)
 - East Gate (EGAT)
 - Includes Oil Sands Delivery Area (OSDA) and North East Delivery Area (NEDA)
 - Dates:

٠

- Effective: date and time change is effective
- Expected End: <u>estimate</u> of when the facility will return to service (in some cases, TBD may be used)
- IT/FT Allowable:
 - ⊠ indicates affected service type
 - 🛛 indicates unaffected service type

NGTL Service (Update: EGAT IT)

Facility/Ou	itage Name 🛛 🛛 🗛	cility Type/Scope	Outage T	ype	Are	a of Impa	ct
Schrad	er Creek Com	pressor Maintenance	Planne	d	USJR [WGAT	EGAT
Woode	nhouse Com	pressor Maintenance	Planne	d	USJR 0	WGAT	EGAT
Al	ces Com	pressor Maintenance	Planne	d	🛛 USJR 🖾 WGAT 🖾 EGAT		
NPS 48 Edson M	Nainline loop # 4 Pip	eline Maintenance	Planne	d		WGAT	EGAT
				_			_
Effective.	June 2, 2018 at 13:00 MST	n James River Receipt Are		DITE	ENT O /or		
		FT Allowable: 100%			⊠IT-S (re	ceipt)	
	Until further notice Boundary Lake, Big Eddy, Gord				FT-D2		
	1, 2, 3, 4, 5, 7, partial 8, and pa		January C	reek			
ub Area/Comments:		ruar 9					
do Arcay continents.	oreater oan						
	We	st Gate Delivery Area					
Effective:	July 22, 2018 at 08:00 MST	IT Allowable: 100%	□IT-R	⊠IT-D			
Expected End:	Until further notice	FT Allowable: 100%	FT-R	⊠FT-P	⊠FT-D1	⊠FT-D2	⊠STFT
Interconnects:	Alberta B.C. and Alberta Monta	ana					
Segments:	22 and partial 21						
ub Area/Comments:	Greater WGAT						
		t Gate Delivery Area					
Effective	August 21, 2018 at 21:00 MST	IT Allowable: Partial		MITD			
	September 1, 2018 at 21:00 MST						METET
Interconnecter				1000, 14101	ven, onney	, wall wich	, JL
	Aeco C, Carbon, Chancellor, Cri 15, 16, 17, 18, 19, 20, 23, parti		cent emp				
	15, 16, 17, 18, 19, 20, 23, parti		cent emp				
Segments: ub Area/Comments:	15, 16, 17, 18, 19, 20, 23, parti Lower EGAT	al 21, and partial 28		⊠IT-D			
Segments: ub Area/Comments: Effective:	15, 16, 17, 18, 19, 20, 23, parti- Lower EGAT September 1, 2018 at 08:00 M	al 21, and partial 28 ST IT Allowable: Partial	□IT-R		⊠FT-D1	⊠FT-D2	⊠STET
Segments: ub Area/Comments: Effective: Expected End:	15, 16, 17, 18, 19, 20, 23, parti- Lower EGAT September 1, 2018 at 08:00 M September 10, 2018 at 08:00 N	al 21, and partial 28 ST IT Allowable: Partial MST FT Allowable: 100%	□IT-R □FT-R	⊠FT-P	⊠FT-D1 Neill, Unity		
Segments: ub Area/Comments: Effective: Expected End: Interconnects:	<u>15, 16, 17, 18, 19, 20, 23, parti</u> Lower EGAT September 1, 2018 at 08:00 M September 10, 2018 at 08:00 N Aeco C, Carbon, Chancellor, Cri	al 21, and partial 28 ST IT Allowable: Partial MST FT Allowable: 100% ossfield East # 2, Severn Cr	□IT-R □FT-R	⊠FT-P			
Segments: ub Area/Comments: Effective: Expected End: Interconnects:	<u>15, 16, 17, 18, 19, 20, 23, parti</u> Lower EGAT September 1, 2018 at 08:00 M September 10, 2018 at 08:00 M Aeco C, Carbon, Chancellor, Cr 15, 16, 17, 18, 19, 20, 23, parti	al 21, and partial 28 ST IT Allowable: Partial MST FT Allowable: 100% ossfield East # 2, Severn Cr	□IT-R □FT-R	⊠FT-P			
Segments: ub Area/Comments: Effective: Expected End: Interconnects: Segments: ub Area/Comments:	<u>15, 16, 17, 18, 19, 20, 23, parti</u> Lower EGAT September 1, 2018 at 08:00 M September 10, 2018 at 08:00 M Aeco C, Carbon, Chancellor, Cr 15, 16, 17, 18, 19, 20, 23, parti	al 21, and partial 28 ST IT Allowable: Partial AST FT Allowable: 100% ossfield East # 2, Severn Cr al 21, and partial 28	□IT-R □FT-R	⊠FT-P ress, McI			
Segments: ub Area/Comments: Effective: Expected End: Interconnects: Segments: ub Area/Comments: Effective:	<u>15, 16, 17, 18, 19, 20, 23, parti</u> Lower EGAT September 1, 2018 at 08:00 M September 10, 2018 at 08:00 N Acco C, Carbon, Chancellor, Cr 15, 16, 17, 18, 19, 20, 23, parti Lower EGAT	al 21, and partial 28 ST IT Allowable: Partial AST FT Allowable: 100% ossfield East # 2, Severn Cr al 21, and partial 28 ST IT Allowable: 0%	□IT-R □FT-R reek, Emp □IT-R	⊠FT-P ress, Mcf	Neill, Unity	, Warwick	(SE
Segments: ub Area/Comments: Effective: Expected End: Interconnects: Segments: ub Area/Comments: Effective:	15, 16, 17, 18, 19, 20, 23, parti: Lower EGAT September 1, 2018 at 08:00 M. September 10, 2018 at 08:00 N. Aeco C, Carbon, Chancellor, Cr. 15, 16, 17, 18, 19, 20, 23, parti: Lower EGAT September 1, 2018 at 08:00 M. September 3, 2018 at 08:00 M.	al 21, and partial 28 ST IT Allowable: Partial AST FT Allowable: 100% ossfield East # 2, Severn Cr al 21, and partial 28 ST IT Allowable: 0%	□IT-R □FT-R reek, Emp □IT-R	⊠FT-P ress, Mcf	Neill, Unity	, Warwick	(SE
Segments: ub Area/Comments: Expected End: Interconnects: Segments: ub Area/Comments: Effective: Expected End: Interconnects:	15, 16, 17, 18, 19, 20, 23, parti: Lower EGAT September 1, 2018 at 08:00 M. September 10, 2018 at 08:00 N. Aeco C, Carbon, Chancellor, Cr. 15, 16, 17, 18, 19, 20, 23, parti: Lower EGAT September 1, 2018 at 08:00 M. September 3, 2018 at 08:00 M.	al 21, and partial 28 ST IT Allowable: Partial AST FT Allowable: 100% ossfield East # 2, Severn Cr al 21, and partial 28 ST IT Allowable: 0%	□IT-R □FT-R reek, Emp □IT-R	⊠FT-P ress, Mcf	Neill, Unity	, Warwick	(SE

