Summer 2025 Customer Meeting

June 16, 2025

Northern Natural Gas

Customer Commitment

Vision Statement

- To be the preferred provider of natural gas transportation and storage services based on our integrity, operational excellence, financial strength and environmental responsibility

Mission Statement

- We are in business to serve our customers. Fairly. Efficiently. Reliably.

These statements mean that

- You will get what we promise on time
- We will share the purpose behind our actions
- We will commit to making it easy to do business with us
- We will negotiate and perform in good faith
- We will continue to invest in the pipeline in order to provide you highly reliable service and to meet your future growth needs

-Permanent Partners-

- Mutually beneficial relationships based on our core principles, not quarter over quarter profits
- Perform necessary due diligence, but maintain an attitude of partnership
- No surprises either way
- Frank, candid discussions
- Seek balanced outcomes

Why Six Core Principles and the focus on Permanent Partnerships? SUSTAINABILITY

Why is Northern Filing a Rate Case?

- Northern Natural Gas is filing this rate case due to the significant capital being invested in its pipeline system to comply with pipeline safety requirements and maintain reliability of its service to customers

- Northern's last section 4 rate case was filed July 1, 2022, in Docket No. RP22-1033, and was settled in 2023, with a Commission order approving the settlement September 7, 2023

- Northern is in the midst of a generational capital investment program to update and modernize its pipeline system
  - Northern's first pipeline began serving customers in 1930, with significant expansions in the 1940s through 1960s
  - The A-line, which is the original pipeline installed, is in the process of being abandoned (628 miles abandoned through 2025, with another 106 miles to be abandoned in 2027)
  - Other vintage pipeline and obsolete compressor units that are no longer serviced by the original manufacturer are being replaced

Asset Modernization Activity

- Northern began discussions as early as 2014 with its customers to advise of the need to modernize its pipeline system; however, Northern was unsuccessful in achieving a consensus for an asset modernization tracker
- By the end of 2034, Northern anticipates having invested $4.5 billion in asset modernization since the program began. Northern will have invested $2 billion by the end of 2025
- More recently, since the last rate case, and estimated through the end of 2025, Northern will have invested $1.6 billion in asset modernization and maintenance capital that is not recovered in current rates, driving an approximately $1.1 billion increase to rate base (27% increase from the last case)
- Northern has discussed potential interest in a pre-filed settlement with several customers to determine whether a pre-filed settlement with customers could be achieved. Feedback from these discussions, however, was not positive
- Due to continued asset modernization investment, another rate case is likely to be required within the next few years unless depreciation rates are increased to offset the investment

Section 4 Filing – Abbreviated Timeline

- Northern filed the rate case on July 1, 2025

Rate Base as of December 31, 2025

- Due primarily to asset modernization and other maintenance capital investment, Northern's rate base will have increased by $1.1 billion since Northern's last rate case
- Northern's capital expenditures have significantly outpaced annual depreciation expense

Rate Base Items	RP25-Dec-25	Dec-22
[a]	[b]	[c]
(In millions)		
Gross Plant In Service	$ 8,115.8	$ 6,629.6
Accumulated Depreciation, Depletion & Amortization	(1,849.9)	(1,541.9)
Net Plant In Service	6,265.9	5,087.7
Regulatory Assets and Liabilities	(286.8)	(324.7)
Materials, Supplies and Prepayments	126.6	73.8
Accumulated Deferred Taxes	(865.2)	(713.6)
Total Rate Base	$ 5,240.5	$ 4,123.2
	Increase	$ 1,117.3
	Percentage Change	27%

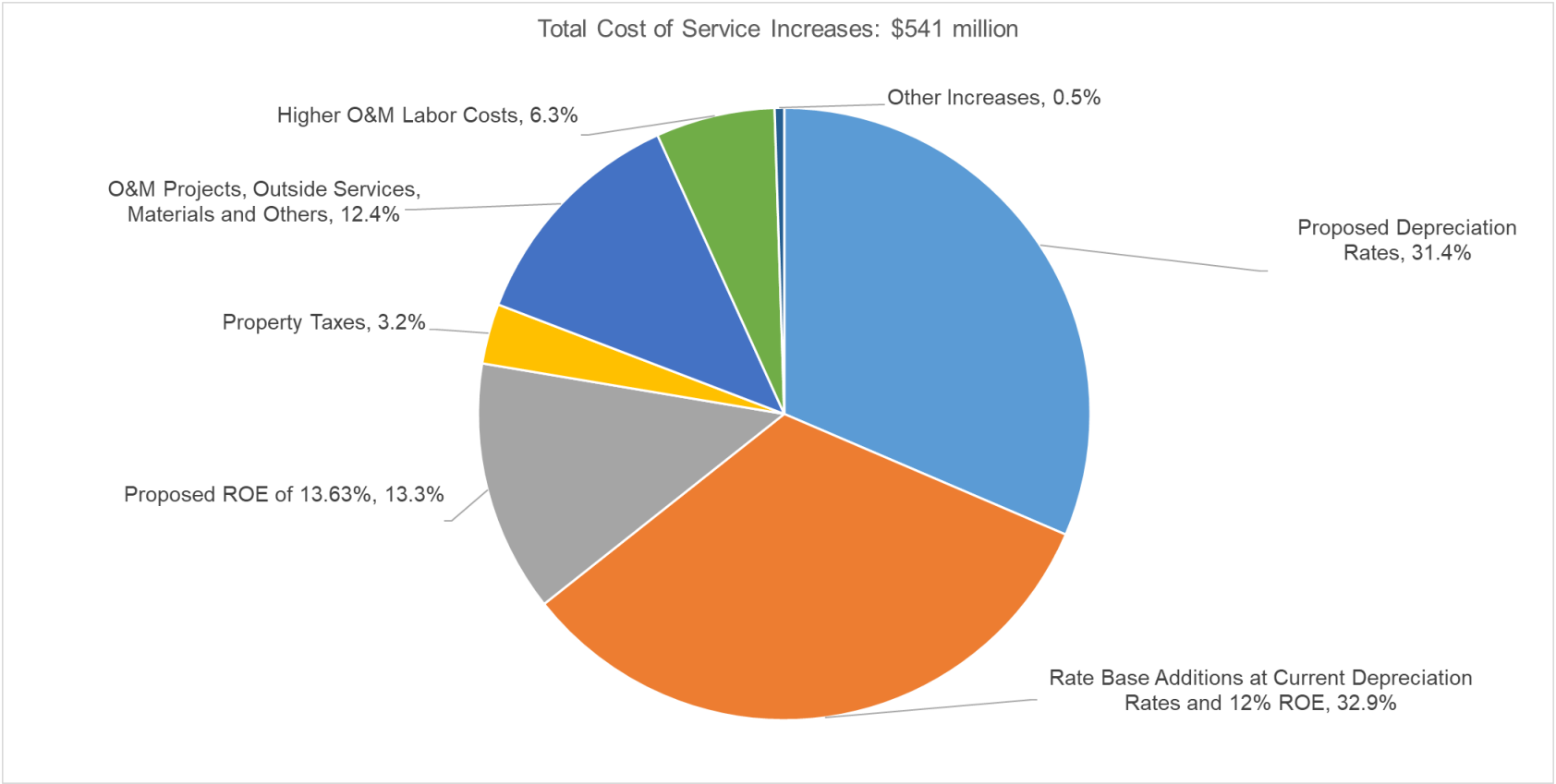
Increase in Cost of Service Driven Largely by Maintenance and Asset Modernization Capital

