



2023 Winter Forum Training Presentation

September 21, 2023

Topics



- Group Allocation Overview
- Allocation of Capacity
- Daily Delivery Point Variance (DDVC) Calculation Review
- TMS Mobile Application
- Appendix – Resource Information
 - Appendix A – TMS Reports Highlights
 - Appendix B – Allocation of Capacity - informational resources

Group Allocations Overview



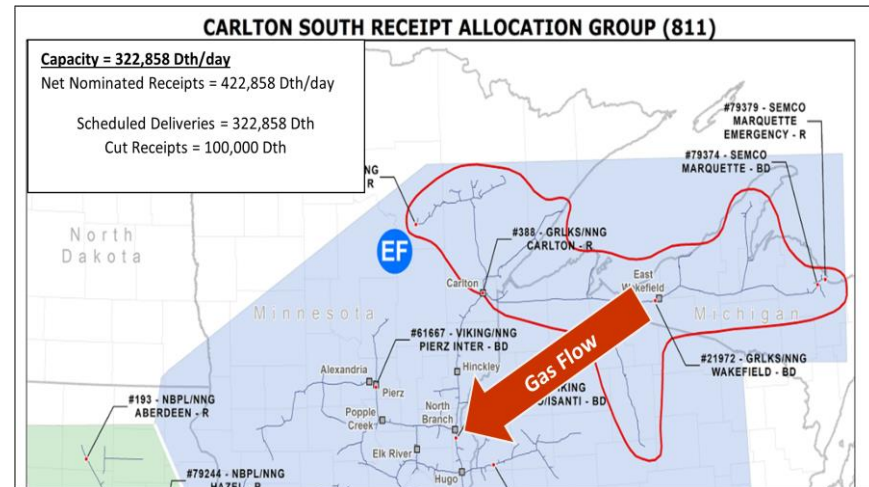
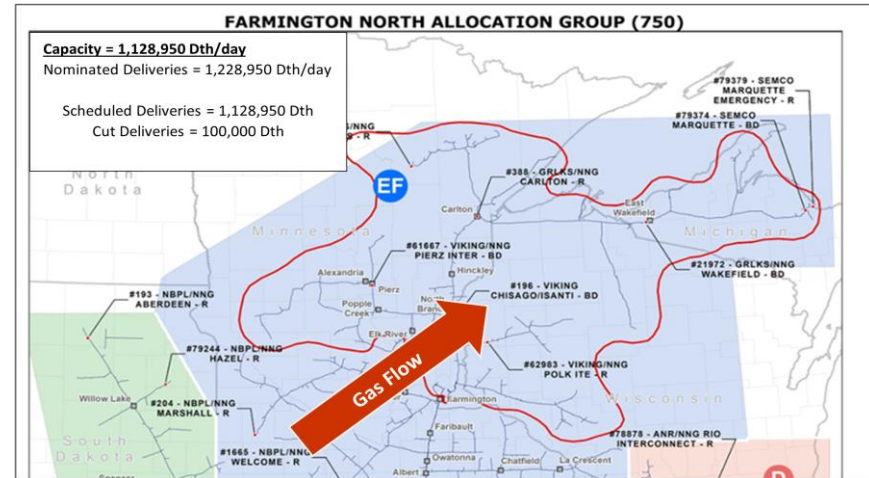
- **Primary firm deliveries sourced from primary firm receipts will not be allocated except in a force majeure or planned service outage event**
- A group is comprised of all receipt and delivery points in a defined area
- Northern performs capacity allocations at a group level when nominated transportation activity exceeds the available physical pipeline capacity entering or exiting a defined group
- Causes for a group allocation include
 - High utilization of alternate firm or interruptible points due to supply or market pricing dynamics
 - Planned service outage
 - Force majeure event
- To minimize the impact of an allocation so that only the smallest area is affected, Northern has proactively developed several allocation groups in both the Market and Field Areas

Note: For allocations at specific **receipt or delivery points**, only the customer's nomination type (primary, alternate or interruptible) at the point is considered (e.g., during a receipt point allocation only the nominated receipts are reviewed for priority without consideration to the delivery point associated with that nomination)

Group Allocation Types



- A **delivery group allocation** will occur when the nominations at the delivery locations of the defined group exceed the pipeline capacity available to move the gas into the defined group of points
- A **receipt group allocation** will occur when the nominations at the receipt locations of the defined group, adjusted for counter flow activity, exceed the pipeline capacity available to move the gas out of the defined group of points



Market Area Allocation Groups



- Northern **proactively** develops allocation groups in order to protect the integrity of the pipeline while impacting the smallest geographical area and number of customers
- Northern has 37 Market Area allocation groups
 - 12 Central-mainline groups
 - 10 Central-branch line groups
 - 7 West Leg groups
 - 5 East Leg groups
 - 3 Market Area zone groups
- Although unforeseen events may require Northern to allocate, the following slide indicates the Market Area groups most likely to be allocated based on historical flows and current market conditions

Potential of a Market Area Group Allocation Based on Historical Flows and Current Market Conditions



Group #	Central-Mainline	More Likely
832	Beatrice North ¹	X
1066	Beatrice South	
812	Carlton North	
811	Carlton South Receipt	X
750	Farmington North	X
1065	Hugo South	
835	North Branch	
583	Oakland ¹	X
581	Odgen North	
775	Palmyra East	
1021	Ventura North	X
735	Ventura South	

Group #	West Leg	More Likely
1044	Aberdeen to Willow Lake	
1114	Homer South	
740	Palmyra North	X
1019	Paullina West	
1043	Watertown BL Receipt	
809	Welcome North	
866	Worthington BL West	

Group #	Market Area Zones	More Likely
454	Zone ABC	
456	Zone D	
453	Zone EF	

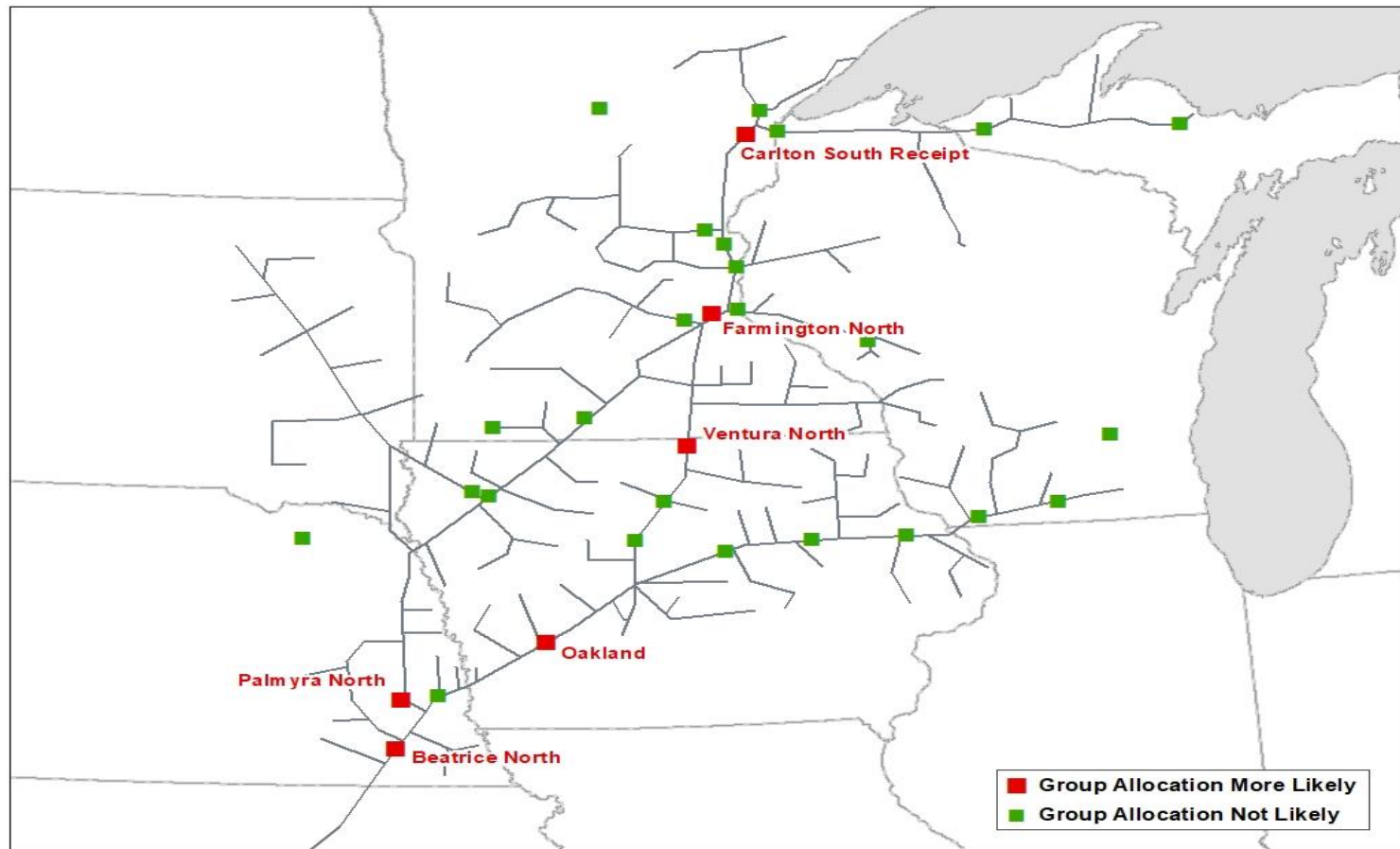
Group #	Central-Branch Line	More Likely
1039	Arcadia Line	
1036	Black River Falls BL	
1020	Carlton East	
1037	Ladysmith BL	
1031	Marquette Area	
1022	Pierz Receipt Region	
1047	Rochester BL	
836	St. Cloud Branch Line	
1030	Wakefield East	
1018	Carver Compressor East	

Group #	East Leg	More Likely
488	Belleville East	
487	Earlville East	
463	Galena East	
585	Hubbard East	
773	Waterloo East	

¹Generally, Northern will allocate only one of these groups at a time

Potential of a Market Area Group Allocation Based on Historical Flows and Current Market Conditions (continued)

Northern's objective is to impact the smallest geographical area and number of customers



Market Area Group Allocation Methodologies



- Market Area **delivery** group allocation methodology is as follows during the Timely nomination cycle:
 1. First off (lowest scheduling priority): Interruptible deliveries from receipts outside of the group (lowest price service allocated first) **(IT)**
 2. Second off: Alternate firm deliveries sourced from alternate firm receipts **(S/S)**
 3. Third off: Alternate firm deliveries sourced from primary firm receipts and primary firm deliveries sourced from alternate firm receipts **(P/S, S/P)**
 4. Last off (highest scheduling priority): Primary firm deliveries sourced from primary firm receipts, which will not be allocated except in a force majeure or planned service outage event **(P/P)**
- Allocation methodology used for Market Area receipt groups is the same as Market Area delivery groups after interchanging the words “deliveries” and “receipts”
- In subsequent nomination cycles within the same gas day, any alternate firm gas scheduled during previous cycles is deemed to have the same priority of service as other primary firm gas scheduled for that day
 - Also applies to Field Area groups

Field Area Group Allocation Methodologies



- Field Area **delivery** group allocation methodology is as follows during the Timely nomination cycle:
 1. First off (lowest scheduling priority): Interruptible deliveries from receipts outside of the group (lowest price service allocated first) **(IT)**
 2. Second off: Outside-the-path alternate firm deliveries **(P/T, S/T, Y/Y)***
 3. Third off: Inside-the-path alternate firm deliveries **(P/S, S/S, T/S)***
 4. Fourth off: Primary firm deliveries sourced from outside-the-path alternate firm receipts **(T/P)***
 5. Fifth off: Primary firm deliveries sourced from inside-the-path alternate firm receipts **(S/P)**
 6. Last off (highest scheduling priority): Primary firm deliveries sourced from primary firm receipts, which will not be allocated except in a force majeure or planned service outage event **(P/P)**
- Field Area **receipt** group allocation methodology is as follows during the timely nomination cycle:
 1. First off (lowest scheduling priority): Interruptible receipts to deliveries outside of the group (lowest price service allocated first) **(IT)**
 2. Second off: Outside-the-path alternate firm receipts **(T/P, T/S, Y/Y)***
 3. Third off: Inside-the-path alternate firm receipts **(S/P, S/S, S/T)***
 4. Fourth off: Primary firm receipts sourced to outside-the-path alternate firm deliveries **(P/T)***
 5. Fifth off: Primary firm receipts sourced to inside-the-path alternate firm deliveries **(P/S)**
 6. Last off (highest scheduling priority): Primary firm receipts sourced to primary firm deliveries, which will not be allocated except in a force majeure or planned service outage event **(P/P)**

