

Welcome and Thank You for Joining Us

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 we will answer them at the best possible opportunity

Forward Looking Information

This presentation includes certain forward-looking information. Statements that are forward-looking are based on certain assumptions and on what we know and expect today and generally include words like anticipate, expect, believe, may, will, should, estimate or other similar words.

The information provided is for informational purposes only and is not to be relied upon for any other purpose whatsoever. The information is based upon certain assumptions that may or may not be accurate, and therefore is subject to various risks and uncertainties. TC Energy shall not be liable for damages sustained as a result of any use or reliance on such information.

The outages listed in this presentation are not an exhaustive list. Outage date, duration, and impact may be subject to change. Refer to the Daily Operating Plan (DOP) for all planned outages with potential service impact.

No impact to FT

Refers to outage periods where FT impact is not expected

Potential impact to FT

Refers to outage periods where there is potential of FT impact

Partial impact to FT

Refers to outage periods where FT impact is expected

Important Notes



Outage information in this presentation is NOT applicable beyond the July 8, NGTL/Foothills Customer Operations (WebEx only) meeting



For current outage information, please refer to the most recent Daily Operating Plan (DOP) on my.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

SAFETY MOMENT: LIFE JACKET SAFETY

The Lifesaving Society designates the third week in July (July 18-24, 2021) as **National Drowning Prevention Week (NDPW)** to focus community and media attention on the drowning problem and drowning prevention.

Most people who drown are within 15 meters of safety. The simple act of **wearing a lifejacket** can save your life by buying you precious time until someone can rescue you.

A properly **fitted and worn** lifejacket is the fundamental safety item for anyone heading out on any body of water such as a lake, river or pool.



HOW TO PROPERLY FIT A LIFE JACKET



CHECK LIFE JACKET LABEL FOR THE APPROPRIATE WEIGHT OR CHEST SIZE.

The life jacket label will indicate the size and weight of the intended user. Make sure the wearer is within these ranges. Verify that the life jacket label states it is "Coast Guard approved."



PUT THE LIFE JACKET ON.

Inspect the life jacket for wear and tear. Warning signs include rips and missing or broken buckles or straps.



BUCKLE ALL STRAPS AND TIGHTEN OR ZIP UP ALL ZIPPERS.

Make sure all straps can be buckled and zippers zipped. Don't forget the crotch strap if there is one!



HAVE THE WEARER LIFT THEIR ARMS OVER HEAD AND GENTLY LIFT THEM BY THE TOP OF THE LIFE JACKET ARM OPENINGS.

If the jacket rides up above their ears, it's too big. If the straps or zippers don't close, the jacket is too small.





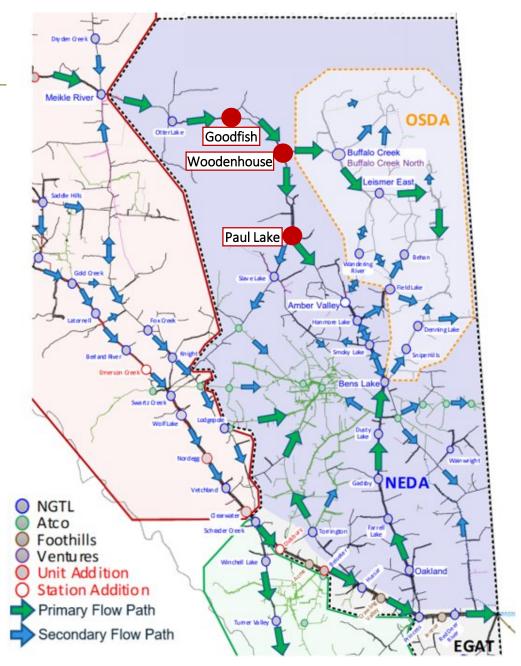
Agenda

- 1 Heat Wave Operations Lookback
- 2 Review Daily Operating Plan (DOP)
- (3) Local Area/Location Restriction & Flow Order Updates
- 4 Customer Operations Meeting Survey