Highlights:

- The increased rate base due to increased capital investment accounts for $195 million of the increase in cost of service
  - Asset modernization and other maintenance capital investment is estimated to account for $176 million of the increase. Proposed depreciation rate increase accounts for $170 million
- Proposed return on equity increase from 12% to 13.63% equals $72 million

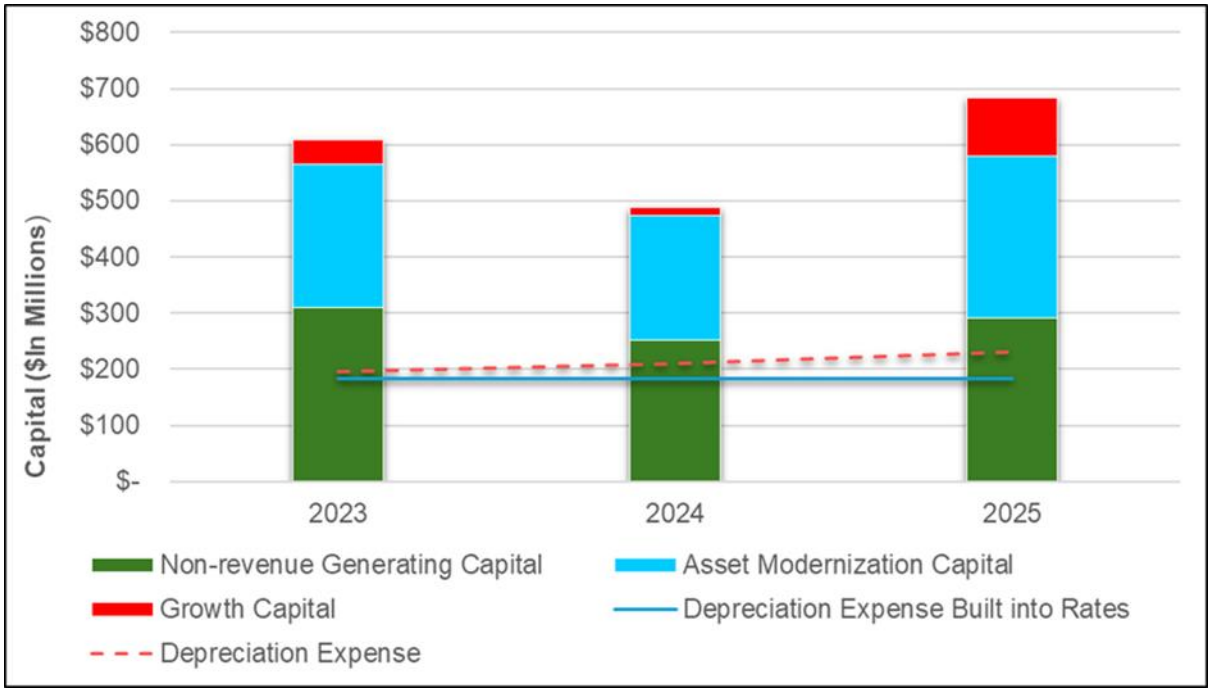
Particulars	RP25-COS Filing	2022 COS 45 Day Filing	Change	
[a]	[b]	[c]	[d]	
(In millions)				
O&M/A&G Expenses	$ 430.9	$ 329.8	$ 101.0	$46m O&M projects, $34m O&M labor, $21m Others (outside services, materials, others)
Depreciation and Negative Salvage Expense	407.8	192.0	215.9	$170m increased depreciation and negative salvage rates $46m plant additions
After-Tax Return	534.9	378.9	156.0	
Income Taxes	156.9	108.4	48.5	
Return and Taxes	691.8	487.2	204.5	$132m increased rate base $72m proposed 13.63% ROE
Property Taxes	91.0	73.8	17.2	Plant additions
Other	(7.2)	(9.6)	2.4	
Total Cost of Service	$ 1,614.3	$ 1,073.3	$ 541.0	