The preceding information supersedes any previously published information and will be reflected and maintained in the next release of the Daily Operating Plan. Updates, if required, will be communicated through NrG Highway notice otherwise refer to the <u>Daily Operating Plan</u>.

New/updated Information

Affected Area or Service Type
Unaffected Area or Service Type

- Station list: Accessed via hyperlink on segment list
 - Dark grey indicates full segment
 - Light grey indicates partial segment
 - Not shaded indicates that the segment is unaffected

										Lo	wer	Eas	st G	ate											
Interconnects	ects ⊠Aeco C ⊠Carbon ⊠Severn Creek ⊠Empress					⊠Chancellor □Cold Lake ⊠McNeill ⊠Unity							⊠Crossfield East #2 ⊠Warwick SE												
Segment Full Partial	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	28
3 31 31 31 31 31 31 31 31 31 31 31 31 31	n Nu 017 128 127 004 023 025 038 042 059 064 125 069	umbe	e (est	S. 266		AGE GA SHI AGE ALF CL\ DC\ DC\ GE(HAI PA RW(SF SC(Mne RCS RSL PPS RDS RLSL /PS GUS ONS RTS PSL COS HSL DTS	emo L - L L L L S L - S L	onic		CL I PI	LOVEI DEGL DEGL DEGL GE HEAR ETRO REI SCOT	GA RD EN RIUM AIR I RBAF JSSA OW (ON C ON C TLAN CAN DWA FOR DWA	AND RRIN RED LIQU CAN CHEN ANAI ID UF AIR F TER (D HY JP E	COG IGTC VCE WAT IDE S VER ADA IICAI DA IN PGRA PROE COG DRO KP P	ER S SALE: PLAN INC. L SAL NC. S/ ADER DUCT EN S/ OGEN HASE	ALES E SAI ALES S API IT SA SALE SALE S SA ALES SALE S SA ALES SALE	LES - S APN ES AF PN APN ES AF LES / APN ES AF	APS APN PN APN PN	U	Seg	men 21 21 28 28 28 28 28 28 28 28 28 28 28 28 28	t#		
31072						SH		L			SHELL SCOTFORD SALES APN SHELL UPGRADER MASTER SALES APN STYRENE PLANT SALES APN							28 28 28							