*T and Y designate tertiary deliveries or receipts

Field Area Allocation Groups



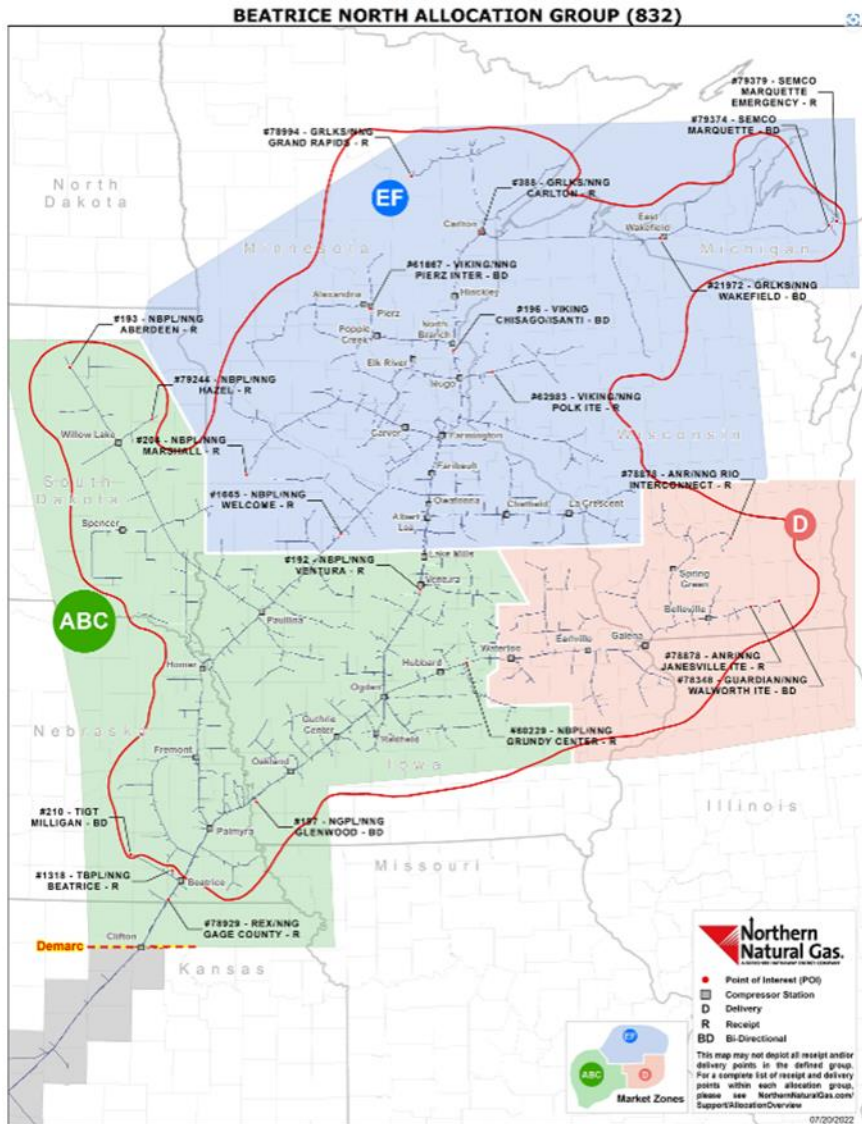
Field Area Net Receipt/Delivery Groups

Group #	Group Name	Group #	Group Name
31	Beaver C System	14	Roger Mills Hemphill System
15	East Roger Mills	16	Roger Mills System
747	Hemphill System	598	Seminole Subsystem
5	Holcomb Burdette	600	Spraberry
824	Jal to Gaines	601	Spraberry 12-inch
738	Jal to Hobbs	602	Spraberry Station
605	Jal-Hobbs-Plains System	599	Spraberry to Plains
825	Mitchell to Gaines	32	Sunray High
761	Plymouth to Spraberry	10	Sunray Low

Field Area Delivery Groups

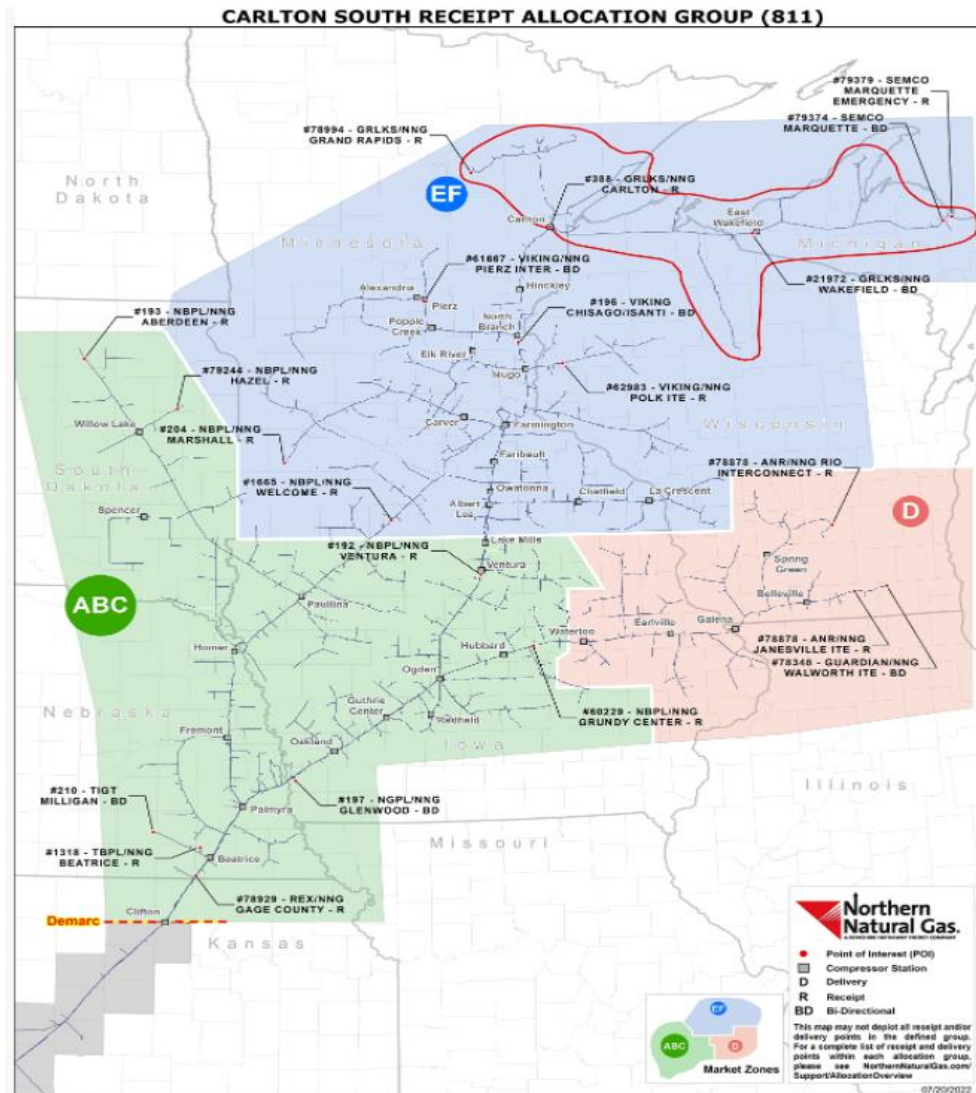
Group #	Group Name	Group #	Group Name
177	Beaver C & Beaver System South	998	Brownfield South
1025	Beaver North	760	Mitchell to Plymouth
13	Beaver System South	19	Pampa South
1080	Beaver C & Beaver North	1023	Pampa North
1022	Brownfield North	1112	Spraberry 16-Inch
		831	Field to Demarc

Beatrice North Allocation Group (832)




- The Beatrice compressor station becomes constrained when receipt volume upstream of the compressor is attempting to be delivered to the Market Area over the group operational capacity.
- Demarc Deferred and Mid 17 Storage Pooling Points are located upstream of the group constraint (FDD/PDD/IDD)
- Mid 17 Pool (POI 71458) is located outside the group constraint and will be subject to group allocation
- All Market Area PDD and IDD storage points are located at Demarc, upstream of the constraint

Carlton South Receipt Allocation Group (811)



Market Area Group Allocations – Receipt Points not Impacted





BEATRICE NORTH ALLOCATION GROUP (832)

Specific Receipt Points Impacted or Not Impacted

The tables below indicate whether or not nominations from the following receipt points to delivery points in the Beatrice North Allocation Group are affected by the Beatrice North Allocation Group.

Reminder: Receipt to delivery points within the group are **not** affected by the allocation.

Receipt Points Impacted

Point Name	POI #	Storage Name	POI #
MID 17 Pooling Point	71458	Demarc Def. Delivery (FDD/FDD Overrun/PDD/IDD)	62389
NNG Field/Mkt Demarcation -16B	37654	MID 17 Storage Pooling Point (FDD/FDD Overrun/PDD/IDD)	71459
REX/NNG Gage County	78929	Ogden Def. Delivery (PDD/IDD)	98
TBPL/NNG Beatrice	1318	Pleasant Valley Def. Delivery (PDD/IDD)	78126
		Ventura Def. Delivery (PDD/IDD)	71460
		Garner LNG Payback Def. Delivery (PDD/IDD)	79228

Receipt Points Not Impacted

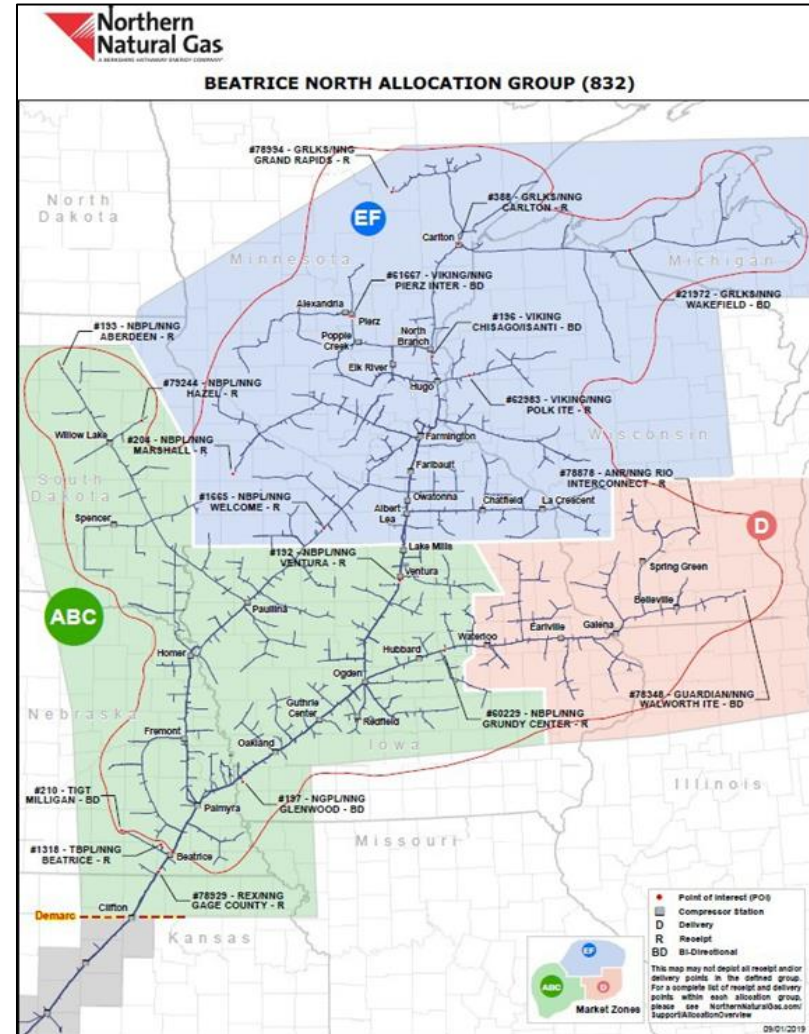
Point Name	POI #	Point Name	POI #
ANR/NNG Rio Interconnect	78878	NGPL/NNG Glenwood	197
GRUKS/NNG Carlton	388	TIGT Milligan	210
GRUKS/NNG Grand Rapids	78994	Ventura Pooling Point (MID 17-192)	78623
GRUKS/NNG Wakefield	21972	Viking Chisago/Isanti	196
Guardian/NNG Walworth ITE	78348	Viking/NNG Pierz Inter	61667
NBPL/NNG Aberdeen	193	Viking/NNG Polk ITE	62983
NBPL/NNG Grundy Center	60229	Storage Name	POI #
NBPL/NNG Hazel	79244	Ogden Def. Delivery (FDD/FDD Overrun)	98
NBPL/NNG Marshall	204	Pleasant Valley Def. Delivery (FDD/FDD Overrun)	78126
NBPL/NNG Ventura	192	Ventura Def. Delivery (FDD/FDD Overrun)	71460
NBPL/NNG Welcome	1665	Garner LNG Payback Def. Delivery (FDD/FDD Overrun)	79228