Cost of Service Increases



Maintenance and Asset Modernization Investments vs Depreciation

- Annual asset modernization and other maintenance capital investments continue to outpace annual depreciation expense built into existing rates



Capitalization and Return as of December 31, 2025

- Northern's capital structure is consistent with that authorized by FERC
  - Equity percentage is lower than recent pipeline filings that are generally at 65% or higher
- Northern's cost of capital is lower than the industry average, and the proposed ROE of 13.63% is lower than recently filed returns that are in excess of 14.0%

Capitalization Items	Capitalization at Dec 31, 2025	Capitalization Percentage	Rate	Rate of Return
[a]	[b] (In millions)	[c]	[d]	[e]
Debt Capital	$ 2,100.0	37.56%	4.51%	1.70%
Common Stock Equity	$ 3,491.3	62.44%	13.63%	8.51%
Total Capitalization	$ 5,591.3	100.00%		10.21%
Total Rate Base				$ 5,240.5
After-Tax Return Allowance				
Interest Expense				$ 88.9
Equity Return				446.0
Total After-Tax Return				$ 534.9

- Northern's A2/A- credit ratings are the highest among interstate natural gas pipelines
- Northern's overall cost of its long-term debt is 4.51%

Book Depreciation and Negative Salvage Rates

- Northern is filing increased depreciation and negative salvage rates
  - An increase to depreciation rates to reflect an economic life of 28 years versus a current depreciable life of 40 years for transmission assets
  - An increase to existing negative salvage rates for transmission facilities
  - New negative salvage rates for underground and LNG storage facilities

Plant Category 1/	2023 Settlement Dep Rates	2023 Settlement NS Rates	RP25- Dep Rates	RP25- NS Rates
[a]	[b]	[c]	[d]	[e]
Underground Storage	1.25%	0.00%	3.27%	0.75%
LNG Storage	2.95%	0.00%	2.81%	0.83%
Transmission	2.49%	0.10%	3.66%	1.16%
1/ Includes plant categories for which depreciation rate changes are being proposed				

Base Case and Prospective Pro Forma Case Changes to Rate Schedules

- For the Base Case
  - Rates designed consistent with principles underlying the 2020 and 2023 Settlement rates

- For the Prospective Pro Forma Case
  - Northern is proposing a change in rate design to system-wide reservation rates
  - Northern is proposing to implement two postage stamp commodity rates for the Field Area; one for transportation within the current Mileage Indicator Districts 1-7 (Section 1) and a second for transportation within the current Mileage Indicator Districts 8-16B (Section 2)
  - Northern is proposing to discontinue Small Customer benefits that are not available to other shippers, including GS-T service

Base Case: Rates for Transmission and Storage Services

Transmission Rates	Transmission Rates					
	Winter			Summer		
Transmission Rates	Current Rates	Proposed Rates	Percentage Change	Current Rates	Proposed Rates	Percentage Change
Reservation Rates						
Market Area						
TF12 Base	$17.417	$ 32.225	85%	$ 9.676	$ 17.903	85%
TF12 Variable	$23.609	$ 43.682	85%	$ 9.676	$ 17.903	85%
TF5	$25.799	$ 47.740	85%			
TFX	$25.799	$ 47.740	85%	$ 9.676	$ 17.903	85%
Field Area						
TFX	$13.476	$ 30.925	129%	$ 7.485	$ 17.180	130%
SMS	$4.2550	$ 7.8726	85%	$4.2550	$ 7.8726	85%
Commodity Rates						
Market Area						
TF/TFX Firm	$0.0260	$ 0.0228	-12%	$0.0260	$ 0.0228	-12%
TI	$0.8742	$ 1.5932	82%	$0.3441	$ 0.6117	78%
GS-T	$1.2001	$ 2.1952	83%	$1.2001	$ 2.1952	83%
Field Area						
TFX Firm (Rate/100 miles)	$0.0103	$ 0.0082	-21%	$0.0103	$ 0.0082	-21%
TI (Rate/100 miles)	$0.2203	$ 0.3935	79%	$0.1269	$ 0.2223	75%
GS-T	$0.8740	$ 1.9652	125%	$0.8740	$ 1.9652	125%
SMS	$0.0208	$ 0.0208	0%	$0.0208	$ 0.0208	0%

	Storage Rates		
Storage Rates	Current Rates	Proposed Rates	Percentage Change
FDD Capacity	$ 0.6731	$ 0.9991	48%
FDD Reservation	$ 3.2345	$ 4.8003	48%
Injection/Withdrawal	$ 0.0232	$ 0.0228	-2%
Inventory	$ 0.1624	$ 0.2412	48%

Pro Forma Case: Rates for Transmission Services

Transmission Rates	Transmission Rates – Winter Current Rates	Winter Proposed Rates	Winter Percentage Change	Summer Current Rates	Summer Proposed Rates	Summer Percentage Change
Reservation Rates						
TF12 Base	$ 17.417	$ 33.588	93%	$ 9.676	$ 18.660	93%
TF12 Variable	$ 23.609	$ 45.530	93%	$ 9.676	$ 18.660	93%
TF5	$ 25.799	$ 49.760	93%			
TFX 1/	$ 25.799	$ 49.760	93%	$ 9.676	$ 18.660	93%
SMS	$ 4.2550	$ 8.2056	93%	$ 4.2550	$ 8.2056	93%
Commodity Rates						
Section 3 (Market)						
TF/TFX Firm	$ 0.0260	$ 0.0220	-16%	$ 0.0260	$ 0.0220	-16%
TI	$ 0.8742	$ 1.6588	90%	$ 0.3441	$ 0.6358	85%
Section 2 (Field - Midcontinent)						
TF/TFX Firm 2/	$ 0.0103	$ 0.0205	na	$ 0.0103	$ 0.0205	na
TI 2/	$ 0.2203	$ 1.6573	na	$ 0.1269	$ 0.6343	na
Section 1 (Field - Permian)			na			na
TF/TFX Firm 2/	$ 0.0103	$ 0.0205		$ 0.0103	$ 0.0205	
TI 2/	$ 0.2203	$ 1.6573	na	$ 0.1269	$ 0.6343	na
SMS	$ 0.0208	$ 0.0208	na	$ 0.0208	$ 0.0208	na