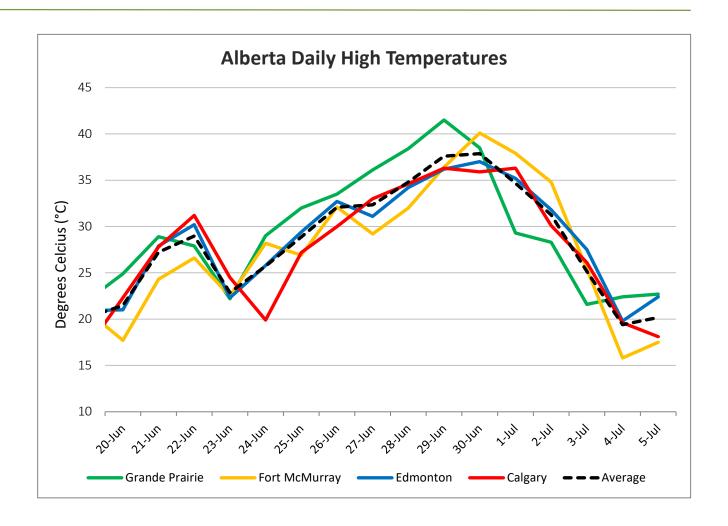
High Level Summary

- An unprecedented heat wave across Western Canada and extreme system volatility led to significant equipment issues on NGTL
- A few critical and sustained unplanned outages led to high pressures in USJR and low pressures in OSDA
- Attempts to leverage OBAs and limit the supply/demand tolerance were unsuccessful in alleviating pressure concerns
- Use of an IT-R and/or IT-D restriction would have been insufficient to provide the required supply response
- An FT-R restriction was initiated in USJR which remained in place for 24-hours until pressures subsided, and system risk was mitigated

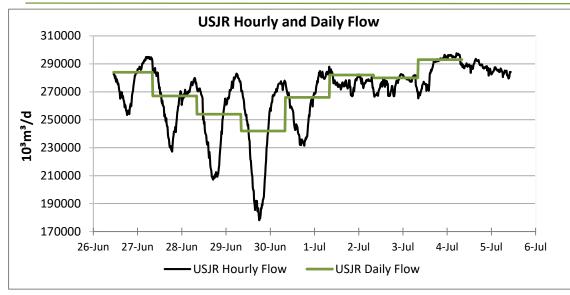


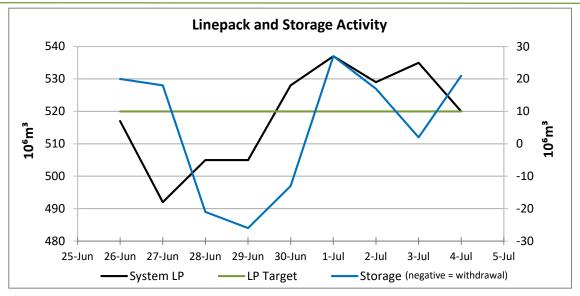
Record-Setting High Temperatures

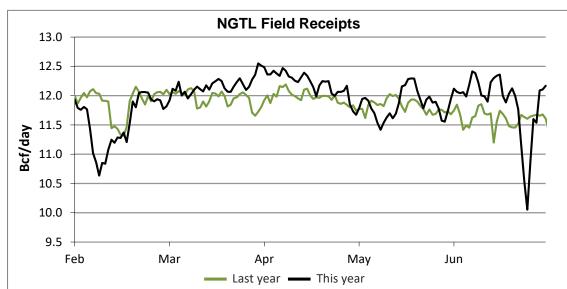
- Heat wave pushes into Western Canada late June
- 212 daily temperature records set in Alberta from June 25 to July 2
- Intense heat held over Alberta for more than a week

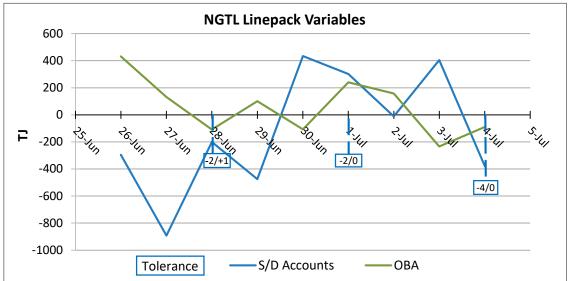


Significant Supply and Linepack Shifts









Adjusting Operational Strategy

Decreasing Field Receipts period:

- Upstream James River receipts declined
- Flows into NEDA via NCC declined
- USJR southbound flow compressors offline as flow couldn't support their operation
- NLAT flows increased to support NEDA demand

Increased Field Receipts period:

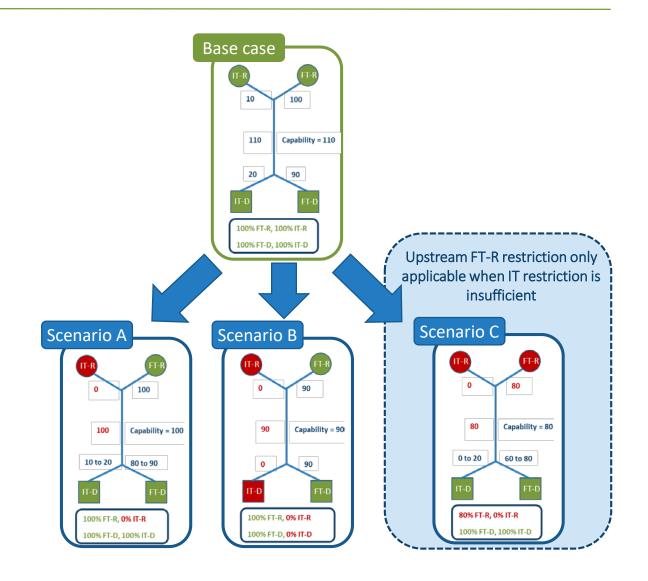
- Unplanned NCC outages reduced capability to move gas out of USJR and into NEDA
- EDSML and WASML flows maximized in attempt to reduce USJR linepack
- USJR FT-R restriction required to ensure safe operations