Bulletin for illustration purposes only

NrG Highway Bulletin Format – Next Steps

- Review proposed bulletin format discussed today and provide feedback by September 12, 2018
 - Are we moving in the right direction?
 - Any future refinements you would like to see?
- Implement new format for bulletins issued after September 17, 2018

Share your thoughts and ideas regarding future improvements with your Commercial representatives

Daily Operating Plan – Modifications to Service Allowable Classification

Outage ID	Start	End	Capability/ Allowable (10 ³ m ³ /day)	Service Allowable	Outage Description
13015505	AUG 20, 2018	AUG 31, 2018		Potential IT/FT Receipt Restriction USJR	Schrader Creek East and West - Compressor Station Maintenance
12926139	SEP 03, 2018	SEP 09, 2018		Potential IT/FT Receipt Restriction USJR	Woodenhouse A & B - Compressor Station Maintenance
13993439	SEP 04, 2018	SEP 06, 2018	784 000	Potential IT/FT Receipt Restriction USJR	Alces B #3- Compressor Station Maintenance

Current Classification	Modified Classification
'Potential IT Restriction'	'IT anticipated'
'Potential IT/FT Restriction'	'No impact to FT anticipated'
'Potential IT/FT Restriction'	'Potential impact to FT'
'Partial FT Restriction'	'Partial impact to FT'

Modifications will be reflected in the Daily Operating Plan published on September 10, 2018

Next Steps

- **Review other existing communication tools** (Customer Express, NrG Highway, etc.)
- Explore new communication tools (Interactive map to illustrate outages and area of impact, service allowable dashboard, etc.)
- Let us know what you think
 - Do you have other ideas for how we can continue to improve?
 - What other future enhancements would you like to see?

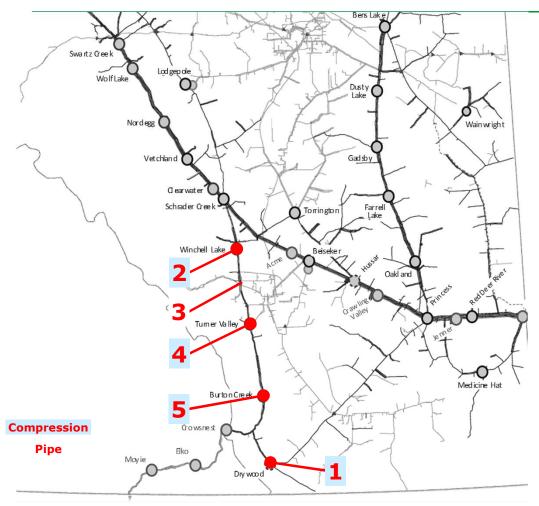
Share your thoughts and ideas regarding future improvements with your Commercial representatives



Agenda

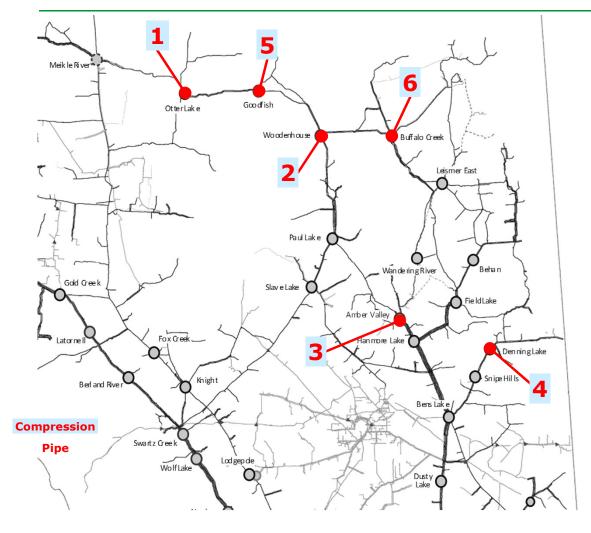
- 1. Overview of Organizational Changes in Commercial Operations
- 2. Changes to Outage Communications Tools
- 3. 2018 Operational Outlook Update/Review and Expansion Review
- 4. 2019 Operational Outlook Update/Review