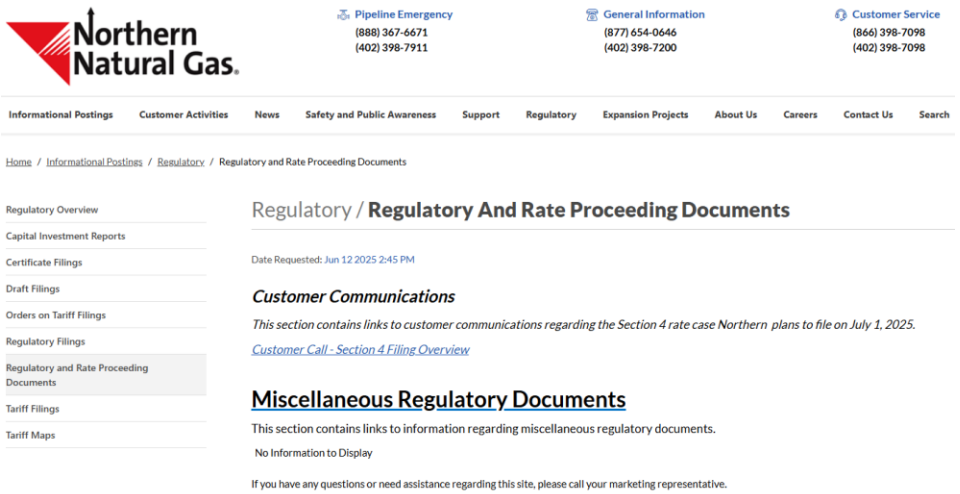
1/ TFX percentage increase as compared to the current TFX Market Area reservation rate.

2/ Northern's current Field Area commodity rates are designed on a per 100 miles basis. Northern proposes to implement two postage stamp commodity rates in the Field Area; one for transportation within the current MIDs 1-7 (Section 1) and a second for transportation within the current MIDs 8-16B (Section 2).

Additional Information Found on Northern's Website

[Capital Investment Reports]

[Regulatory and Rate Proceeding Documents]



Industry Leading Customer Service

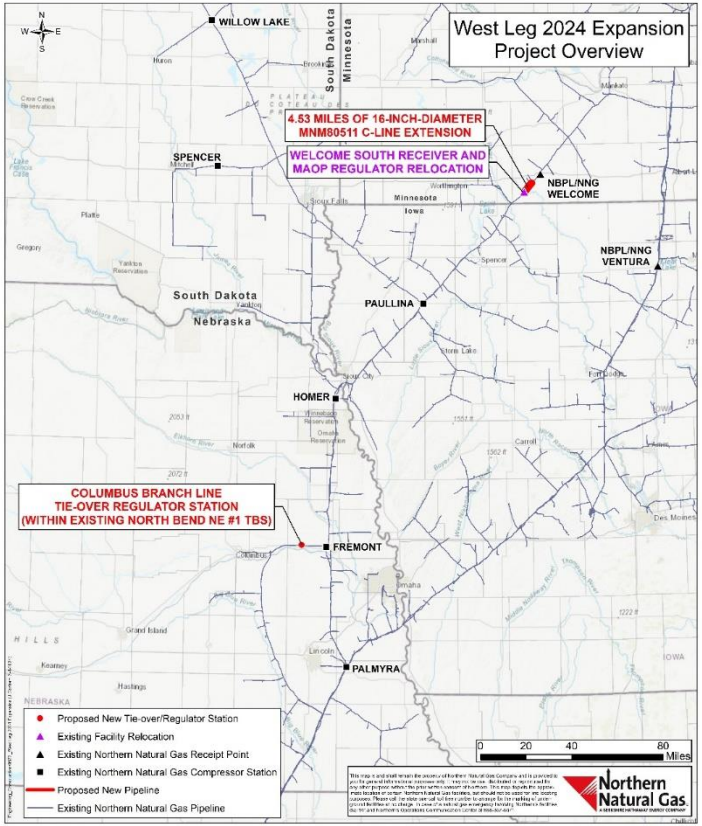
Thank you for the opportunity to serve you and the positive feedback!

- Northern ranked first in the “Mega” and “Major” pipeline categories for the 17th consecutive year
- Northern ranked 2nd overall behind sister company Kern River Gas Transmission, while two other BHE Pipeline Group Companies ─ Carolina Gas and Eastern Gas Transmission and Storage ─ finished 3rd and 4th, respectively, out of 38 interstate pipelines in the 29th Edition of the Mastio & Company survey, resulting in an organizational sweep of the top four spots for the second year in a row
- The BHE Pipeline Group has finished first in the organization category for 20 consecutive years
- Northern scored highest in the following areas
  1. Firm gas transportation is highly reliable
  2. Scheduled gas volumes are accurate
  3. Accuracy of invoices
  4. Communicates in an honest and forthright manner
  5. Representatives are accessible when needed
- What must we do now to earn a “10” later this year?
  - “10” = 1st place
  - “9” = 4th place
  - “8” = Bottom quartile
  - “7” = Last