Restriction Protocol

Use of IT-R and/or IT-D restriction was insufficient to provide the required supply response:

- USJR pressures and linepack required rapid improvement
- As pressures decrease, receipts increase, resulting in delayed linepack and pressure recovery
- Minimal IT and storage volatility provided insufficient confidence in required USJR pressure and linepack recovery



Communication Timeline

June 29 - 30

- Woodenhouse, Goodfish, and Paul Lake Compressors offline due to heat
- Concerted efforts ongoing in attempt to regain unit reliability

July 1

- 10:30 Advisory #1: FT-D risk in NEDA due to Woodenhouse, Goodfish, and Paul Lake
- 16:40 Advisory #2: Progress at Woodenhouse and Paul Lake, but ongoing issues
- 21:30 Advisory #3: FT-R risk in USJR due to high linepack (from unplanned outages)

July 2

- **09:30 Advisory #4:** Progress at Woodenhouse & Paul Lake. Goodfish investigation ongoing. High linepack in USJR continues. Threat to FT-R in USJR and FT-D in NEDA remains.
- 12:15 USJR FT-R Restriction: 60% FT-R effective July 2 @ 17:00

July 3

• 10:00 - USJR FT-R Restriction ended: 100% IT-R & 100% FT-R effective July 3 @ 17:00