Storage Usage

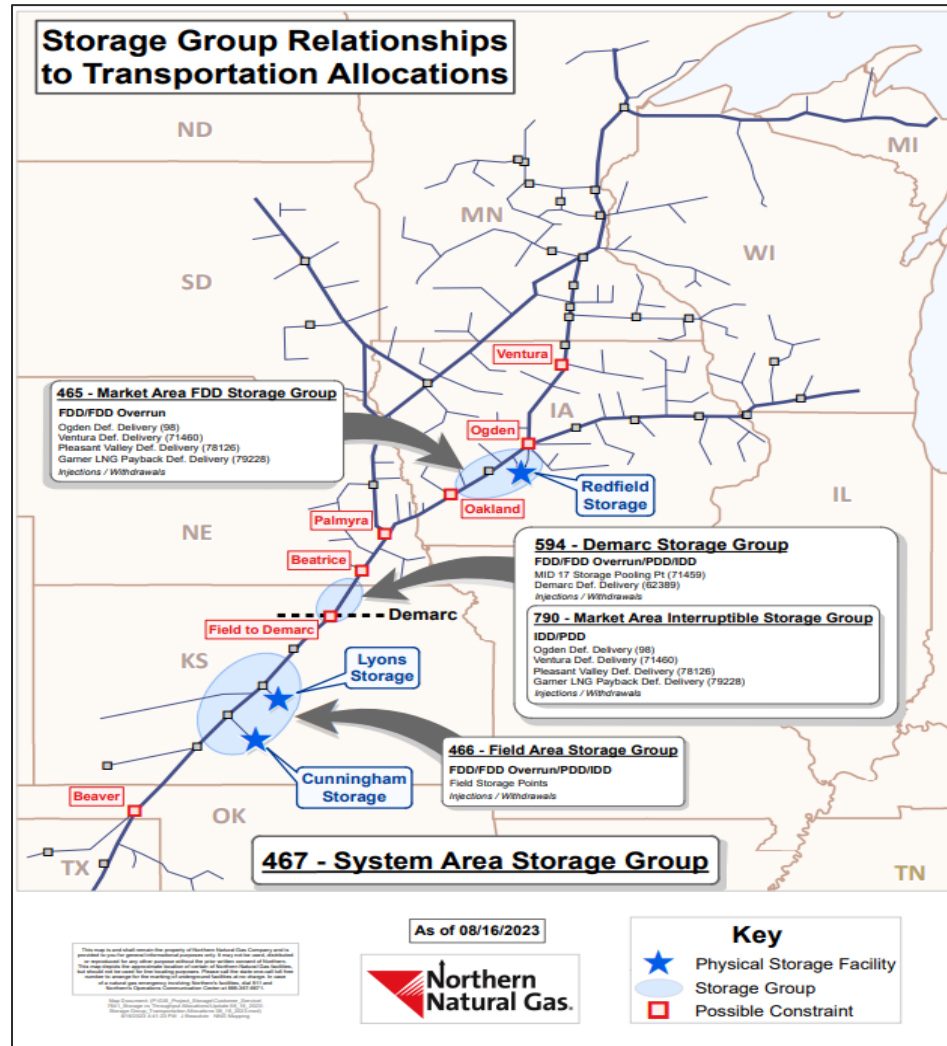
The matrix below illustrates how transportation activity, pool activity and Storage Balancing Service (SBS) are applicable when the transport or pooling service requires the use of the Beatrice North Allocation Group capacity. Nominations to and from storage on FDD, PDD and IDD injections and withdrawals during the group allocation are illustrated as "Not Impacted" or as "Impacted." The availability of SBS during a Beatrice North Allocation Group allocation is denoted as "SBS Enabled" or "SBS Disabled."

			Storage Point				
Rate Schedule	INJ/WD	Transport R/D	62389 Demarc Def. Delivery	71459 MID 17 Storage Pooling Point	98 Ogden Def. Delivery	71460 Ventura Def. Delivery	78126 Pleasant Valley Def. Delivery
FDD	WD	R	Not Impacted	Not Impacted	Not Impacted	Not Impacted	Not Impacted
			SBS Disabled	SBS Disabled	SBS Enabled	SBS Enabled	SBS Enabled
PDD	WD	R	Not Impacted	Not Impacted	Not Impacted	Not Impacted	Not Impacted
			SBS Disabled	SBS Disabled	SBS Disabled	SBS Disabled	SBS Disabled
IDD	WD	R	Not Impacted	Not Impacted	Not Impacted	Not Impacted	Not Impacted
			SBS Enabled	SBS Enabled	SBS Disabled	SBS Disabled	SBS Disabled
FDD	INJ	D	Not Impacted	Not Impacted	Not Impacted	Not Impacted	Not Impacted
			SBS Enabled	SBS Enabled	SBS Enabled	SBS Enabled	SBS Enabled
PDD	INJ	D	Not Impacted	Not Impacted	Not Impacted	Not Impacted	Not Impacted
			SBS Enabled	SBS Enabled	SBS Enabled	SBS Enabled	SBS Enabled

			Storage Point		
Rate Schedule	INJ/WD	Pool R/D	Demarc Pool Assoc. with 62389 Demarc Def. Delivery	MID 17 Pool Assoc. with 71459 MID 17 Storage Pooling Point	Ventura Pool Assoc. with 71460 Ventura Def. Delivery
FDD	WD	R	Not Impacted	Not Impacted	Not Impacted
			SBS Enabled	SBS Enabled	SBS Enabled
PDD	WD	R	Not Impacted	Not Impacted	Not Impacted
			SBS Enabled	SBS Enabled	SBS Enabled
FDD	INJ	D	Not Impacted	Not Impacted	Not Impacted
			SBS Enabled	SBS Enabled	SBS Enabled
PDD	INJ	D	Not Impacted	Not Impacted	Not Impacted
			SBS Enabled	SBS Enabled	SBS Enabled



Storage Locations

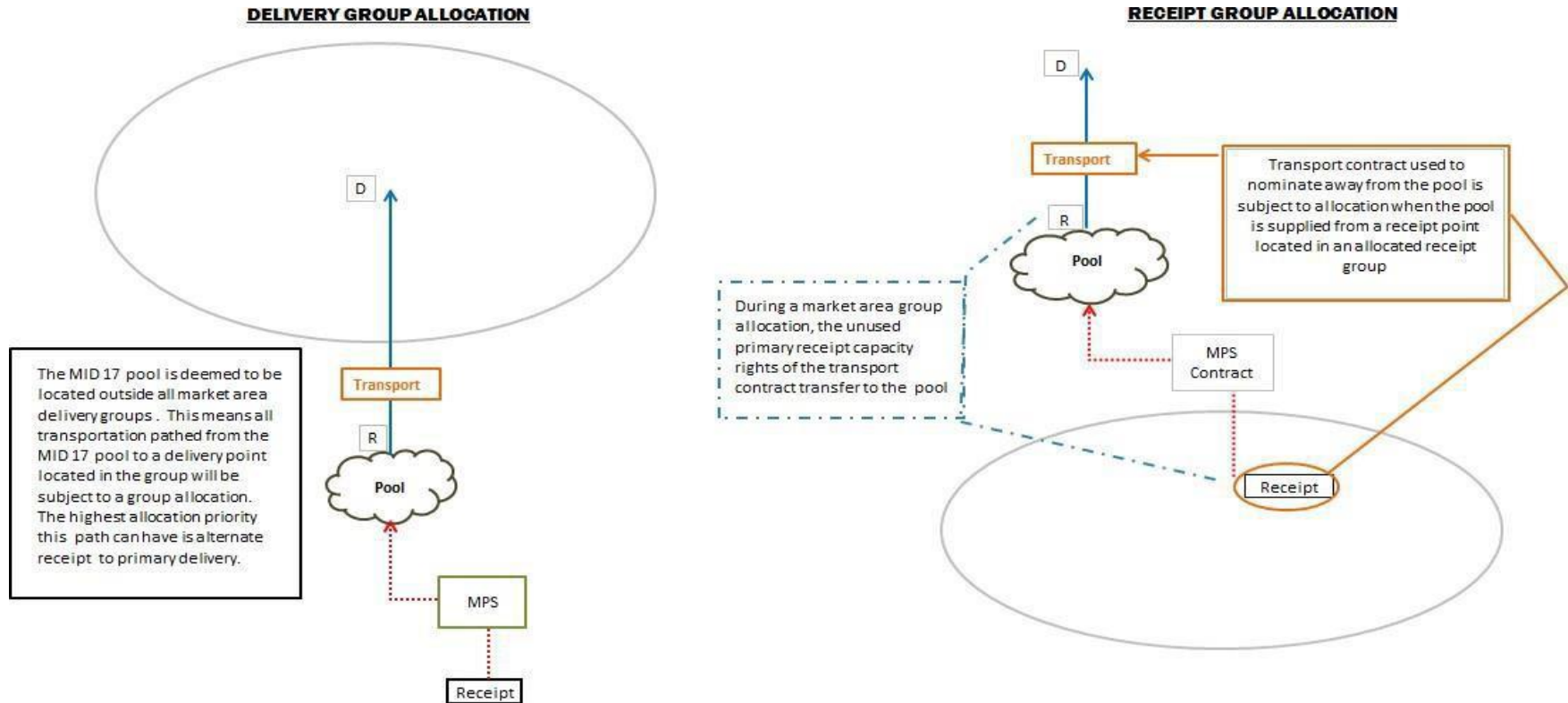


Treatment of Pooling Nominations in Group Allocations



- Northern does not allocate pooling contracts, instead Northern allocates the downstream transportation contracts following its normal allocation methodology; therefore, a pooling contract will never have an allocation reduction reason code
- Receipt Group Allocation – Allocable path is the transportation path sourcing from the pool; unused primary receipt capacity rights of the transportation contract transfer to the pool
- Market Area Pool Locations – MID 17 pool is outside all Market Area groups
 - Ventura Pool is located at the Ventura interconnect
 - Demarc Pool is located at Demarc
- In the Field Area, certain MID pools are located inside the group, while others are located outside the group. Pooling activity located inside the group is unaffected by the allocation of a delivery group
 - Refer to the Allocation of Capacity webpage for the detail group point list
<https://www.northernnaturalgas.com/support/allocationoverview>

Treatment of Pooling Nominations in Group Allocations



- The diagrams above depict rules for Market Area group allocations; the same general rules apply for Field Area group allocations

Priority Rankings for Pooling Nominations



- Nominations on pooling contracts are commonly affected by the following reduction reasons:
 - Pipeline Balancing Reduction
 - Reduction of pooling receipts or deliveries due to upstream or downstream nomination and/or scheduled quantities mismatches
 - Confirmation Reduction
 - Reduction of pooling receipt nominations by the point operator
- How does ranking priority affect pooling reductions?
 - If a pipeline balancing reduction occurs on the receipt side of the pool, the ranking priority on the delivery side will direct the reduction to the appropriate downstream contract
 - If a pipeline balancing reduction occurs on the delivery side of the pool, the ranking priority on the receipt side will direct the reduction to the appropriate upstream contract
 - If a confirmation cut reduces the pooling receipt quantity, the ranking priority on the delivery side will direct the reduction to the appropriate downstream contract

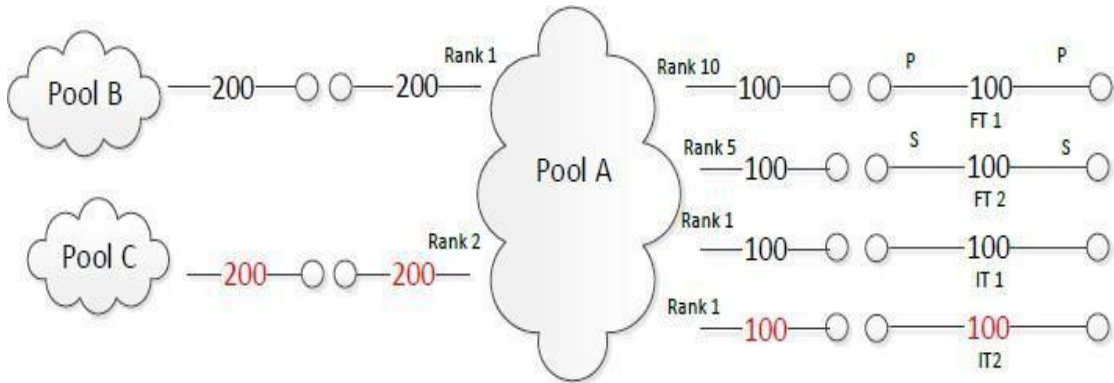
-
- The diagram shows a central cloud labeled "Pool A". To its left are two smaller clouds, "Pool B" and "Pool C".
- Pool B:** Connected to Pool A via a line with two nodes. The value "200" is written on the line on both sides of the nodes. The connection to Pool A is labeled "Rank 1".
 - Pool C:** Connected to Pool A via a line with two nodes. The value "200" is written on the line on both sides of the nodes. The connection to Pool A is labeled "Rank 2".
 - Pool A:** A large central cloud.
 - Output Streams:** Four lines originate from Pool A, each with two nodes and a value of "100" on the line.
 - Rank 10:** The top line, labeled "Rank 10" on the left. It ends with a node labeled "P" and "FT 1".
 - Rank 5:** The second line, labeled "Rank 5" on the left. It ends with a node labeled "S" and "FT 2".
 - Rank 1:** The third line, labeled "Rank 1" on the left. It ends with a node labeled "IT 1".
 - Rank 1:** The bottom line, labeled "Rank 1" on the left. It ends with a node labeled "IT 2".