NGTL Expansion Review – Western Gate Delivery Area (WGAT)



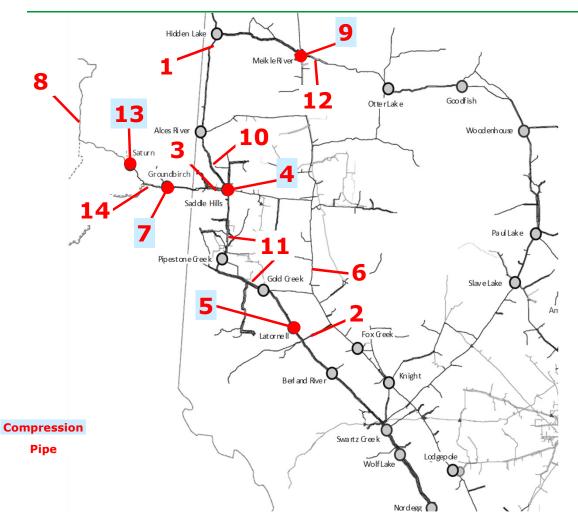
Facility	Planned In Service Date
1. Drywood Coolers	Oct 2018
2. Winchell Lake (30 MW Unit addition)	Nov 2019
3. NPS 42 Western Alberta System M/L Loop (22 km)	Jun 2020
4. Turner Valley (30 MW Unit addition)	Jun 2020
5. Burton Creek (30 MW Unit addition)	Jun 2020

NGTL Expansion Review – Eastern Gate Delivery Area (EGAT)



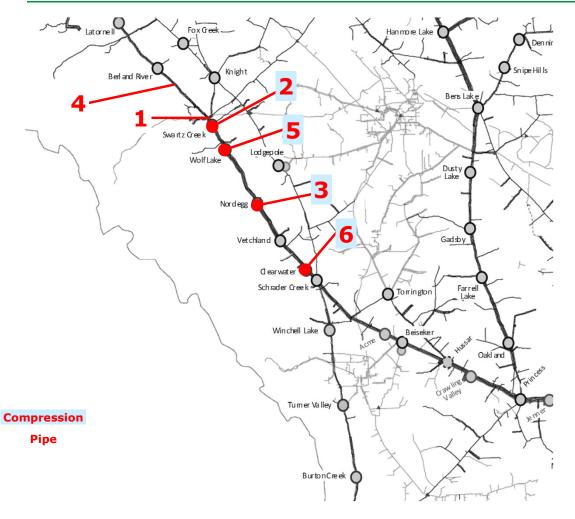
Facility	Planned In Service Date
1. Otter Lake (Wheel Change)	Oct 2018
2. Woodenhouse (30 MW unit addition)	Nov 2018
3. Amber Valley (15 MW unit addition)	Nov 2019
4. Denning Lake (Wheel Change)	Nov 2019
5. Goodfish (30 MW unit addition)	Nov 2020
6. Buffalo Creek (30 MW unit addition)	Nov 2020

NGTL Expansion Review – Upstream James River Area (USJR)



Facility	Planned In Service Date
1. NPS 36 Northwest M/L Loop (25 km)	Apr 2019
2. NPS 24 Smoky River Lateral Loop (24 km)	Apr 2019
3. NPS 36 Gordondale Lateral Loop 3 (25 km)	Jun 2019
4. Saddle Hills (30 MW unit addition)	Jun 2019
5. Latornell (30 MW unit addition)	Jun 2019
6. Clarkson Valley (Control valve addition)	Jun 2019
7. Groundbirch (2 x 15 MW unit)	Q3/2019
8. NPS 42 North Montney M/L (182 km)	Q3/2019
9. Meikle River (piping modifications)	Nov 2019
10. NPS 36 Northwest M/L Loop 2 (28 km)	Nov 2019
11. NPS 48 Grande Prairie M/L Loop 2 (13 km) NPS 48 Grande Prairie M/L Loop 3 (24 km)	Apr 2020
12. NPS 48 North Central Corridor Loop (32 km)	Apr 2020
13. Saturn (15 MW unit)	Apr 2020
14. NPS 42 Groundbirch M/L Loop (33 km)	Nov 2020
	22