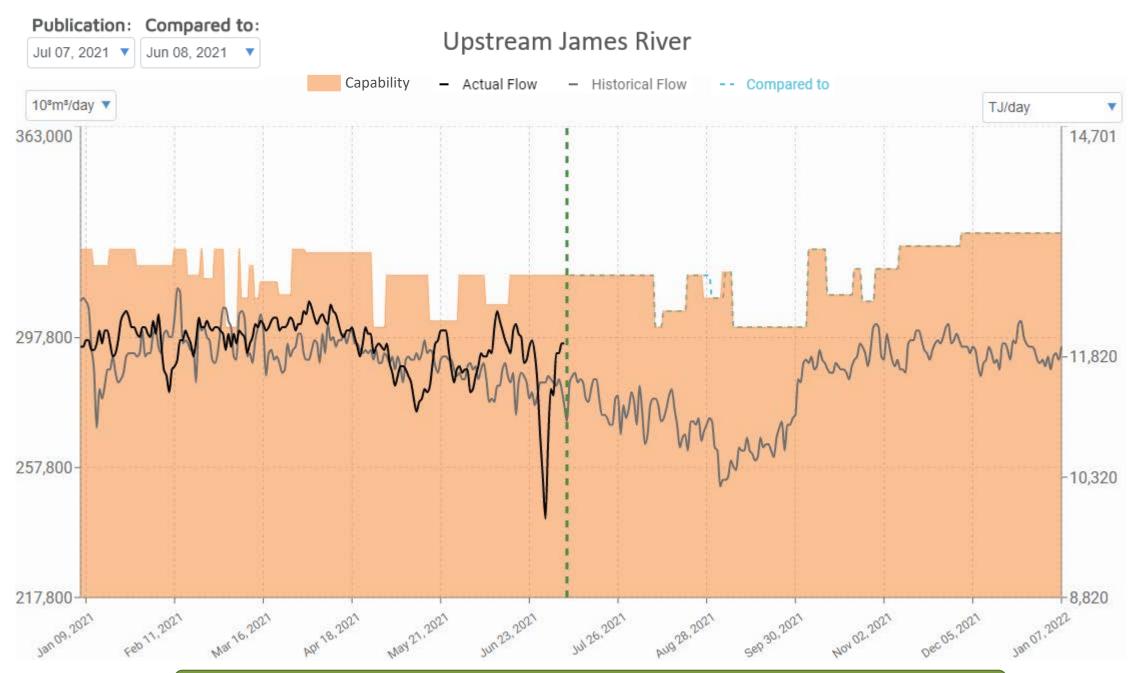
Follow-up

Root cause evaluation of heat related equipment failures and corrective steps

Review of linepack management tools and alternatives

Review external communications and restriction timing



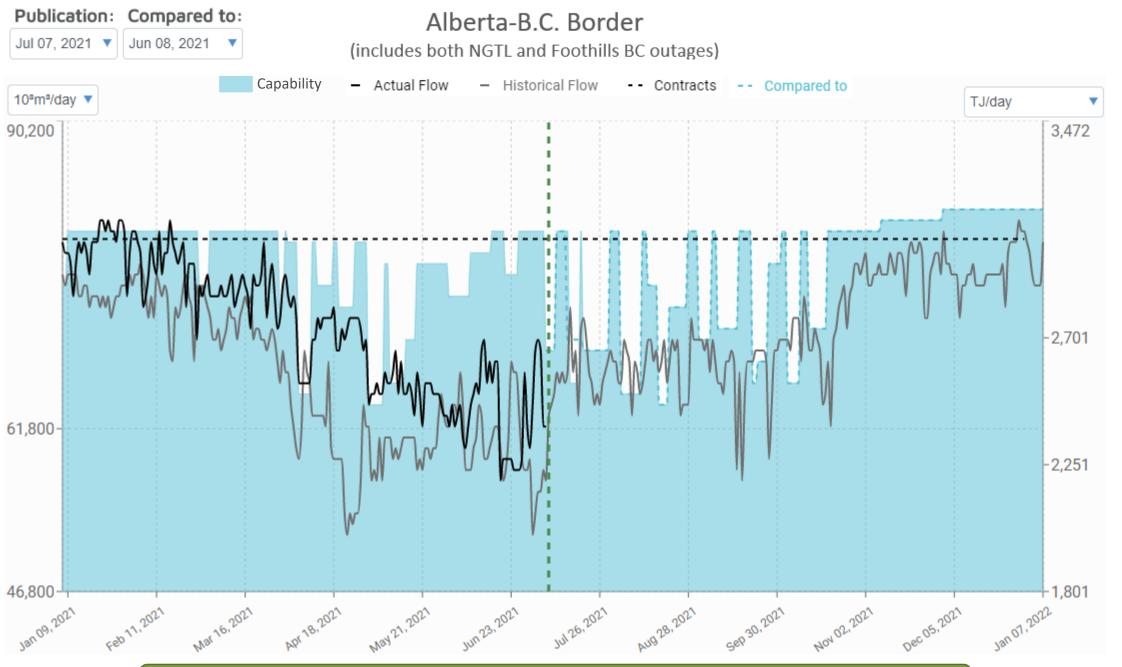


Upstream James River Receipt Area (USJR)

No impact to FT

Potential impact to FT

Outage Description	Start	End	USJR Outage Capability (10 ⁶ m ³ /d)	USJR Impact (10 ⁶ m³/d)	Area Outage Capability (10 ⁶ m³/d)	Outage Area Typical Flows (10 ⁶ m ³ /d)	Service Allowable Location/Area
Berland River - Compressor Station Maintenance	9-Aug-21	11-Aug-21	301	16	N/A	260-310	Potential impact to FT-R USJR
Berland River A1 – Compressor Station Maintenance	9-Aug-21	13-Aug-21	306	11	N/A	260-310	Potential impact to FT-R USJR
NPS 36 Edson Mainline Extension - Pipeline Maintenance	14-Aug-21	20-Aug-21	306	11	N/A	260-310	Potential impact to FT-R USJR
Otter Lake - Compressor Station Maintenance	27-Aug-21	2-Sep-21	310	8	191	145-180	Potential impact to FT-R Segments 2, 3, 4, and partial 7
Gold Creek - Compressor Station Modifications	7-Sep-21	4-Oct-21	301	17	175	145-180	Potential impact to FT-R Segments 2, 3, 4, and partial 7
Clearwater - Compressor Station Maintenance	27-Sep-21	1-Oct-21	310	8	N/A	260-310	Potential impact to FT-R USJR
Latornell - Compressor Station Maintenance	12-Oct-21	16-Oct-21	311	14	N/A	260-310	Potential impact to FT-R USJR
Latornell A2 - Compressor Station Maintenance	12-Oct-21	21-Oct-21	311	14	222	170-210	Potential impact to FT-R Segments 2, 3, 4, partial 5, partial 7
Hidden Lake – Compressor Station Maintenance	18-Oct-21	7-Nov-21	319	6	194	145-180	Potential impact to FT-R Segments 2, 3, 4, and partial 7
Alces River - Compressor Station Maintenance	25-Oct-21	29-Oct-21	309	16	N/A	260-310	Potential impact to FT-R USJR



West Gate Delivery Area (WGAT) Foothills Zone 8 (FHBC)