-
- The diagram illustrates the concept of Pipeline Balancing. It shows three data pools (Pool B, Pool A, Pool C) connected by pipelines. Pool B has a pipeline with two nodes and a value of 100. Pool A has a pipeline with two nodes and a value of 100. Pool C has a pipeline with two nodes and a value of 200. The diagram is labeled "Pipeline Balancing".

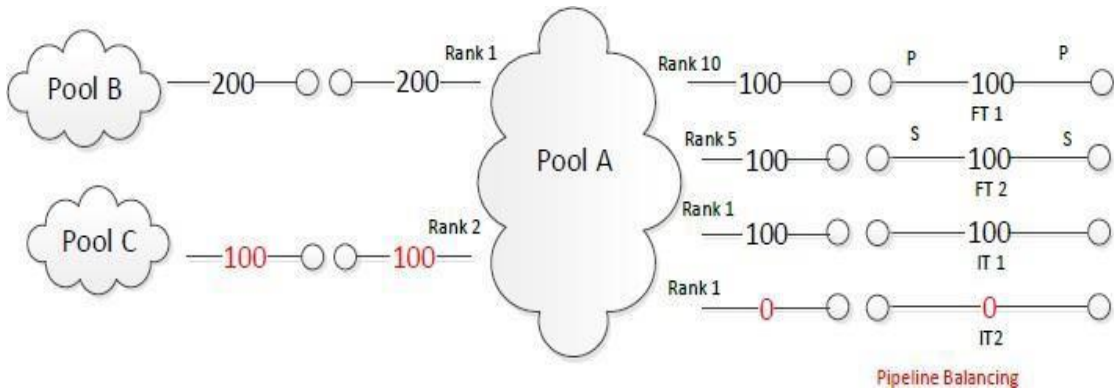
Appendix B – Downstream Pipeline Balancing Reduction



- Network prior to pipeline balancing reduction



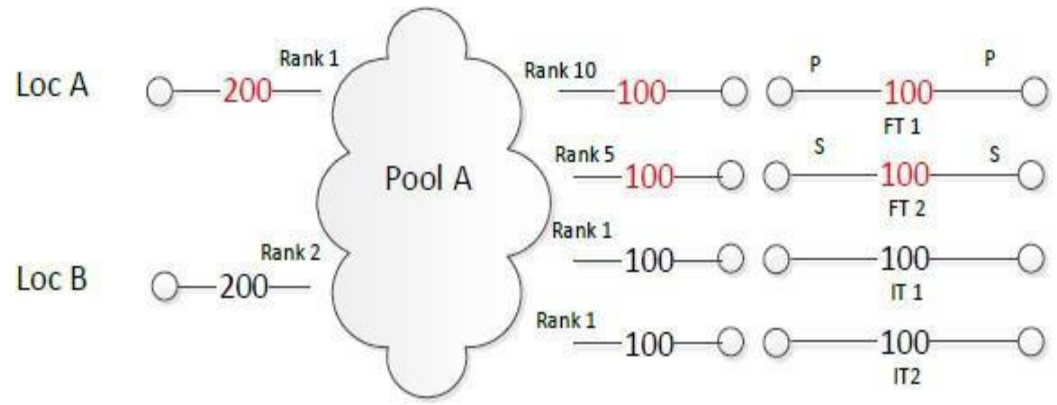
- Network after the pipeline balancing reduction



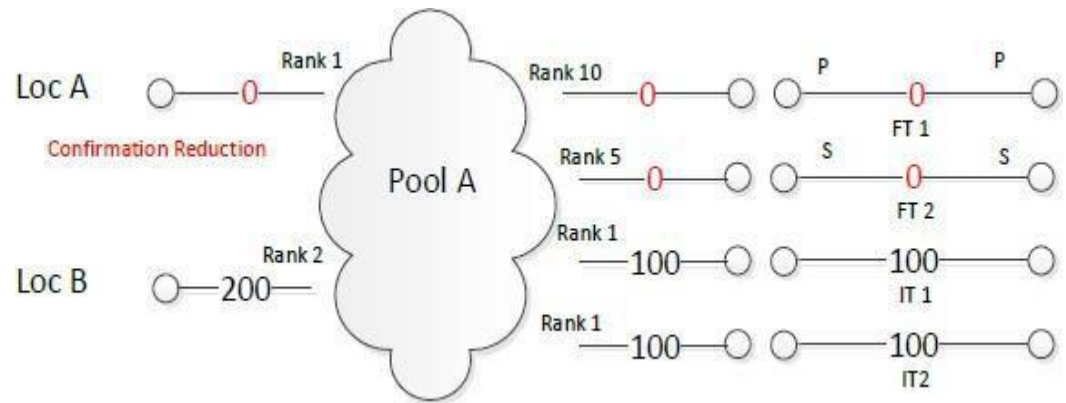
Appendix B – Confirmation Reduction at Receipt Location



- Network prior to the confirmation reduction



- Network after the confirmation reduction





Minimizing the Impact of Group Allocations

- Nominate from primary receipt points to primary delivery points in the Timely nomination cycle
 - If necessary, utilize redirect rights in subsequent nomination cycle
- Ensure nominations are balanced and submitted by the nomination deadline for each cycle
- Proactively monitor the Non-Critical Notices under Informational Postings on Northern’s website
 - These can be emailed directly to your inbox
- Monitor the Planned Service Outage Notices under Informational Postings on Northern’s website

[Previous Planned Service Outage Summary](#)

Planned Service Outage Summary – September 2023
(Posted - July 28, 2023)

Date of Notice Posting	Group/ Point	Group # / POI Impacted	Direction of Flow	Normal Operating Capacity	Gas Days beginning at 9 a.m. Estimated Operating Capacity during outage																													
					The dates indicated below are the anticipated days for the maintenance and modifications to be performed and completed. Dates with gray shading represent weekends or ICE trading holidays.																													
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Market Area					Pipeline Maintenance																													
2/23/2023	Ventura South	715	D	1130	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650	650													
East Leg					Pipeline and Station Maintenance																													
7/27/2023	Belleville East	488	D	225	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200		
Central Corridor					Pipeline and Station Maintenance																													
2/23/2023	Beatrice North	812	D	2000	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550	1550		
Field Area					Pipeline and Station Maintenance																													
2/23/2023	Field to Demarc	811	D	1627	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100		
7/27/2023	Spraberry Station	602	R	180	Station Maintenance 90 90										Station Maintenance 135 135																			
7/27/2023	Sunray Low	10	R	61	Station Maintenance ¹ 61 61 61																													
	Sunray High	32	R	325	Station Maintenance 230 230 230																													
7/27/2023	Beaver North	1025	D	975	Station Maintenance 840 840 840 840 840 840 840 840										Station Maintenance 800 800 800 800																			
	Beaver C & Beaver North	1080	D	480	Station Maintenance 435 435 435 435 435 435 435 435																													
	Brownfield North	1022	D	530	Station Maintenance 498 498 498 498 498 498 498 498																													
	Pampa North	1023	D	445	Station Maintenance 400 400 400 400 400 400 400 400																													
	Beaver C System	31	R	425	Station Maintenance 390 390 390 390 390 390 390 390																													
	PEPL/NGG Mullinville	173	R	80											Station Maintenance 0 0 0 0																			

Description of Notice Posting Date
No shading: Existing Planned Service Outage
Green shading: New Planned Service Outage/Force Majeure
Yellow shading: Updated/Revised Planned Service Outage
Gray shading: Returning to normal operating capacity levels

Direction of Flow
R = Receipt
D = Delivery

Impact to Primary Firm Service
Black font: Primary firm service will not be impacted
Blue font: Northern does not anticipate primary firm service will be impacted
Red font: Northern anticipates primary firm service will be impacted

Footnote
¹Station Maintenance: During the outage, Northern will not have operational flexibility to increase receipts in Sunray Low (Group 10).

All operating capacity is stated in 1,000's Dth/day
The operating capacities include the total of both transportation and operational storage capacity. Any unused operational storage capacity can be used for transportation volumes on a daily basis. Should conditions require Northern to use more of the operational storage capacity than anticipated, the operating capacities available for transportation will be reduced.

Daily Delivery Variance Charges (DDVCs)



- Shippers are required to take actual daily volumes at their delivery point(s) as close to daily scheduled volumes as possible. If actual daily volumes vary from daily scheduled volumes, Shippers are subject to Daily Delivery Variance Charges (DDVCs), after a tolerance has been considered.
- There are five (5) types of DDVCs: Positive DDVC, Positive/Critical Day DDVC, Negative DDVC, Punitive DDVC and Punitive/Critical Day DDVC.
- DDVC calculator and training materials are found on the Northern website under > Support > Training Materials. <https://www.northernnaturalgas.com/support/Pages/TrainingMaterials.aspx>

DDVC and SMS Information

- [DDVC Calculator and Input Guide](#)

The DDVC calculator provides customers an opportunity to create an example of how to determine a delivery point variance between scheduled and actual flow. The secondary tab identifies the supporting documents.

- [SMS Service Details](#)

- [SMS-DDVC Graph During SOL and Critical Days \(Other Than Small Customers\)](#)

This graph provides examples of Daily Delivery Variance Charges (DDVCs) for Other Than Small Customers during a System Overrun Limitations (SOL) Day or Critical Day as defined in Northern's tariff sheet No. 291

- [SMS-DDVC Graph During SOL and Critical Days \(Small Customers\)](#)

This graph provides examples of Daily Delivery Variance Charges (DDVCs) for Small Customers during a System Overrun Limitations (SOL) Day or Critical Day as defined in Northern's tariff sheet No. 291

- [SMS-DDVC Graph During Standard and SUL Days \(Small Customers\)](#)


This graph provides examples of Daily Delivery Variance Charges (DDVCs) for Small Customers during a System Underrun Limitations (SUL) or Standard Day as defined in Northern's tariff sheet No. 291

- [SMS-DDVC Graph During Standard or SUL Days \(Other Than Small Customers\)](#)

This graph provides examples of Daily Delivery Variance Charges (DDVCs) for Other Than Small Customers during a System Underrun Limitations (SUL) or Standard Day as defined in Northern's tariff sheet No. 291

DDVC Supporting Reports

- Reports are located in the Flowing Gas application under 'Supporting Details and Calculations'
 - The Non-Critical SMS/Delivery Point Variance Report and Critical SMS/Delivery Point Variance Report provides the data for the gas day that impacts daily delivery variance charges depending on the SOL/SUL/Critical day and SMS percentage that is called



Northern

Natural Gas

A BERKSHIRE HATHAWAY ENERGY COMPANY

Final

Non Critical SMS/Delivery Point Variance Report

Preparer ID: 784158214

Contact Name: Brough Pickrell

Recipient: 808703524

Statement Date/Time: March 10, 2022 03:44 PM

Preparer Name: NORTHERN NATURAL GAS COMPANY

Contact Phone: (402) 398-7432

Recipient Name: ABC Company

Svc Req Name: ABC Company

Svc Req Prop (LE): 123456

Svc Req: 011111111111

Accounting Period: FEBRUARY 2022

OIA: Market

Loc: 3124

Restricted Small Customer: No

Small Customer: No

Charge/Allowance Period: February 2022

Loc Name: ZONE D-ABC

Beg/ End Flow	Sol / Sul	SMS %	CUR %	BL/ Poi	Del Loc	Svc Req K	-----Scheduled-----			---Contract Quantities---			Tolerance Calc Qty	% SCHED Tol	SCHED Tolerance	SMS Used	Negative DDVC	Positive DDVC	Punitive DDVC
							Primary Qty	Interruptible Qty	Allocated Qty	Point MDQ	Point SMS	Variance							
02/02	SOL	50	NO	100	NO 3124	136868	0	0	0	3,500	0	0							
	SOL	50	NO	100	NO 3124	136869	0	0	0	350	0	0							
	SOL	50	NO	100	NO 3124	136870	0	0	0	265	0	0							
	SOL	50	NO	100	NO 62834	136868	3,500	0	3,500	0	200	0							
	SOL	50	NO	100	NO 62834	136869	350	0	350	0	0	0							
	SOL	50	NO	100	NO 62834	136870	265	0	265	0	0	0							
	SOL	50	NO	100	NO 62834	139265	768	0	887	0	0	119							
						Subtotal	4,883	0	5,002	4,115	200	119	4,883	4%	195	100	0	19	0