Recently Completed Market Area Expansions

West Leg 2024

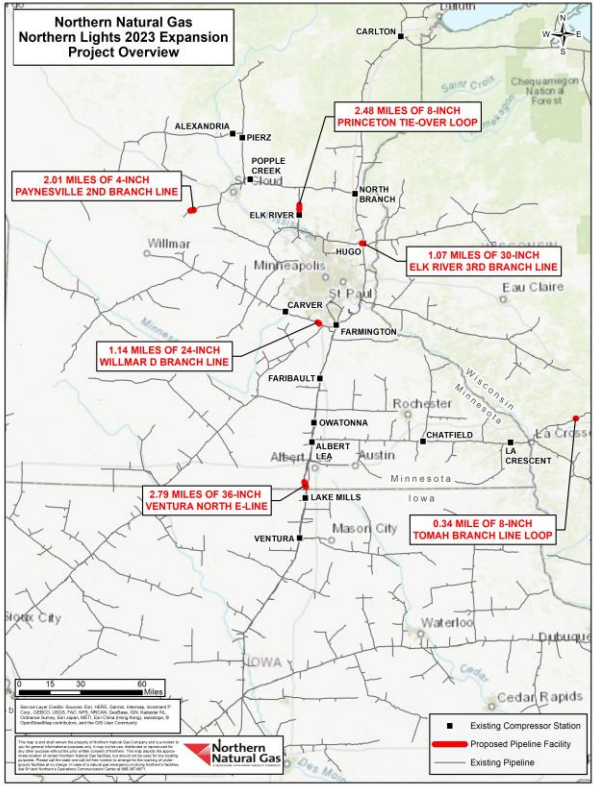
- Incremental capacity of 12,960 Dth/day
  - Nine customers
- Project scope
  - 4.5 miles of new 16-inch mainline extension near Welcome, MN
  - Regulator/tie-over mods near Columbus, NE
- Project Cost: $25.6 million
- In service: November 1, 2024



Recently Completed Market Area Expansions

Northern Lights 2023 Expansion

- Incremental capacity of 50,889 Dth/day
  - 8 customers
- Project scope
  - Mainline:
    - 2.79 miles of 36-inch mainline extension near Lake Mills, MN
  - Branch Line:
    - 2.01 miles of loop on 4-inch Paynesville, MN line
    - 1.14 miles of loop on 24-inch Willmar, MN line
    - 1.03 mile of loop on 30-inch Elk River, MN line
    - 0.34 miles of loop on 8-inch Tomah, WI line
    - 2.47 miles of loop on 8-inch Princeton, MN line
  - TBS Modifications (Not part of the filing / Represents $5.9m of $54.6m total capital):
    - 6 in Minnesota, and 1 in Wisconsin
- Project Cost: $54.6 million
- In-service date: November 1, 2024



Current Market Area Expansions

- Northern Lights 2025 Expansion
  - 46,064 Dth/day (Peak Winter MDQ)
  - In service: November 1, 2025
  - Capital: $66.2 million
  - Construction in progress

- East Leg 2026 Expansion
  - 12,000 Dth/day (Peak Winter MDQ)
  - In service: November 1, 2027
  - Capital: $13.8 million
  - Final customer agreement pending
  - To be constructed under blanket authortity

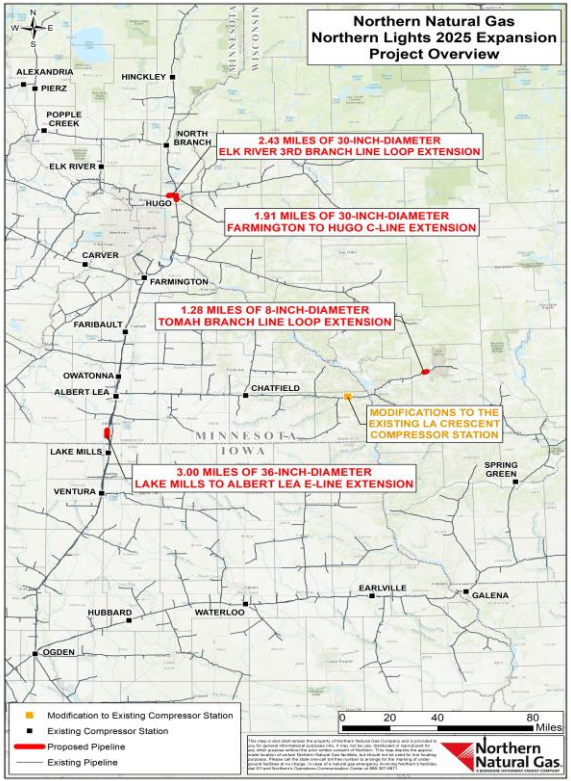
- Central Mainline Corridor Expansion
  - Open season closed April 8, 2025
  - Bids from six parties totaling 546,313 Dth/day (Peak Winter MDQ)
  - Northern is currently working with the six parties to define a final project

Current Market Area Expansions (Continued)

- Northern Lights 2027 Expansion
  - Open season closed May 15, 2025
  - Bids from eight parties totaling 110,072 Dth/day (Peak Winter MDQ)
  - Northern is currently working with the parties to define a final project

Northern Lights 2025 Expansion

- Incremental capacity of 46,064 Dth/day
  - Four customers
- Project scope:
  - Mainline:
    - 1.3 miles of 30-inch mainline extension near Farmington, Minnesota
    - 3.0 miles of 36-inch mainline extension near Lake Mills, Minnesota
  - Branch Line:
    - 2.4 miles of 30-inch branch line extension near Elk River, Minnesota
    - Minor modifications to existing compressor station near LaCrescent, Minnesota
    - 1.28 miles of 8-inch branch line loop near Tomah, Wisconsin
  - TBS Modifications
    - 5 in Minnesota, and 5 in Wisconsin
- Project Cost: $66.2 million
- In-service date: November 1, 2025