No impact to FT

Potential impact to FT

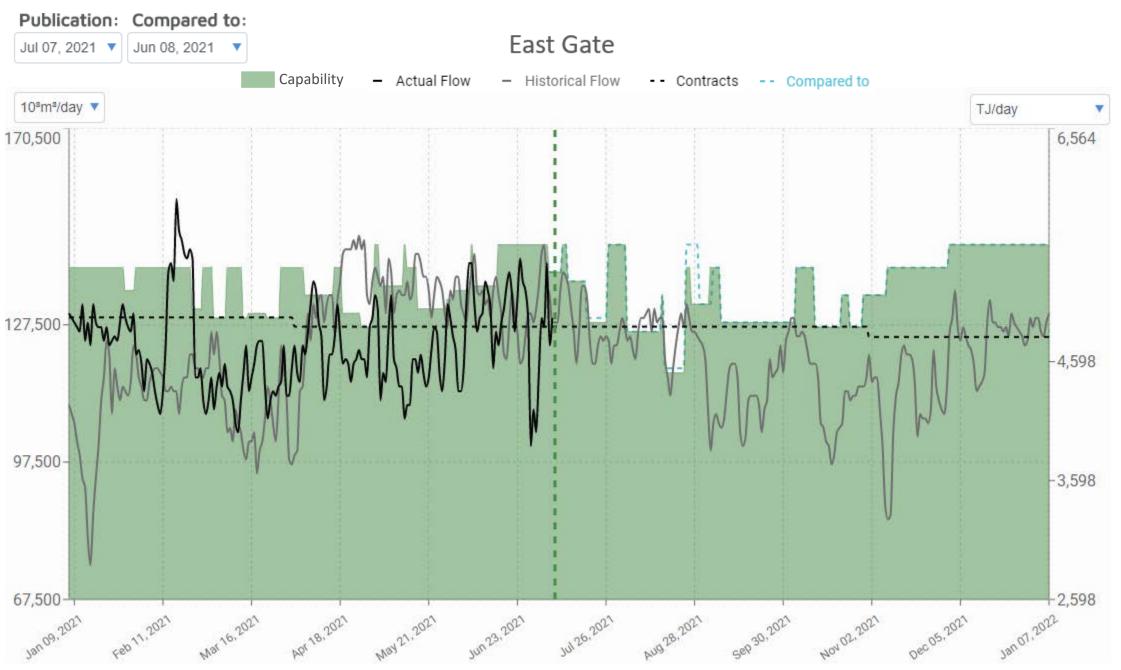
Outage Description	Start	End	Capability/ Allowable (10 ⁶ m³/day)	Impact (10 ⁶ m³/d)	System	Service Allowable Location/Area
NPS 36 Western Alberta System Mainline Loop - Pipeline Maintenance	6-Jul-21	9-Jul-21	69	11	NGTL	Potential impact to FT-D: Alberta/BC Border
NPS 36 Foothills Pipeline Zone 8 Seg 2 - Pipeline Maintenance	15-Jul-21	<mark>18-Jul-21</mark>	70 66	15	FH BC	Potential impact to FT: Alberta/BC Border
NPS 42 Western Alberta System Mainline Loop - Pipeline Modification	20-Jul-21	29-Jul-21	69	11	NGTL	Potential Impact to FT-D: Alberta/BC Border
Winchell Lake - Compressor Station Maintenance	3-Aug-21	7-Aug-21	65	15	NGTL	Potential Impact to FT-D: Segment 22 and partial 21
NPS 36 BC Mainline - Pipeline Maintenance	4-Aug-21	10-Aug-21	65	15	FH BC	Potential impact to FT: Alberta/BC Border
NPS 36 Foothills Zone 8 Seg 3 - Pipeline Maintenance	13-Aug-21	17-Aug-21	75	5	FH BC	Potential impact to FT: Alberta/BC Border
Crowsnest A – Compressor Station Maintenance	17-Aug-21	20-Aug-21	64	16	FH BC	Potential Impact to FT: Alberta/BC Border
NPS 36 Foothills Zone 8 Seg 4 - Pipeline Maintenance	19-Aug-21	23-Aug-21	73	7	FH BC	Potential impact to FT: Alberta/BC Border

West Gate Delivery Area (WGAT) Foothills Zone 8 (FHBC)