SMS/SOL and Critical Day DDVC Examples



Effective January 1, 2023

System Management Service Daily Delivery Variance Charges (DDVC) Examples for Other than Small Customers

SOL in Effect¹

Critical Day¹

	SMS Within Firm Entitlement	Firm Entitlement Scheduled	TI Scheduled or TF Overrun Scheduled w/o SMS Service		SMS Within Firm Entitlement	Firm Entitlement Scheduled	TI Scheduled or TF Overrun Scheduled w/o SMS Service
Actual Daily Quantity in Excess of Scheduled Quantity	<div> <div>Punitive DDVC Greater of 2x Index or \$21.275⁴</div> <div>Positive DDVC (5%)⁶ Greater of 1.25x Index or \$1.00</div> <div>FE</div> <div>Positive DDVC Greater of 1.25x Index or \$1.00</div> <div>SMS⁵ \$0.0208</div> <div>Tolerance² (4%)</div> <div>SQ</div> <div>Tolerance³ (5%)</div> <div>SMS \$0.0208</div> <div>Negative DDVC \$0.00</div> </div>	<div> <div>Punitive DDVC Greater of 2x Index or \$21.275⁴</div> <div>Positive DDVC (5%)⁶ Greater of 1.25x Index or \$1.00</div> <div>FE = SQ</div> <div>Positive DDVC (5%)⁶ Greater of 1.25x Index or \$1.00</div> <div>Tolerance² (5%)</div> <div>SMS \$0.0208</div> <div>Negative DDVC \$0.00</div> </div>	<div> <div>Punitive DDVC Greater of 2x Index or \$21.275⁴</div> <div>Positive DDVC (5%)⁶ Greater of 1.25x Index or \$1.00</div> <div>SQ</div> <div>Positive DDVC (5%)⁶ Greater of 1.25x Index or \$1.00</div> <div>Tolerance² (5%)</div> <div>Negative DDVC \$0.00</div> </div>	Actual Daily Quantity less than Scheduled Quantity	<div> <div>Punitive/Critical DDVC Level II Greater of 3x Index or \$113.00</div> <div>Punitive/Critical DDVC Level I (5%)⁷ Greater of 2x Index or \$56.50</div> <div>FE</div> <div>Positive/Critical DDVC (3%)⁸ Greater of 1.75x Index or \$22.00</div> <div>Positive/Critical DDVC (2%)⁸ Greater of 1.5x Index or \$15.00</div> <div>SQ</div> <div>Positive DDVC Greater of 1.5x Index or \$15.00</div> <div>SMS \$0.0208</div> <div>Tolerance² (3%)</div> <div>SMS \$0.0208</div> <div>Negative DDVC \$0.00</div> </div>	<div> <div>Punitive/Critical DDVC Level II Greater of 3x Index or \$113.00</div> <div>Positive/Critical DDVC Level I (5%)⁷ Greater of 2x Index or \$56.50</div> <div>FE = SQ</div> <div>Positive/Critical DDVC (3%)⁸ Greater of 1.75x Index or \$22.00</div> <div>Positive/Critical DDVC (2%)⁸ Greater of 1.5x Index or \$15.00</div> <div>Tolerance² (5%)</div> <div>SMS \$0.0208</div> <div>Negative DDVC \$0.00</div> </div>	<div> <div>Punitive/Critical DDVC Level II Greater of 3x Index or \$113.00</div> <div>Positive/Critical DDVC Level I (5%)⁷ Greater of 2x Index or \$56.50</div> <div>SQ</div> <div>Positive/Critical DDVC (3%)⁸ Greater of 1.75x Index or \$22.00</div> <div>Positive/Critical DDVC (2%)⁸ Greater of 1.5x Index or \$15.00</div> <div>Tolerance² (5%)</div> <div>Negative DDVC \$0.00</div> </div>

FE=Firm Entitlement⁴ SQ=Scheduled Quantities TF=Firm Transport

FE=Firm Entitlement⁴ SQ=Scheduled Quantities TF=Firm Transport

Footnotes:

- ¹ Includes customers who do not qualify as Small Customers under Northern's tariff. Index is equal to the highest published Platts "Gas Daily" Midpoint price on the applicable day at any of the applicable index points of: Market Area - Northern, demarc and Northern, Ventura; or Field Area - Panhandle, Tx.-Okla. and El Paso, Permian.
- ² Cannot exceed firm entitlement; tolerance is 4% of scheduled quantity for SOL days and 3% for Critical Days.
- ³ Cannot exceed firm entitlement; tolerance is 5% of scheduled quantity.
- ⁴ Firm entitlement (FE) is the sum of the legal entity's MDQ, alternate firm scheduled and overrun/interruptible scheduled. On a SOL day where primary scheduled is less than MDQ, FE is equal to MDQ.
- ⁵ SMS availability may be authorized above firm entitlement on SOL days. Such availability will be posted on Northern's website.
- ⁶ The volume to which Positive DDVC above Firm Entitlement (FE) applies is equal to 5% of FE for TF shippers if no TF overrun is scheduled and is equal to 5% of scheduled volume for TF shippers with TF overrun scheduled and for TI shippers.
- ⁷ The volume to which Punitive/Critical Level 1 applies is equal to the first 5% of all delivered volumes in excess of the Positive/Critical DDVC component.
- ⁸ Charge equal to five (5) times the SMS monthly reservation fee of \$4.235. Stipulation and Agreement of Settlement filed June 23, 2023.

DDVC Calculator



SMS/DDVC Penalty Calculator

INPUT DATA SECTION

Total Scheduled Volumes for		
Tolerance Calculations :	4,883	1=1A+1B
Legal Entity's Primary Firm Schd :	4,883	1A
Legal Entity's Alternate Firm Schd :	0	1A
Legal Entity's Overrun Schd :	0	1B
Legal Entity's Itlbl Schd :	0	1B
Legal Entity's MDQ :	4,115	2
Legal Entity's SMS :	200	3
Allocated Volume :	5,002	4
Critical Day (Y/N) :	N	5
SOL Day (Y/N) :	Y	6
Small Customer Point (Y/N) :	N	7
Restricted Small Customer (Y/N) :	N	8
SUL Day (Y/N) :	N	8
SMS Percent :	50%	9
Season (S/D/W) :	W	
Index Rate :	7.8500	

Penalty Volumes

	Rate	Dollars
Critical Day - Punitive DDVC Level II :	N/A	N/A
Critical Day - Punitive DDVC Level I :	N/A	N/A
Punitive DDVC :	None	N/A
Positive DDVC :	19	9.8125
Negative DDVC (Zero Rate) :	None	N/A
Total Penalty Volumes	19	Total \$ 186.44

Remaining Variance

Allocated =	5,002
Total Schd =	4,883
Variance =	119
4% Point Tolerance =	0
Postive SMS =	100
Remaining Variance	19

	Rate	Dollars
4% Point Tolerance =	0	
Postive SMS =	100	0.0208
Remaining Variance	19	2.08

Calculations

Entitled to Upper 4% Tolerance :	No
4% Upper Tolerance :	195
Entitled to Lower 5% Tolerance :	Yes
5% Lower Tolerance :	244
Legal Entity's Total Schd Vol :	4,883
* Firm Entitlement Line :	4,883
Upper 5% DDVC :	244

Upper DDVC	5,227
Upper Positive DDVC Level I	N/A
Upper SMS	4,983
Upper Free	4,883
Lower Free	4,639
Lower SMS	4,439

Calculator Data Example



Final

Non Critical SMS/Delivery Point Variance Report

Preparer ID: 784158214 Contact Name: Brough Pickrell Recipient: 806703524 Statement Date/Time: March 10, 2022 03:44 PM
 Preparer Name: NORTHERN NATURAL GAS COMPANY Contact Phone: (402) 398-7432 Recipient Name: ABC Company
 Svc Req Name: ABC Company Svc Req Prop (LE): 123456 Svc Req: 011111111111 Accounting Period: FEBRUARY 2022
 Restricted Small Customer: No 6 Small Customer: No 7
 OIA: Market Loc: 3124 Loc Name: ZONE D-ABC

Charge/Allowance Period: February 2022

Beg/ End Flow	Sol / Sul	SMS %	CUR %	BL/ Poi	Del Loc	Svc Req K	-----Scheduled-----			---Contract Quantities---			Tolerance Calc Qty	% SCHED Tol	SCHED Tolerance	SMS Used	Negative DDVC	Positive DDVC	Punitive DDVC	
							Primary Qty	Interruptible Qty	Allocated Qty	Point MDQ	Point SMS	Variance								
02/02	SOL	50	NO	100	NO	3124	136868	0	0	0	3,500	0	0	4,883	4%	195	100	0	19	0
	SOL	50	NO	100	NO	3124	136869	0	0	0	350	0	0							
	SOL	50	NO	100	NO	3124	136870	0	0	0	265	0	0							
	SOL	50	NO	100	NO	62834	136868	3,500	0	3,500	0	200	0							
	SOL	50	NO	100	NO	62834	136869	350	0	350	0	0	0							
	SOL	50	NO	100	NO	62834	136870	265	0	265	0	0	0							
	SOL	50	NO	100	NO	62834	130265	768	0	887	0	0	119							
						Subtotal	4,883	1A	0	1B	5,002	4	4,115	2	200	3				
02/03	SOL	0	NO	100	NO	3124	136868	0	0	0	3,500	0	0	4,883	4%	195	0	0	34	0
	SOL	0	NO	100	NO	3124	136869	0	0	0	350	0	0							
	SOL	0	NO	100	NO	3124	136870	0	0	0	265	0	0							
	SOL	0	NO	100	NO	62834	136868	3,500	0	3,500	0	200	0							
	SOL	0	NO	100	NO	62834	136869	350	0	350	0	0	0							
	SOL	0	NO	100	NO	62834	136870	265	0	265	0	0	0							
	SOL	0	NO	100	NO	62834	139265	768	0	802	0	0	34							
						Subtotal	4,883	0	4,917	4,115	200	34								
02/04	SOL	50	NO	100	NO	3124	136868	0	0	0	3,500	0	0	4,883	4%	195	93	0	0	0
	SOL	50	NO	100	NO	3124	136869	0	0	0	350	0	0							
	SOL	50	NO	100	NO	3124	136870	0	0	0	265	0	0							
	SOL	50	NO	100	NO	62834	136868	3,500	0	3,500	0	200	0							
	SOL	50	NO	100	NO	62834	136869	350	0	350	0	0	0							
	SOL	50	NO	100	NO	62834	136870	265	0	265	0	0	0							
	SOL	50	NO	100	NO	62834	139265	768	0	861	0	0	93							
						Subtotal	4,883	0	4,976	4,115	200	93								
02/12	SOL	100	NO	100	NO	3124	136868	0	0	0	3,500	0	0							

If the Tolerance Calc Qty is greater than the Variance quantity then data is not displayed for the gas day.

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TMS Mobile Application

TMS Mobile Screen

The screenshot shows a mobile application interface for 'LOCAL'. At the top, it says 'Welcome Fletcher McMeen' and 'Nomination Maintenance'. Below that, it displays 'TMS | TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY'. The main section is titled 'Retrieval Form' and contains the following fields:

- Gas Day:** A text input field with the value '09/01/2023'.
- Svc Req K:** A text input field with the value '142054' and a search icon.
- Svc Req/Name:** A text input field with the value '999999888 GIGGLES & GAS LLC'.
- Pool:** A dropdown menu with the value '-Select-'.

A 'Retrieve' button is located at the bottom right of the form. The bottom of the screen shows a standard mobile navigation bar with back, forward, and other icons.