Field Area Expansions

- Trans-Pecos Lateral Expansion and Interconnect
  - 500,000 Dth/day lateral capacity
  - 250,000 Dth/day interconnect capacity, bi-directional location
  - Approximately $7.0m
- Agua Blanca Pecos County
  - 250,000 Dth/day, bi-directional location
  - Approximately $1.6m
- Targa Midland Permian Pipeline, Spraberry Area Interconnect - bi-directional interconnect
  - Adds bi-directional service for deliveries to and from Targa Midland Permian Pipeline header service
  - 500,000 Dth/day interconnect bi-directional capacity
  - Approximately $2.8m
- Tarzan Compressor Project
  - 87,000 Dth/day capacity
  - In service: November 1, 2025
  - Capital: $38.8m (11,000 hp compressor)
  - Filed with FERC January 17, 2025
  - Authorized March 19, 2025

Winter 2024-2025 Review

- On January 20, 2025, Northern set the second highest all-time market area delivery record of 5.738 Bcf, at a system-weighted temperature of -20 degrees Fahrenheit.
  - The record is 5.834 Bcf, set January 6, 2022, at a system-weighted temperature of -12 degrees Fahrenheit.

- On February 20, 2025, Northern experienced its record-breaking 14th 5.0 plus Bcf market area delivery day of the 2024-2025 heating season.
  - The previous record for the most 5.0 plus Bcf days in a heating season was 11 in 2021-2022.

- The 2024-2025 heating season average is 3.688 Bcf/day
  - The 2023-2024 heating season average was 3.450 Bcf/day

System-Weighted Temperature vs Normal					
	2020-21	2021-22	2022-23	2023-24	2024-25
November	9%	1%	11%	7%	4%
December	8%	7%	13%	27%	7%
January	13%	14%	7%	4%	6%
February	27%	21%	2%	23%	14%
March	15%	14%	23%	5%	11%
Heating Season	3%	8%	7%	14%	1%
Colder than Normal					
Warmer than Normal					

Asset Modernization Program Update

Pipeline Assessment

The Pipeline Assessment program increases the percent of in-line inspectable pipeline mileage and brings Northern Natural Gas closer to industry standards and Pipeline and Hazardous Materials Safety Administration expectations.

- Projects typically include:
  - Installation of inspection tool launcher and receiver facilities
  - Installing tees with guide bars to prevent inspection tools from becoming stuck in the pipeline
  - Replacing plug and gate valves with full-bore valves to allow tool passage
  - Replacing pipe where two internal pipeline diameters create a “lip” that will interfere with inspection tool passage
- These projects require substantial planning and often construction of temporary pipeline bypasses to ensure pipeline outages do not significantly impact customers

Inspection tool receiver installation

Clifton to Beatrice Modification Project

- One of six in-line inspection modification projects completed in 2024
- Allows assessment of 54-miles of 30-inch-diameter pipeline between Clifton, Kansas, and Beatrice, Nebraska
- Required pipeline modifications at 13 sites, including replacing 1,500 feet of 26-inch-diameter pipeline under the Little Blue River in Kansas

Line stop fitting (left) to temporarily manage gas flow during block valve removal (right).

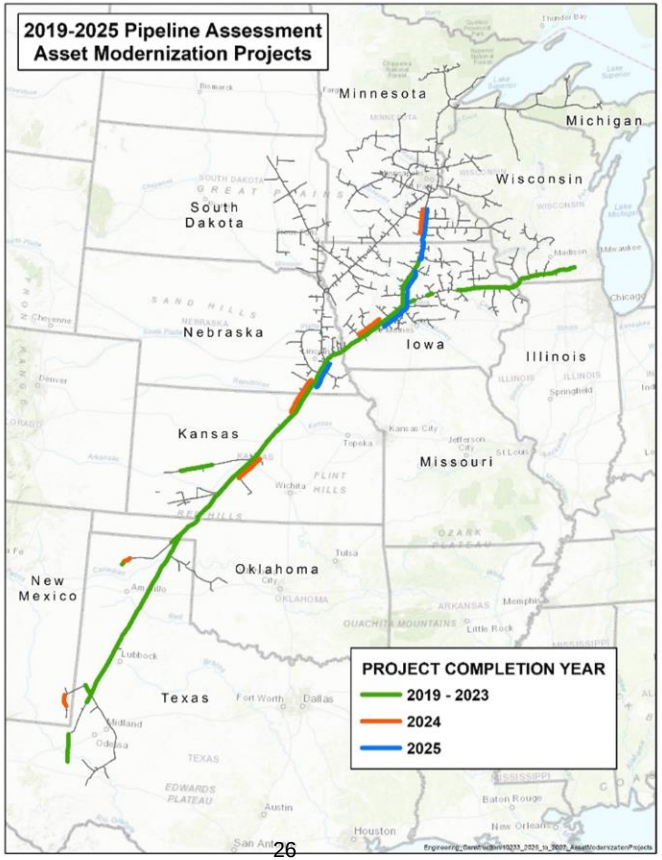
Block valve removal site

Inspection tool launcher installation

Pipeline Assessment: Upcoming Projects

In 2025, Northern plans to complete five projects, increasing inspectable large-diameter-pipeline mileage by 226 miles, making 79% of the large-diameter pipeline system inspectable.