No impact to FT

Potential impact to FT

Outage Description	Start	End	Capability/ Allowable (10 ⁶ m³/day)	Impact (10 ⁶ m³/d)	System	Service Allowable Location/Area
Turner Valley A1 and A2 - Compressor Station Maintenance	23-Aug-21	27-Aug-21	73	7	NGTL	Potential impact to FT-D: Alberta/BC and Alberta/Montana Borders
NPS 36 Foothills Zone 7 Leg 1A – Pipeline Maintenance	1-Sep-21	5-Sep-21	70	10	NGTL	Potential Impact to FT-D: Segment 22 and partial 21
NPS 42 Western Alberta System Mainline Loop - Pipeline Maintenance	8-Sep-21	15-Sep-21	71	9	NGTL	Potential impact to FT-D: Alberta/BC and Alberta/Montana Borders
NPS 36 Western Alberta System Mainline - Pipeline Modification	21-Sep-21	26-Sep-21	68	12	NGTL	Potential Impact to FT-D: Alberta/BC and Alberta/Montana Borders
Clearwater – Compressor Station Maintenance	27-Sep-21	1-Oct-21	77	3	NGTL	Potential impact to FT: Segment 22 and partial 21
Elko - Compressor Station Maintenance	21-Sep-21	22-Sep-21	66	14	FH BC	Potential Impact to FT: Alberta/BC Border
Moyie – Compressor Station Maintenance	4-Oct-21	8-Oct-21	66	14	FH BC	Potential impact to FT: Alberta/BC Border
NPS 36 BC Mainline – Pipeline Maintenance	12-Oct-21	18-Oct-21	71	9	FH BC	Potential impact to FT: Alberta/BC Border



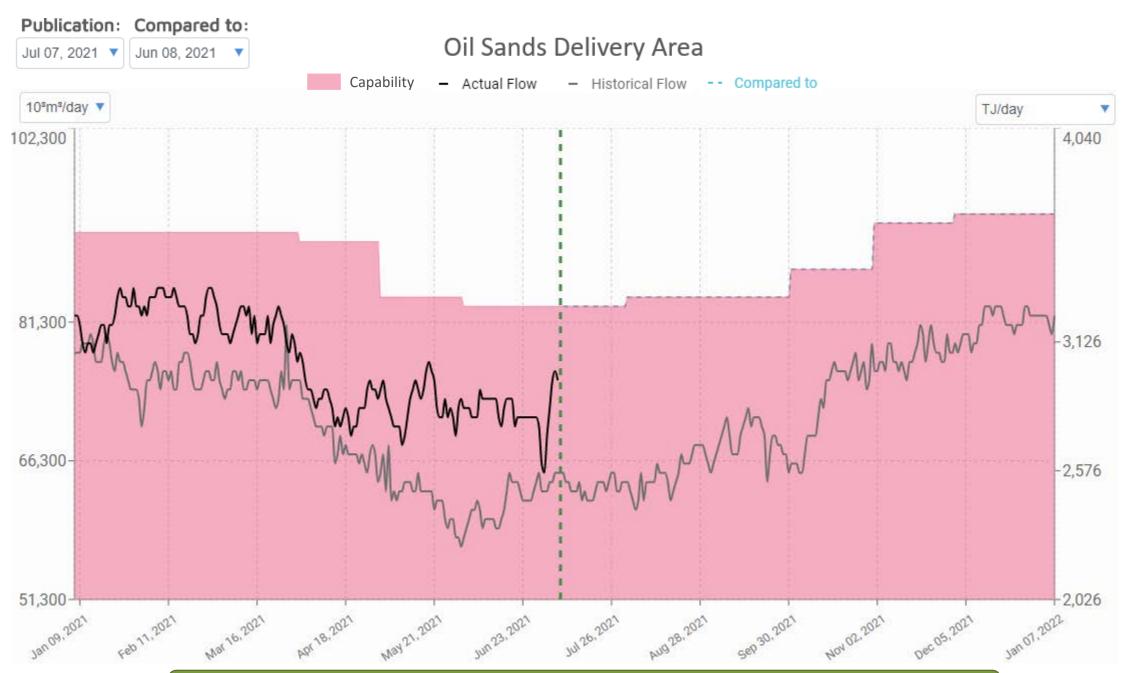
East Gate Delivery Area (EGAT) Foothills Zone 9 (FHSK)

No impact to FT

Potential impact to FT

Outage Description	Start	End	Capability (10 ⁶ m³/day)	Impact (10 ⁶ m³/d)	System	Service Allowable Location/Area
Hussar A & B – Compressor Station Maintenance	5-Jul-21	9-Jul-21	139	6	NGTL	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Acme – Compressor Station Maintenance	12-Jul-21	25-Jul-21	137	8	NGTL	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 42 Foothills Pipeline Zone 6 – Pipeline Maintenance	<mark>19-Jul-21</mark>	<mark>26-Jul-21</mark>	129 <mark>128</mark>	17	NGTL	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 42 Edson and Central Alberta System Mainline Loop* Pipeline Maintenance	3-Aug-21	15-Aug-21	126	19	NGTL	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Crawling Valley – Compressor Station Maintenance	16-Aug-21	30-Aug-21	140	5	NGTL	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
NPS 42 Foothills Pipeline Zone 6 – Pipeline Maintenance*	17-Aug-21	24-Aug-21	118 <mark>117</mark>	27	NGTL	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28
Monchy 1 – Compressor Station Maintenance	7-Sep-21	29-Oct-21	69	-	FH SK	Potential impact to FT: McNeill Border
NPS 42 Foothills Zone 9 – Pipeline Maintenance	16-Sep-21	22-Sep-21	130	10	NGTL	No impact to FT-D anticipated: Empress/McNeill Borders Segments 15, 16, 17, 18, 19, 20, 23, partial 21, and partial 28