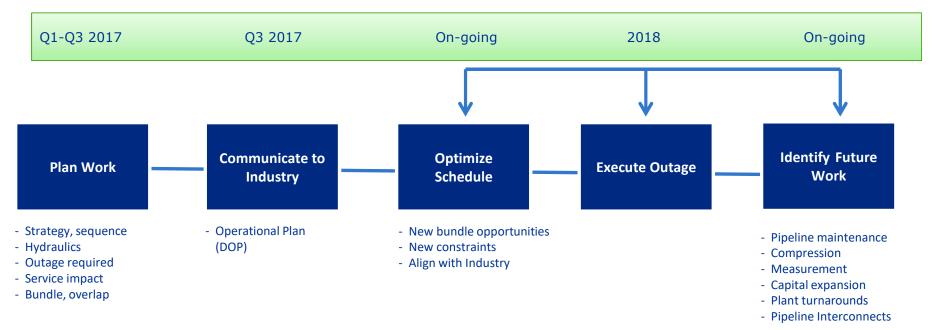
NGTL Expansion Review – Upstream James River Area (USJR) cont'd



Facility	Planned In Service Date
1. Edson (Control valve addition)	Apr 2019
2. Swartz Creek (30 MW unit addition)	Jun 2019
3. Nordegg (30 MW unit addition)	Jun 2019
4. NPS 48 Grande Prairie M/L Loop 2 (33 km)	Nov 2019
5. Wolf Lake (30 MW unit addition)	Apr 2020
6. Clearwater (30 MW unit addition)	Apr 2020

Outage Planning Process

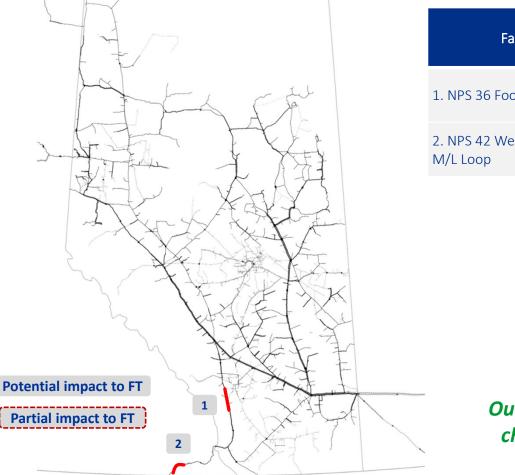
2018 Program Timeline:



Currently in execution phase with continued focus on integrating all work, bundling activities, and optimizing overall program.

2018 Pipe Maintenance – Outage Highlights

Location: Western Gate Delivery Area and Foothills BC

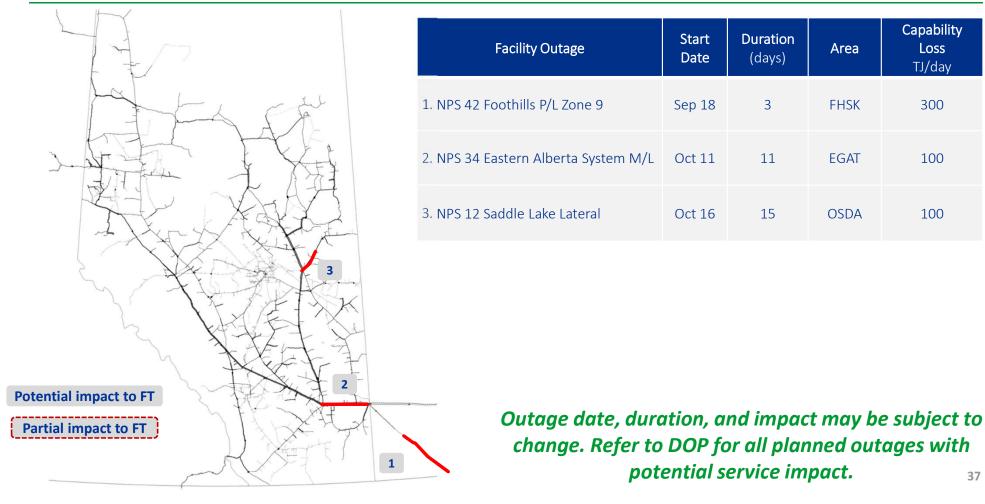


Facility Outage	Start Date	Duration (days)	Area	Capability Loss TJ/day
1. NPS 36 Foothills M/L Zone 8	Oct 22	12	FHBC	400
2. NPS 42 Western Alberta System M/L Loop	Nov 15	7	WGAT	200