Year	Inspectable Mileage Added	In-line Inspectable percent of Northern's large-diameter system
2024	208	75%
2023	234	72%
2022	342	67%
2021	494	62%
2020	300	53%
2019	308	47%



In-line Inspection Results

- In-line inspections reveal damage and defects such as dents, deformations, metal loss, and cracks and allows Northern to make repairs prior to a safety or reliability event
- In 2024, Northern completed in-line inspections on approximately 980 miles of pipeline
- Inspections revealed 370 sites that needed to be evaluated further though pipeline excavations, with 150 sites needing immediate repairs (typically reinforcement sleeves)
- These evaluations and timely repairs are critical for maintaining system reliability

Excavation to evaluate anomalies and remediate pipeline damage as needed

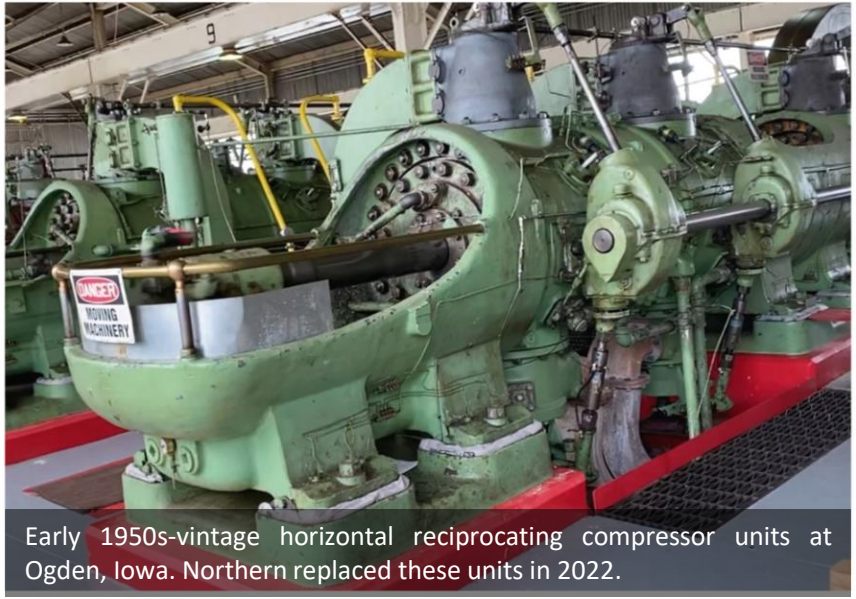
Pipeline anomalies (discovered with in-line inspection tools) being reenforced with sleeves

Compression Replacement

- In addition to replacing vintage compressor units, related auxiliary equipment and infrastructure are also being addressed. Projects are prioritized based on unit vintage, criticality to pipeline operations, historical reliability concerns, and outlook for future maintainability
- Northern has 94 compression units between 50 and 75 years old. The current plan includes replacement of approximately 45 units over the next ten years, 25% of Northern's 181 total compression units

Completed Projects

Replacement Year	Location	Vintage	Number of Units	Unit Type
2024	Garner, Iowa	1978	1	York 455B (Electric)
2023	Paullina, Iowa	1947	5	Ingersoll Rand 82KVG (Reciprocating)
2022	Brownfield, Texas	1968	1	General Electric Frame 3 Model F (Turbine)
2022	Ogden, Iowa	1951-1953	4	Cooper Bessemer 26-H (Reciprocating)
2022	Spraberry, Texas	1953	2	Ingersoll Rand 412KVG (Reciprocating)
2021	Farmington, Minnesota	1961-1965	5	Ingersoll Rand 616KVT x Qty. 2 Ingersoll Rand 48KVS x Qty. 3 (Reciprocating)
2020	Bushton, Kansas	1968	1	General Electric LM-1500 (Turbine)
2019	Mullinville, Kansas	1968	1	General Electric LM-1500 (Turbine)
2016	Beatrice, Nebraska	1972	1	General Electric LM-1500 (Turbine)



Early 1950s-vintage horizontal reciprocating compressor units at Ogden, Iowa. Northern replaced these units in 2022.

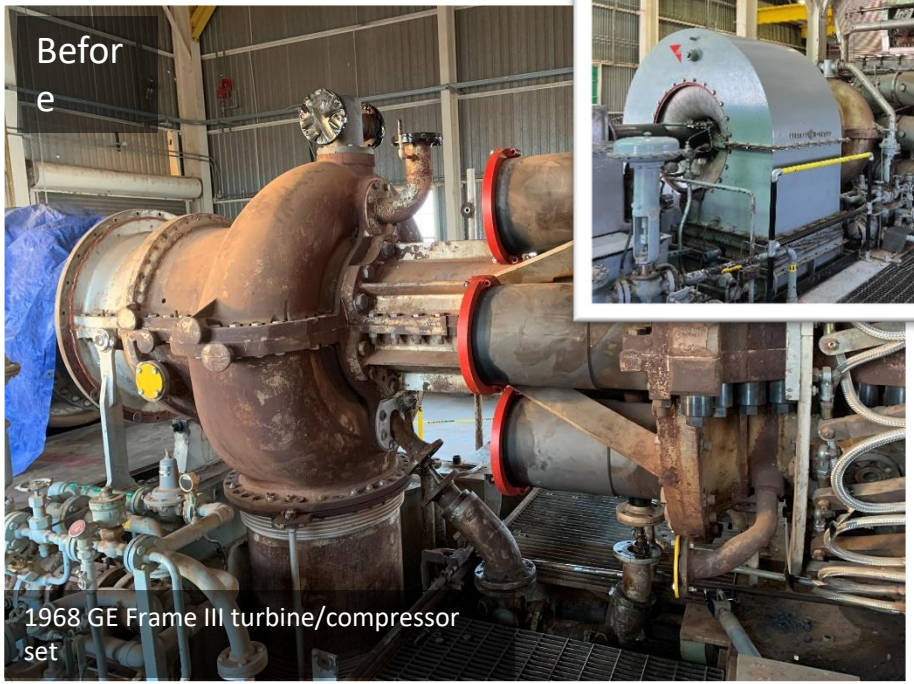
Compression Replacement

Difficulties maintaining vintage units include:

- Obsolescence of spare parts
- Lack of industry service options
- Diminishing quality support of vintage units
- End of life being reached on major unit subcomponents that are not normally replaced or available
- Compliance with current air permits and environmental regulations

Original compressor part (left, temporarily welded for reproduction process) was fractured into pieces. Northern was able to reverse engineer and manufacture the component (right) when a replacement was not available.