^{*}Potential to impact Tranche 3 EGAT Firm contracts



Northeast Delivery Area (NEDA) Oil Sands Delivery Area (OSDA)

No impact to FT

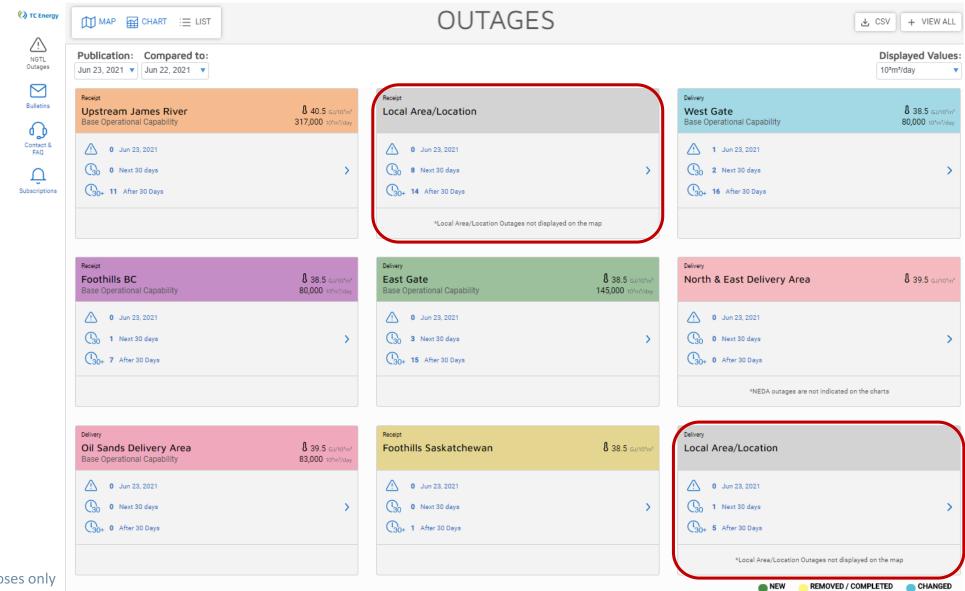
Potential impact to FT

Partial impact to FT

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



Local Area/Location Outages



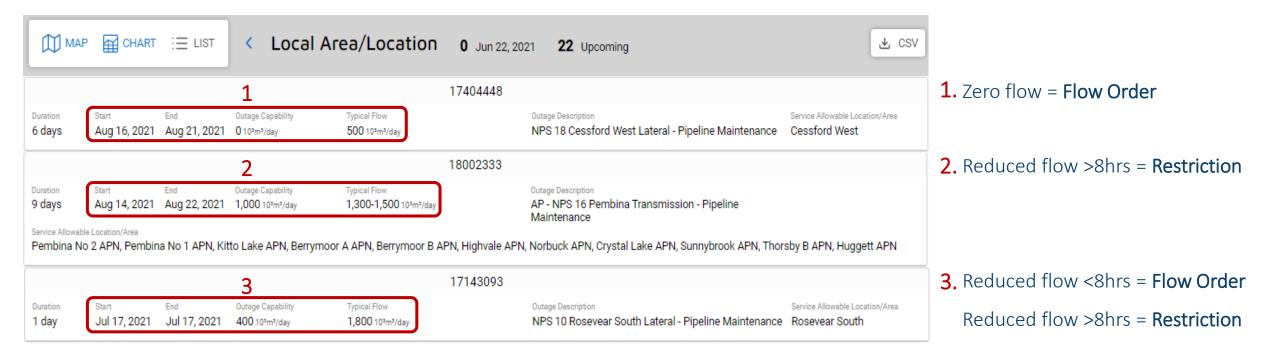
Local Area/Location Outages

Restriction

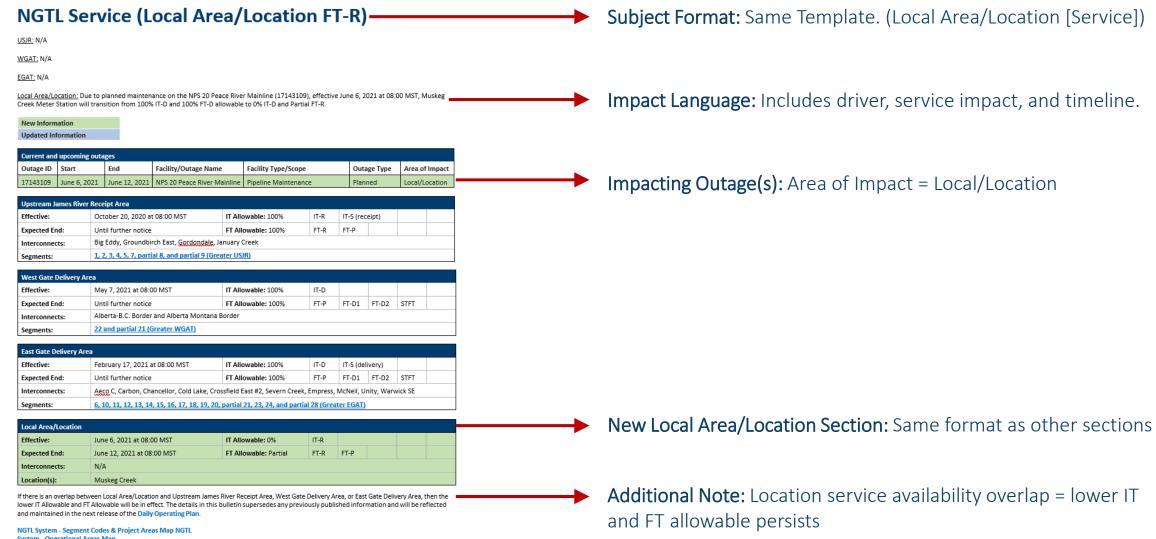
- A reduction in service availability.
- Used for reducing flow for longer periods in time.

Flow Order

- Overriding scheduled quantities.
- Used for:
 - Zero flow for any duration.
 - Reductions up to 8 hours at a station.
 - Extending an outage for up to 2 nomination cycles.



New - Local Area/Location Restriction Bulletins



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New - Flow Order Procedure Updated

NGTL System

FLOW ORDERS FOR RESTRICTING CAPACITY

This Document details the process for issuing Flow Orders on the NGTL System to facilitate the administration of short-term operational outages, effective May 22, 2001 July 8, 2021.

The Flow Order process will be used to allow NGTL to override existing customer scheduled quantities for the duration of an outage. The Flow Order process shall be used in the following circumstances:

- Isolated single meter station work requiring a reduction of flow rate for outages up to 8 hours in duration:
- 2. Taking stations to nil for an outage of any duration; and
- Extending an outage for up to two additional nomination cycles.

The Flow Orders that are issued to Common Stream and Connecting Pipeline Operators will include:

- A. The maximum allowable flow rate,
- B Defined start and end date and times:
- C. A description of the event requiring a Flow Order; and
- D. A NGTL contact for inquiries.

Definitions

Common Stream Operator (CSO)	The party authorized to identify the amount of gas available to meet a shipper's nomination