Outage date, duration, and impact may be subject to change. Refer to DOP for all planned outages with potential service impact. 36

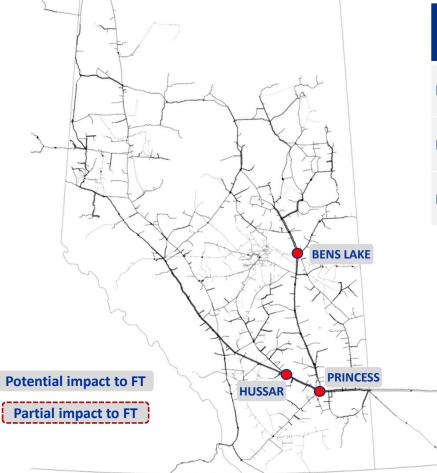
Pipe Maintenance – Outage Highlights

Location: Eastern Gate Delivery Area and Foothills Sask



2018 Compressor Maintenance – Outage Highlights

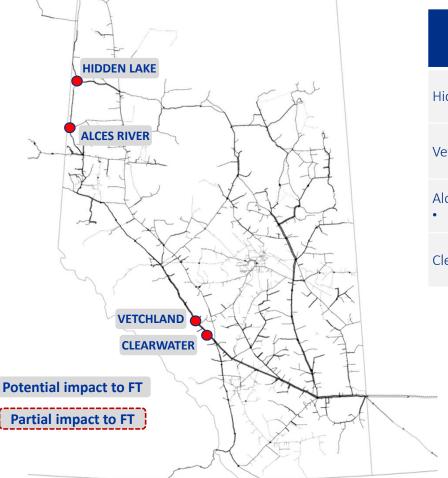
Location: Eastern Gate Delivery Area and Oil Sands Delivery Area



Facility Outage	Start Date	Duration (days)	Area	Capability Loss TJ/day
Hussar A C/S	Sep 10	5	EGAT	250
Bens Lake C/S	Oct 1	12	OSDA	200
Princess C/S	Oct 22	11	EGAT	250

2018 Compressor Maintenance – Outage Highlights

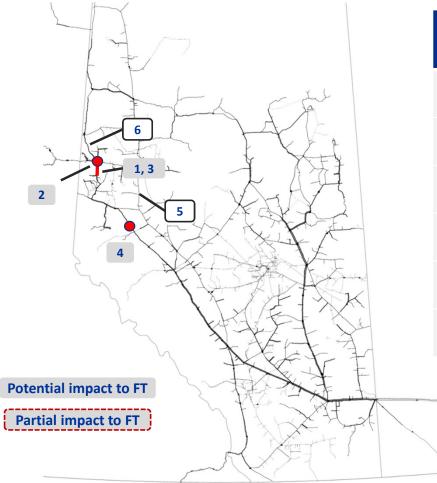
Location: Upstream of James Receipt Area



Facility Outage	Start Date	Duration (days)	Area	Capability Loss TJ/day
Hidden Lake North C/S	Oct 1	9	USJR	250
Vetchland C/S	Oct 9	4	USJR	400
Alces River unit 3Meikle River unit 5	Oct 15	10	USJR	400
Clearwater unit 5	Oct 28	6	USJR	200

2018 Expansion Program – Outage Highlights

Location: Upstream James River Receipt Area



Facility Outage	Start Date	Duration (days)	Area	Capability Loss TJ/day
1. NPS 36 Grande Prairie M/L Loop #2	Sep 9	10	USJR	600
2. Saddle Hills C/S	Nov 7	7	USJR	500
3. NPS 30 Grande Prairie M/L Loop	Nov 20	9	USJR	150
4. Latornell C/S	Nov 26	8	USJR	300
5. Clarkson Valley CV	Q4 2018	- Q1 2019	USJR	No outage
6. NPS 36 NWML Loop 2	Q4 2018	- Q1 2019	USJR	No outage



Agenda

- 1. Overview of Organizational Changes in Commercial Operations
- 2. Changes to Outage Communications Tools
- 3. 2018 Operational Outlook Update/Review and Expansion Review
- 4. 2019 Operational Outlook Update/Review