- TMS Mobile will be implemented in early November 2023
- Four screens will be available initially: Nomination Maintenance, Nomination Reconciliation, Scheduled Quantities and Dashboard
- Easily access TMS nomination and scheduling functions from a cellphone or tablet
- Each implementation will include new screens to access in the application
- Access to the TMS Mobile application is located on the Business Applications page

TMS Mobile – Nomination Maintenance Grid Results



TMS Mobile

LOCAL Welcome Fletcher McMeen
Nomination Maintenance

TMS | TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY

Retrieval Form

Add

Cycle: Timely	Beg Date: 09/01/2023	End Date: 09/02/2023
Rec Loc:	Del Loc: 37654	TT: 08
Rec Qty:	Del Qty: 4000	Fuel Qty: 0
Up K:	Dn K: 142056	Pkg ID: GIGGLES
Up ID:	Dn ID: 999999888	FT
Rec Rank:	Del Rank: 500	Nom Trk ID:

Cycle: Timely	Beg Date: 09/01/2023	End Date: 09/02/2023
Rec Loc:	Del Loc: 37654	TT: 08
Rec Qty:	Del Qty: 14000	Fuel Qty: 0
Up K:	Dn K: 142064	Pkg ID: GIGGLES IT
Up ID:	Dn ID: 999999888	Nom Trk ID:
Rec Rank:	Del Rank: 2	

Cycle: Timely	Beg Date: 09/01/2023	End Date: 09/02/2023
Rec Loc: 37654	Del Loc:	TT: 08
Rec Qty: 4000	Del Qty:	Fuel Qty: 0

Gas Day: 09/01/2023 Total Del Qty: 18000

Total Rec Qty: 18000 Total Fuel Qty: 0

Current Mobile View

MO1 TMS | TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY

Main Nomination Confirmation

Gas Day:* 09/01/2023 Svc Req K:* 142054 (\$)

Pool:*
NNG FIELD/MKT DE

☐ Display Names

Drag here to set row groups

Cycle	Beg Date 2 ↓	End Date	Rec Loc
Timely	09/01/2023	09/02/2023	
Timely	09/01/2023	09/02/2023	
Timely	09/01/2023	09/02/2023	37654
Timely	09/01/2023	09/02/2023	37654
Timely	09/01/2023	09/02/2023	37654

Gas Day: 09/01/2023

Total Receipt Qty: 18,000

Total Delivery Qty: 18,000

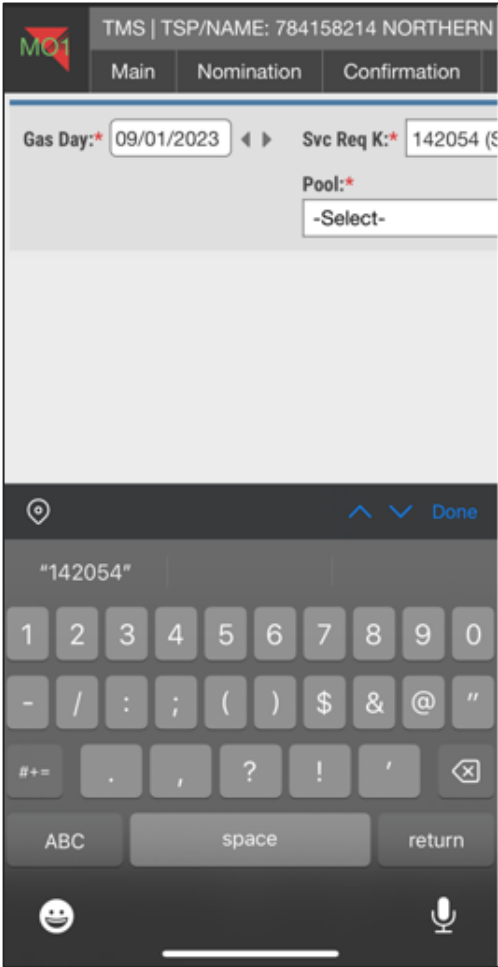
TMS Mobile Nomination Maintenance – Retrieval Form

TMS Mobile



The screenshot shows the TMS Mobile application interface. At the top, a header bar displays the 'LOCAL' logo, a welcome message 'Welcome Fletcher McMeen Nomination Maintenance', and a menu icon. Below this, a blue bar contains the text 'TMS | TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY'. The main content area is titled 'Retrieval Form' and contains several input fields: 'Gas Day:*' with a date picker set to '09/01/2023', 'Svc Req K:*' with a text input '142054' and a search icon, 'Svc Req/Name:' with the text '999999888 GIGGLES & GAS LLC', and 'Pool:*' with a dropdown menu showing '-Select-'. A 'Retrieve' button is located at the bottom right of the form. The bottom of the screen shows a standard mobile navigation bar with back, forward, and other icons.

Current Mobile View



The screenshot shows the 'Current Mobile View' of the TMS application. The top header bar displays the 'MQ1' logo and the text 'TMS | TSP/NAME: 784158214 NORTHERN'. Below this, a navigation bar has three tabs: 'Main', 'Nomination', and 'Confirmation'. The main content area shows the 'Gas Day:*' field with a date picker set to '09/01/2023', the 'Svc Req K:*' field with the value '142054', and the 'Pool:*' dropdown menu showing '-Select-'. A keyboard is visible at the bottom of the screen, with the text '142054' entered in the input field. The bottom of the screen shows a standard mobile navigation bar with back, forward, and other icons.

TMS Mobile Nomination Maintenance – Add New Nomination

TMS Mobile

Beg Date:*

End Date:*

TT/Desc:*

RECEIPT

PATHED

DELIVERY

PRIMARY REC LOC

Rec Loc:*

Rec Loc Name:

UP K:*

UP ID:*

Up Name:

Rec Qty:*

Rec Rank:*

PRIMARY DEL LOC

Del Loc:*

Del Loc Name:

Gas Day:09/01/2023

Total Del Qty: 18000

Total Rec Qty: 18000

Total Fuel Qty: 0

Current Mobile View

Main

Nomination

Confirmation

Gas Day:*

09/01/2023

Svc Req K:*

142054 (S

Pool:*

MID 6 POOLING PO

Beg Date:*

09/01/2023

End Date:*

09/30/2023

TT/Desc:*

08 - Pool

Rec Lc

Rec Lc

Up K:*

Up ID:

Up Na

Display Names

Drag here to set row groups

Cycle	Beg Date ²	End Date	Rec Loc
-------	-----------------------	----------	---------

TMS Mobile Nomination Reconciliation

TMS Mobile

LOCAL Welcome Fletcher McMeen
Nomination Reconciliation

TMS | TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY

Retrieval Form

User can collapse either form

Filters

View Type: All Nominations

View By: All Locations

Svc Req K Type: All Contracts

Svc Req/Name: All Entities

Svc Req K:	142053	Rate Sch:	FDD
Loc:	98	K Flo:	R
Loc Name:	OGDEN DEF. DELIVERY		
Up/Dn K:	142056	Up/Dn ID:	999999888
Nom Qty:	3,762	Svc Req:	999999888
Up/Dn K Nom Qty:	3,963	Nom Diff:	-201
Conf Qty:		Conf Diff:	
Sched Qty:	3,762	Sched Diff:	0
Svc Req K:	142053	Rate Sch:	FDD
Loc:	98	K Flo:	R
Loc Name:	OGDEN DEF. DELIVERY		

Current Mobile View

MO1 TMS | TSP/NAME: 784158214 NORTHERN

Main Nomination Confirmation

Gas Day: 09/01/2023

Cycle: Timely

View By: Svc Req Prop

14790

Svc Req/Name: 999999888 GIGGLES & GAS LLC

FILTERS > View Type: All Nominations

Svc Req/Name: All Entities

☒ Hide Zero Nom Qty Records

Drag here to set row groups

Svc Req K	Rate Sch	Loc	
142053	FDD	98	OGDEN DE
142053	FDD	98	OGDEN DE
142054	MPS	37654	NING FIEL
142054	MPS	37654	NING FIEL
142054	MPS	37654	NING FIEL
142054	MPS	37654	NING FIEL
142055	MPS	192	NBPL/NN
142055	MPS	78623	VENTURA

Appendix



Appendix A – TMS Reports Highlights

Appendix B – Allocation of Capacity - informational resources



Appendix A – Cycle Process Status Screen

- The Cycle Process Status screen can be used to view preliminary scheduled quantities throughout the nomination processing cycle and allocation information
 - Refreshes every 30 seconds
- Cycle Process Status is located under Main Tab > Cycle Process Status

Gas Day: 09/09/2021		
Cycle	Start Date/Time	
Timely Cycle		
Cycle Started	09/08/2021 1:25 PM	
Balancing Completed	09/08/2021 1:25 PM	
Throughput Allocated	09/08/2021 1:27 PM	
Confirmations Completed	09/08/2021 4:35 PM	
Storage Allocated (Injection)	09/08/2021 4:36 PM	
Cycle Completed	09/08/2021 4:42 PM	
Notifications Completed	09/08/2021 4:45 PM	
Evening Cycle		
Cycle Started	09/08/2021 6:25 PM	
Balancing Completed	09/08/2021 6:25 PM	
Throughput Allocated	09/08/2021 6:27 PM	
Storage Allocated (Injection)	09/08/2021 6:41 PM	
Confirmations Completed	09/08/2021 8:35 PM	
Cycle Completed	09/08/2021 8:37 PM	
Notifications Completed	09/08/2021 8:40 PM	
Non-Grid A.M. Cycle		
Cycle Started	09/09/2021 7:25 AM	
Balancing Completed	09/09/2021 7:25 AM	
Throughput Allocated	09/09/2021 7:28 AM	
Storage Allocated (Injection)	09/09/2021 7:42 AM	
Confirmations Completed	09/09/2021 8:05 AM	
Cycle Completed	09/09/2021 8:07 AM	
Notifications Completed	09/09/2021 8:10 AM	

Gas Day: 09/09/2021		
Cycle	Start Date/Time	
Timely Cycle		
Cycle Started	09/08/2021 1:25 PM	
Balancing Completed	09/08/2021 1:25 PM	
Throughput Allocated	09/08/2021 1:27 PM	
Confirmations Completed	09/08/2021 4:35 PM	
Storage Allocated (Injection)	09/08/2021 4:36 PM	
Cycle Completed	09/08/2021 4:42 PM	
Notifications Completed	09/08/2021 4:45 PM	
Evening Cycle		
Cycle Started	09/08/2021 6:25 PM	
Balancing Completed	09/08/2021 6:25 PM	
Throughput Allocated	09/08/2021 6:27 PM	
Storage Allocated (Injection)	09/08/2021 6:41 PM	
Confirmations Completed	09/08/2021 8:35 PM	
Cycle Completed	09/08/2021 8:37 PM	
Notifications Completed	09/08/2021 8:40 PM	
Non-Grid A.M. Cycle		
Cycle Started	09/09/2021 7:25 AM	
Balancing Completed	09/09/2021 7:25 AM	
Throughput Allocated	09/09/2021 7:28 AM	
Storage Allocated (Injection)	09/09/2021 7:42 AM	
Confirmations Completed	09/09/2021 8:05 AM	
Cycle Completed	09/09/2021 8:07 AM	
Notifications Completed	09/09/2021 8:10 AM	

Appendix A – Zone Percentages

- The percentage of the zone point nomination that is subject to allocation within a given allocation group
- This screen shows the contract zone percentage rights for each applicable allocation group
- To view the Zone Percentages screen, select **Nominations** > **Zone Percentages**
- Filter by *Group*, zones and corresponding contracts with Zone MDQ will be listed first
- If you are delivering to a zone without contracted MDQ, a weighted average zone percentage is listed for each allocation group

TMS TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY								
Main Nomination Confirmation Scheduled Quantity Storage Administration								
Zone Percentages								
Gas Day: 09/11/2021 Cycle: Timely View By: Svc Req Prop 14746 Svc Req/Name: 123456789 ABC COMPANY Retrieve								
Group	Group Name	Loc Zn	Loc Zn Nr	Svc Req K *	Svc Req Name	Svc Req	Loc Zn MDQ	Zone Pct
463 (5)								
487 (13)								
488 (4)								
581 (31)								
583 (45)								
585 (19)								
735 (37)								
	VENTURA SOUTH A..	3044	ZONE D-B...	138821	ABC COMPANY	123456789	5,000	80
	VENTURA SOUTH A..	3044	ZONE D-B...	138822	ABC COMPANY	123456789	1,000	100
	VENTURA SOUTH A..	3077	ZONE AB...	138821	ABC COMPANY	123456789	5,000	100
	VENTURA SOUTH A..	3077	ZONE AB...	138822	ABC COMPANY	123456789	2,500	100
	VENTURA SOUTH A..	3026	ZONE EF ...	0			773,298	8.4806
	VENTURA SOUTH A..	3044	ZONE D-B...	0			55,551	98.1999
	VENTURA SOUTH A..	3049	ZONE D-C...	0			930	100
	VENTURA SOUTH A..	3050	ZONE E/F...	0			307,483	0.4104
	VENTURA SOUTH A..	3055	ZONE AB...	0			79,283	100