Connecting Pipeline Operator (CPO)	The party authorized to identify the amount of gas requested for delivery off the NGTL System for a shipper
Nomination	A request for flow under a Service Agreement
Flow Order	Notification from NGTL to CSO or CPO with details pertaining to the capacity constraint.

Sending the Receipt/Delivery Capacity Flow Order

- NGTL Operations will update the Daily Operating Plan with the requirements of the
 eapacity constraint describing the work being performed, start and end date, capability, and
 area of constraint detail. In the case of an outage extension NGTL will communicate this via
 Flow Order.
- NGTL will issue a Flow Order to the CSO/CPO a minimum of 48 hours prior to the start of the outage. This information will be communicated on one page via faxemail.
- TransCanada will post a Critical NrG Bulletin describing the outage. The bulletin will
 describe the work being performed, start and end date and times, max flow and area of
 constraint detail.
- 3. NGTL will verbally communicate with the CSO/CPO the next steps. NGTL will notify the CSO/CPO to advise the work is complete and facilities can return to normal operations. Or, NGTL will contact CSO/CPO to notify that the time to complete the work must be extended. This extension would be followed by another Flow Order with the details of the extension.

- 1. Updated: Effective date = July 8, 2021.
- 2. Updated: Flow Order details posted in Daily Operating Plan.
- 3. Updated: Flow Order issued via email vs. fax.
- 4. Removed: Flow Order posted as Bulletin

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Summary

- 1. Local Area/Location Restrictions will now be communicated via bulletin.
 - We'll continue to work closely with impacted Operators for outage planning and execution
- 2. Flow Order Procedure has been updated:
 - Flow Order details will continue to be posted on Daily Operating Plan
 - Impacted Operators will continue to be contacted directly

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