Outage Planning Process

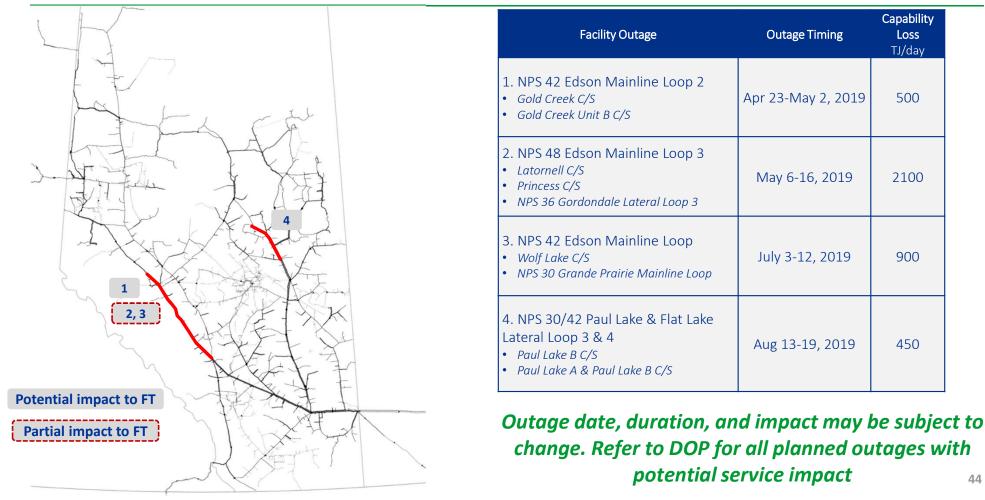
2019 Program Timeline:



Currently in planning phase with focus on integrating all work, bundling activities, and optimizing overall program

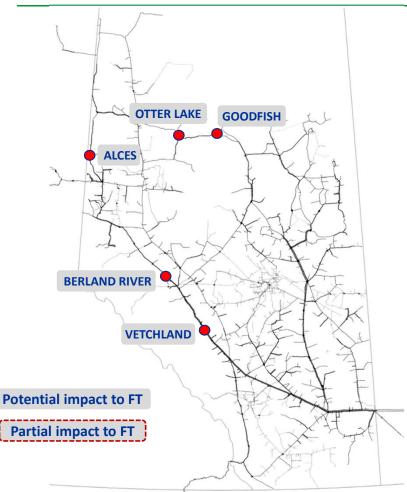
Pipe Maintenance – Outage Highlights

Location: Upstream James River Receipt Area



2019 Compression Maintenance – Outage Highlights

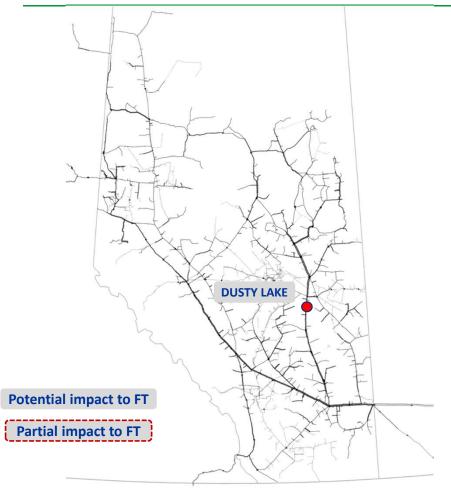
Location: Upstream James River Receipt Area



Facility Outage	Outage Timing	Capability Loss TJ/day
Alces River C/S	Mar 4-8, 2019	500
Berland River C/S	Jun 17-19, 2019	500
Goodfish C/S	Jun 24-27, 2019	750
Vetchland C/S	Aug 21-Sep 10, 2019	300
Otter Lake Unit C/S	Sep 3-6, 2019	650
Alces River Unit 2 C/S	Oct 15-17, 2019	400

2019 Compression Program – Outage Highlights

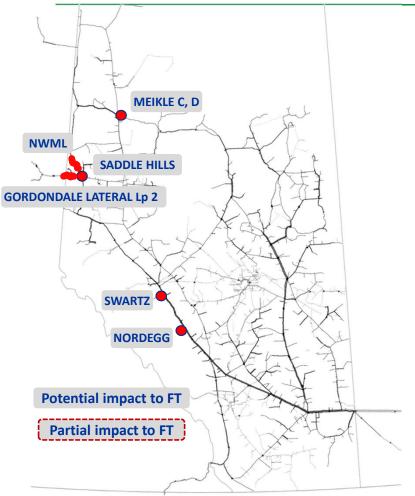
Location: North East Delivery Area



Facility Outage	Outage Timing	Capability Loss TJ/day
Dusty Lake C/S Gadsby C/S Beiseker C/S 	Apr 15-18, 2019	800