Weighted Average

Appendix A – Scheduled Quantities



Scheduled Quantities Screen: Scheduled Quantity Tab > Scheduled Quantities

TMS | TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY Welcome: Jason Warnemunde

Main Nomination Confirmation **Scheduled Quantity** Storage Administration

Gas Day: 09/30/2021 Svc Req K: 138821 (FT/TFX) Svc Req/Name: 123456789 ABC COMPANY Market MDQ: 10,000 Retrieve

Cycle: Timely

☒ Hide Zero Qty Records ☒ Summary View ☐ Display Names R/D Totals

Drag here to set row groups

Rec Loc ↓	Up ID	Up K	Nom Rec Qty	(Sched) Rec Qty	Rec Rank	Del Loc	Dn ID	Dn K	Nom Del Qty	(Sched) Del Qty	Del Rank	Pkg ID	RR	Nom Fuel Qty	(Sched) Fuel Qty	TT	Proc Right	Nom Trk ID	Created By	Updated By
192	111111111	120342	6,000	6,000	500	3044	999999999	138821	5,956	5,956	500	TEST		44	44	01	No		System	System

Uncheck the Summary View filter to view capacity type (Cap Type) detail as shown below

TMS | TSP/NAME: 784158214 NORTHERN NATURAL GAS COMPANY Welcome: Jason Warnemunde

Main Nomination Confirmation **Scheduled Quantity** Storage Administration

Gas Day: 09/30/2021 Svc Req K: 138821 (FT/TFX) Svc Req/Name: 123456789 ABC COMPANY Market MDQ: 10,000 Retrieve

Cycle: Timely

☒ Hide Zero Qty Records ☐ Summary View ☐ Display Names R/D Totals

Drag here to set row groups

Rec Loc ↓	Up ID	Up K	(Sched) Rec Qty	Rec Rank	Del Loc	Dn ID	Dn K	(Sched) Del Qty	Del Rank	Pkg ID	RR	Cap Type	(Sched) Fuel Qty	TT	Proc Right	Nom Trk ID	Created By	Updated By
192	111111111	120342	963	500	3044	999999999	138821	956	500	TEST		PS	7	01	No		System	System
192	111111111	120342	5,037	500	3044	999999999	138821	5,000	500	TEST		PP	37	01	No		System	System

Appendix A – Firm Contract Usage Summary

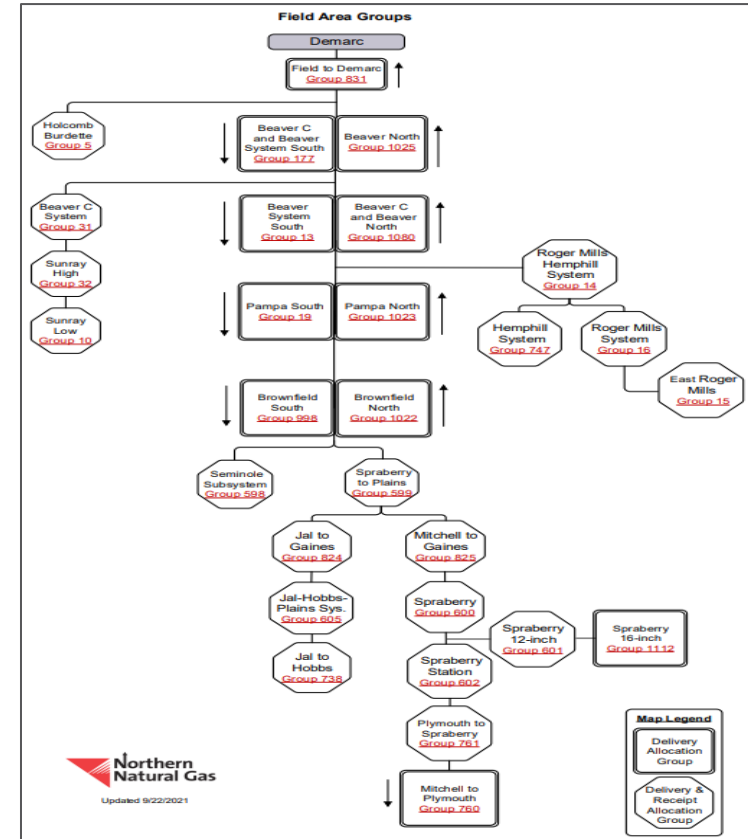
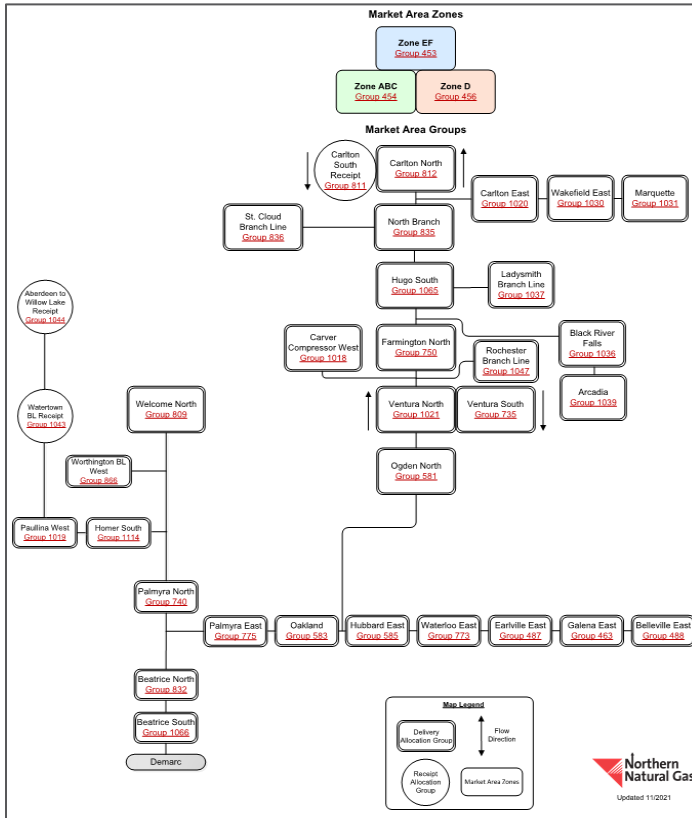


- This report is a summary of contracted, nominated and remaining MDQ for all firm transport and storage contracts
- Report can be generated for any gas day and cycle; data can be grouped by receipt or delivery location
- Report is located under Nomination Tab > Reports > Firm Contract Usage Summary

Firm Contract Usage Summary																
TSP/Name: 784158214 NORTHERN NATURAL GAS COMPANY				Gas Day: 02/07/2021				Cycle: Final A.M.				Stmnt D/T: 09/08/2021 12:32 PM				
Svc Req K: 100123 (FT/TF)			Svc Req/Name: 031372049 CITY OF PARADISE, MN								Agent/Name: 209903524 _ABC COMPANY					
Rec Loc	Rec Loc Name	Rec Rank	Up ID	Up K	Del Loc	Del Loc Name	Del Rank	Dn ID	Dn K	TT	Source	Nom Receipt Time	Updated By	Nom Rec Qty	Nom Del Qty	Nom Fuel Qty
98	OGDEN DEF. DELIVERY	1	209903524	111348	3115	ZONE E-F-PARADISE	1	209903524	000000	01	EDI	02/08/2021 07:44:57 AM	EDIUSE	450	450	0
98	OGDEN DEF. DELIVERY	1	209903524	113708	3115	ZONE E-F-PARADISE	1	209903524	000000	01	EDI	02/08/2021 07:44:57 AM	EDIUSE	0	0	0
													Loc 98 Total:	450	450	0
388	GRLKS/NNG CARLTON	1	209903524	MC17487	3115	ZONE E-F-PARADISE	1	209903524	000000	01	EDI	02/08/2021 07:44:57 AM	EDIUSE	0	0	0
													Loc 388 Total:	0	0	0
37654	NNG FIELD/MKT DEMARCAION	1	21372048	123909	98	OGDEN DEF. DELIVERY	1	21372048	113708	01	EDI	02/08/2021 07:44:57 AM	EDIUSE	0	0	0
37654	NNG FIELD/MKT DEMARCAION	1	209903524	123909	3115	ZONE E-F-PARADISE	1	209903524	000000	01	EDI	02/08/2021 07:44:57 AM	EDIUSE	2,596	2,565	31
													Loc 37654 Total:	2,596	2,565	31
78623	VENTURA POOLING POINT (MID)	1	21372048	123907	98	OGDEN DEF. DELIVERY	1	21372048	113708	01	EDI	02/08/2021 07:44:57 AM	EDIUSE	0	0	0
78623	VENTURA POOLING POINT (MID)	1	209903524	123907	3115	ZONE E-F-PARADISE	1	209903524	000000	01	EDI	02/08/2021 07:44:57 AM	EDIUSE	0	0	0
													Loc 78623 Total:	0	0	0
													Contract Total:	3,046	3,015	31
												Contract: 100123	MARKET			
												Contracted MDQ:	4,000			
												Used MDQ:	3,015			
												Remaining MDQ:	985			
Note: Report excludes firm transportation contracts w hose contracted MDQ is zero.																

Note: Report excludes firm transportation contracts whose contracted MDQ is zero.

Appendix B – Allocation of Capacity Overview Page



- A map for each Market and Field Area allocation group can be viewed by clicking on the applicable group's hyperlink within the diagrams
- Within each map, a customer can view, print and/or download a complete list of the receipt and delivery points included in the selected group

Appendix B – Allocation of Capacity

Overview Page (continued)



Market Area Group Allocation Documentation

- [Group Allocation Receipt Points Not Impacted](#)
Table identifying receipt points not impacted in market area group allocations.
- [Market Area Group Allocation Overview](#)
This document contains information regarding group allocations in the Market Area. Northern performs group level allocations when transportation activity exceeds the available physical pipeline capacity entering or exiting a defined group of points.
- [Storage Group Relationships to Transportation Allocations](#)
- [Zones in Allocation Groups](#)
This document contains lists which identify the applicable allocation groups for each point and zone

Field Area Group Allocation Documentation

- [Field Area Allocation Overview](#)
This document contains information regarding group allocations in the Field Area. Northern performs group level allocations when transportation activity exceeds the available physical pipeline capacity entering or exiting a defined group of points.

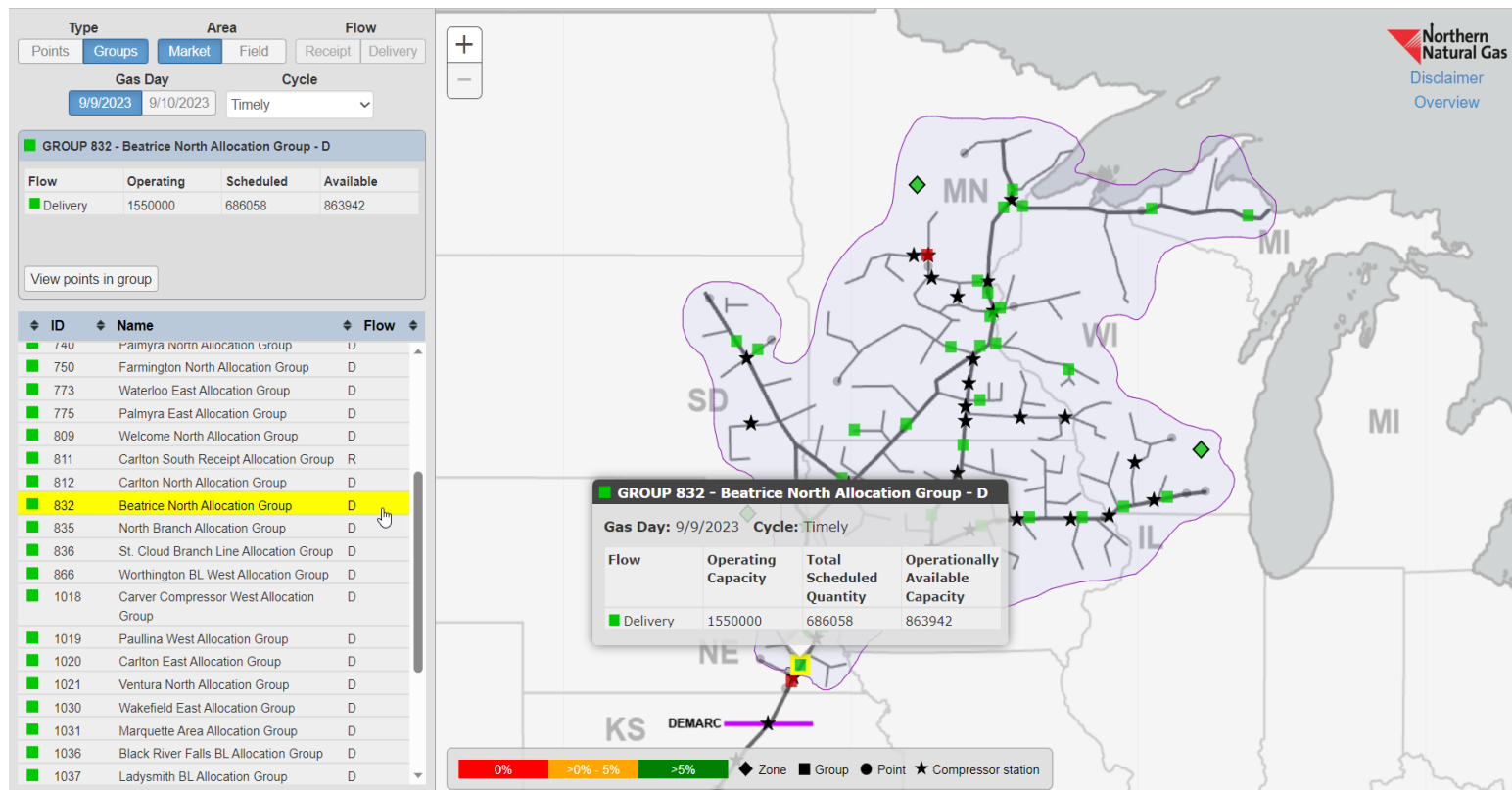
- Includes useful information to help customers better understand Northern's allocation process and recognize which nominations could be impacted when a specific Market or Field Area group is allocated
- Additional information for each specific allocation group can be found within the *Market Area Group Allocation Overview* document and the *Field Area Group Allocation Overview* document. The information includes:
 - The receipt points that are impacted and those that are not impacted when the selected group is allocated
 - A matrix which illustrates how storage usage from nominated paths and Storage Balancing Service (SBS) activity is impacted when the selected group is allocated