2019 Capital Expansion – Outage Highlights

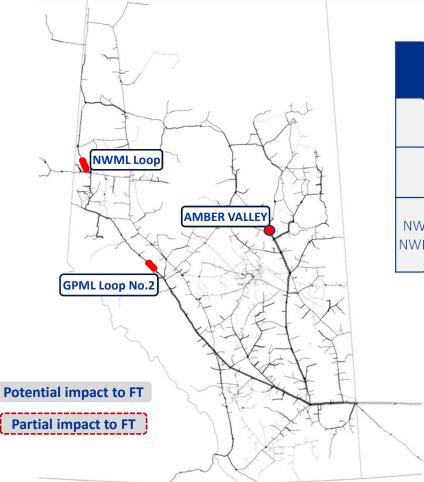
Location: Upstream James River Receipt Area



Expansion Facility Description	Outage Requirement	Outage Timing	Capability Loss TJ/day
Saddle Hills, new unit	NPS 36 NWML	Jan 15-23, 2019	200
Nordegg, new unit + cooler NPS 36 Gordondale Lat Lp 3	Nordegg CS NPS 42 Gordondale Lat Lp 2	Jan 29-Feb 11, 2019	600
Swartz Creek, new unit + cooler	Swartz Creek CS	Feb 20-28, 2019	400
	Meikle C3 CS	Jun 17-Jul 6, 2019	200
Meikle River C, D CS Modifications	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

2019 Capital Expansion – Outage Highlights (con't)

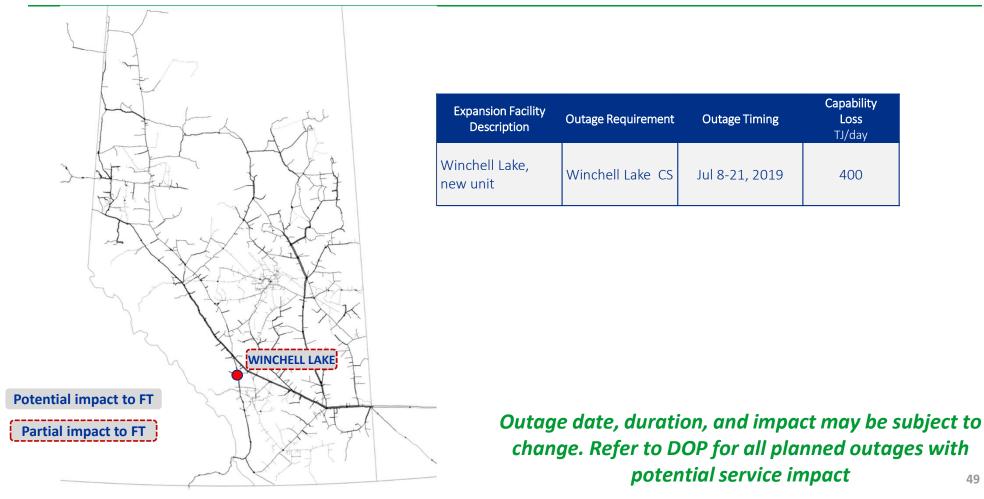
Location: Upstream James River Receipt Area



Expansion Facility Description	Outage Requirement	Outage Timing	Capability Loss TJ/day
Amber Valley, new unit	No outage	Q1-Q3 2019	N/A
NPS 48 GPML Loop No.2 McLeod River North	No outage	Q1-Q3 2019	N/A
NWML Loop – Bear Canyon North NWML Loop – Peace River Crossing	No outage	Q1-Q3 2019	N/A

2019 Capital Expansion – Outage Highlights

Location: Western Gate Delivery Area





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 <u>nominations@transcanada.com</u>
Contracts and Billing	Business hours	Contracts	Support for contracts	NGTL: ngtl_contracting@transcanada.com FH: ab_ft_openseason@transcanada.com
		Billing	Support for billing	ngtl_billing@transcanada.com
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	http://www.transcanada.com/customerexpress/2880.html

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	NGTL: <u>http://www.tccustomerexpress.com/875.html</u> FH: Ashley Stowkowy: 920-5828 Andrea Watters: 920-7956
Multi-stakeholder interests	Business hours	Commercial Collaboration	Multi-stakeholder initiatives, customer meetings, and the Tolls, Tariff, Facilities and Procedures (TTFP) committee	http://www.tccustomerexpress.com/872.html
All other contacts		TransCanada Natural Gas Pipelines		http://www.tccustomerexpress.com/852.html