Appendix B – Operationally Available Capacity Map



Information found on the capacity map is identical to the information found on the OAC page map

Loc	Loc Zn	Loc Name	Flow Ind	Loc/QTI	Loc Purp Desc	All Qty Avail	Design Capacity	Operating Capacity	Total Scheduled Quantity	Operationally Available Capacity
Group Locations										
832		BEATRICE NORTH ALLOCATION GROUP	D	DPQ	Delivery Location	Y	2000000	1550000	686058	863942



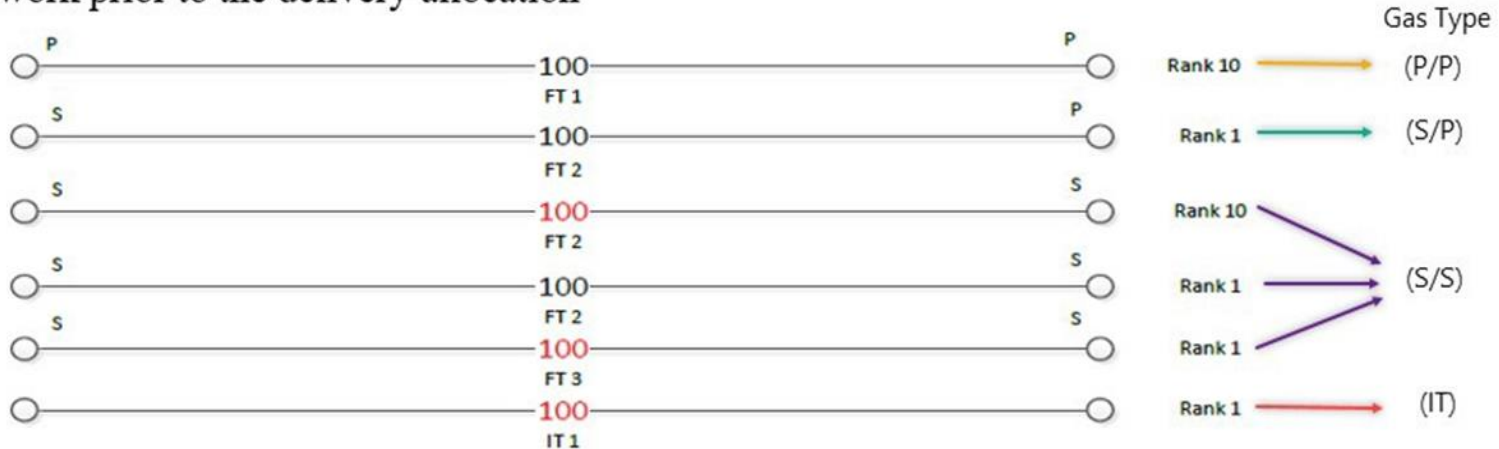
Appendix B – Priority Rankings for Transportation Nominations



- Nominations on transportation contracts are commonly affected by the following reduction reasons:
 - Allocation Reduction
 - Reduction of transportation path due to capacity constraints at specific point or group locations
 - Pipeline Balancing Reduction
 - Reduction of transportation path due to upstream or downstream nomination and/or scheduled quantities mismatches
 - Confirmation Reduction
 - Reduction of transportation path by the receipt and/or delivery point operator
- How does ranking priority affect transportation nominations?
 - If an allocation reduction occurs, the system allocates based on **gas type**. Rankings are only evaluated when there are multiple paths that are considered within the same gas type bucket and within the **same** contract in which the reduction will affect the lowest priority
 - If a pipeline balancing reduction occurs due to an upstream or downstream mismatch of nominations and/or scheduled quantities, rankings are only evaluated when there are multiple paths receipting from or delivering to the source of the reduction
 - If a confirmation reduction occurs by the point operator at a receipt or delivery point, rankings are only evaluated when there are multiple paths receipting from or delivering to the point with the same upstream (receipt) or downstream (delivery) contract in which the reduction will affect the lowest priority

Example – Priority Rankings for Transportation Nominations

- Network prior to the delivery allocation



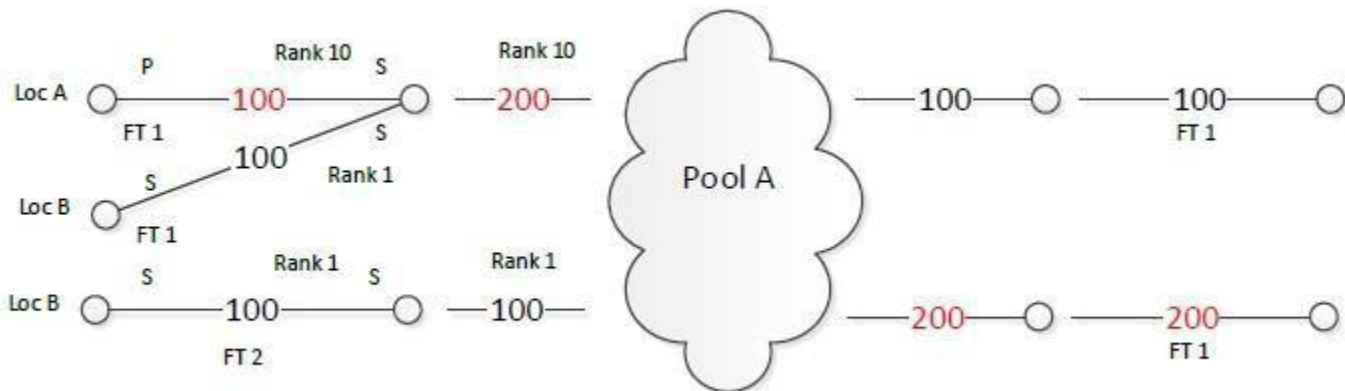
- Network after the delivery allocation



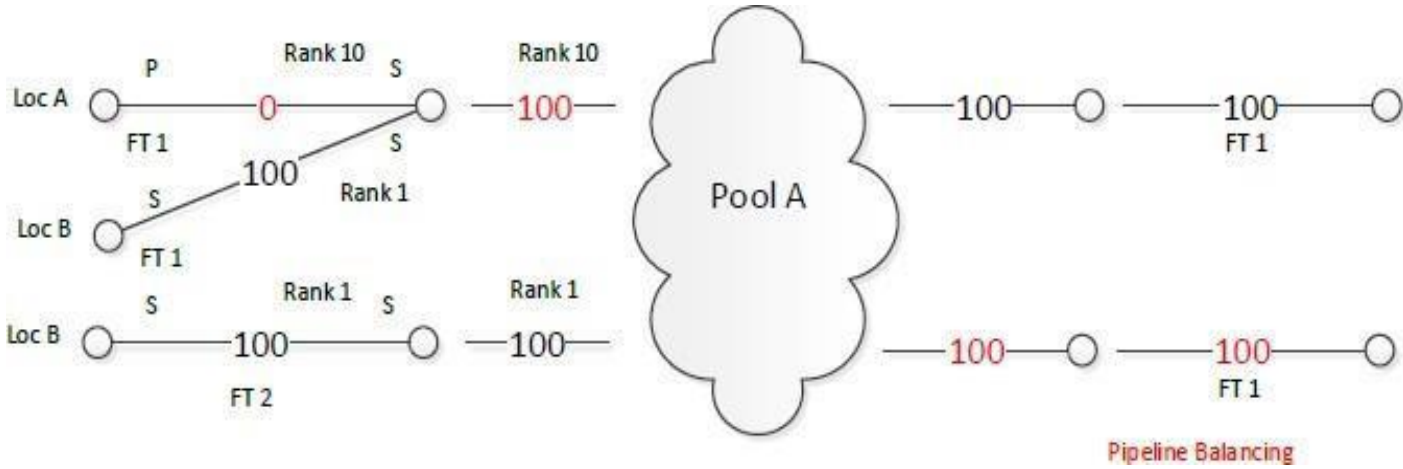
Appendix B – Downstream Pipeline Balancing Reduction



- Network prior to pipeline balancing reduction



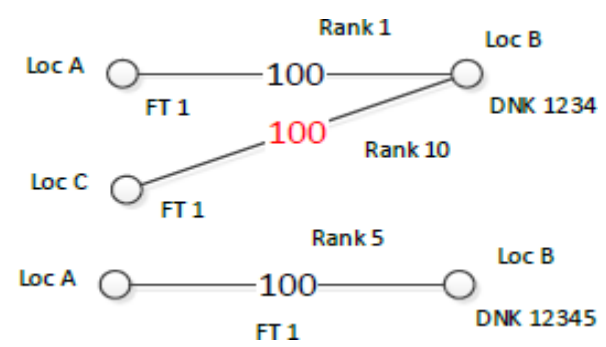
- Network after the pipeline balancing reduction



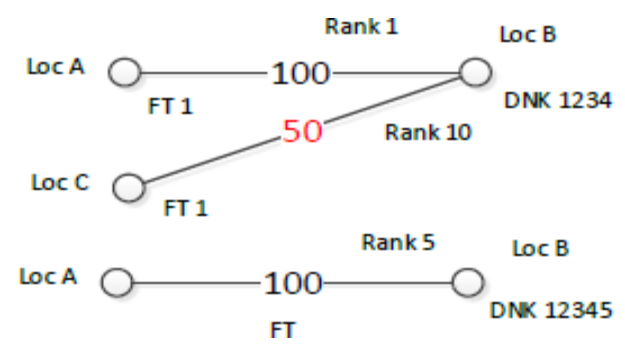
Appendix B – Confirmation Reduction at Delivery Location



- Network prior to confirmation reduction



- Network after the confirmation reduction



Operator Confirmation Reduction at Loc B of 50 Dth

Appendix B – Alternate Receipt/Delivery Flexibility Rules



- When a group is allocated in a given cycle, those contracts that scheduled quantities through the point of constraint earn flowing rights (redistribution of flowing rights)
- The flowing rights that are earned by a contract cannot be transferred to another contract or between different transaction types within the same contract
- A shipper has the right to redirect scheduled quantities to:
 - Other primary or secondary **receipt points upstream** of the constraint point within any of Northern's subsequent nomination cycles for the gas day
 - Other primary or secondary **delivery points downstream** of the constraint point in any of Northern's subsequent nomination cycles for the gas day
- During Northern's allocation process in the subsequent cycle(s), each contract's current cycle nominations are evaluated against scheduled quantities through the constraint point from the previous cycle
 - If the total of current cycle nominations through the constraint point does not exceed the previous cycle scheduled quantity, subject to the availability of capacity and operator confirmation at the new receipt or delivery point, all nominations will be scheduled
 - If the redirected quantity cannot be scheduled at the new receipt or delivery point, then the flowing rights for the quantity that does not schedule are forfeited
 - If the redirected quantities no longer pass through the constraint point, then the previously earned flowing rights are forfeited
- If you are unsure or have questions regarding the impact of existing allocations to intraday nomination changes, please contact your customer service representative prior to making the adjustments