Brownfield Compression Replacement



Northern salvaged critical spare parts from the vintage unit, including rotors, casings, and turbine wheels that are not generally available within the industry. These parts will extend the service life of nine additional similar turbines.

Farmington Compression Replacement

Solar® Taurus 60, Centaur 40 and Saturn 20 (right) turbine compressor sets replaced three Ingersoll Rand KVS engines (left) and two KVT engines (all 1961-1965 vintage).

Compression Replacement: Current Projects

In 2025, Northern will replace:

- Four 1960s-vintage Worthington ML-7 units at the North Branch, Minnesota, compressor station
- Three 1950s-vintage Clark TLA-6 and two 1960s vintage Allison 501KB units at the Ventura, Iowa, compressor station
- One 1960s-vintage General Electric Frame III turbine unit at the Claude, Texas, compressor station


Clark TLA-6, Ventura


Ventura compressor building


General Electric Frame III, Claude


Clark TLA-6, Ventura


Allison 501KB, Ventura

Underground Storage Integrity

- The Underground Storage Integrity category includes projects to ensure compliance with the 2020 PHMSA Safety of Natural Gas Underground Storage Final Rule
- To comply with the regulations, Northern revised its reservoir integrity management plan to include new operating procedures and engineering standards and created the Underground Storage Integrity program
- As part of this program, Northern drilled five additional observation and storage wells in the Redfield, Iowa, underground storage field to monitor gas pressure in non-storage strata and replace aging wells that lack physical integrity
  - An additional injection/withdrawal well is planned for 2026
- In 2025, Northern will complete the Cunningham, Kansas, storage facility northeast containment system to prevent migration of storage gas beyond the limits of the field, akin to the existing north extension area containment system
  - The scope includes the installation of a water injection well, an observation well and conversion of an existing well to function as a water extraction well


Workover rig

Underground Storage Integrity

Northern continues project planning to support 2026-2027 completion of a natural gas dehydration and hydrogen sulfide treatment facility in Lyons, Kansas.

- The project will add a natural gas dehydration and hydrogen sulfide treatment facility to the Lyons underground storage system, with construction anticipated in 2026 and 2027
- Currently, Northern performs dehydration and hydrogen sulfide treatment on the storage gas at a facility in Bushton, Kansas, 16 miles away
- Northern has maintained the 1974-vintage facility in Bushton, but maintenance efforts and costs have increased substantially in recent years, and the facility experiences frequent outages
- A new facility in Lyons will optimize gas treatment at the withdrawal point of the storage field, similar to Northern's other underground storage facilities

Bushton treater facility

Vintage Pipeline Abandonment

Mechanically coupled and acetylene-welded pipeline technology were used for early pipeline construction but were largely discontinued by 1940.

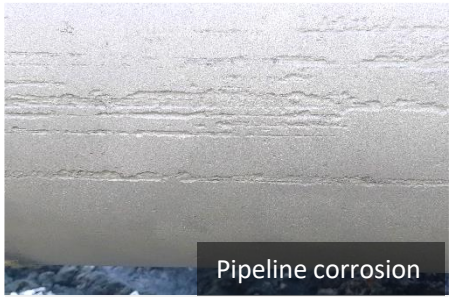
Concerns with mechanically coupled and acetylene-welded joints:

- Subject to failure from ground movement and can be leak-prone
- Not compatible with pipeline integrity assessment methods as the pipelines cannot be inspected with in-line inspection tools nor hydrostatically tested
- Much of this pipe is uncoated and is therefore susceptible to external corrosion

Modern pipeline welding


Pumpkin being welded to reenforce a mechanical couple

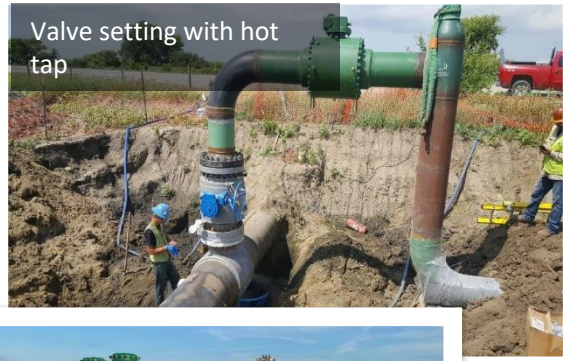

Vintage mechanically coupled pipeline


Pipeline corrosion


Cracked acetylene weld

Vintage Pipeline Abandonment

- Removing a pipeline from service and replacing lost capacity are two of the last components of a multiphase project. Prior to pipeline abandonment, necessary projects include:
  - Modifying town border stations and compressor stations to remove connections to the vintage pipeline and adding connections to newly constructed pipelines and potentially other adjacent pipelines
  - Removing tie-over connections between the vintage and adjacent pipelines
  - Relocating or removing farm taps
  - Installing cathodic protection to maintain pipeline integrity
- Projects are phased in multiple years to minimize system disruption
- Following abandonment, the vintage line is removed as practical, considering safety, operational and environmental concerns



Ogden-to-Ventura A-line Abandonment

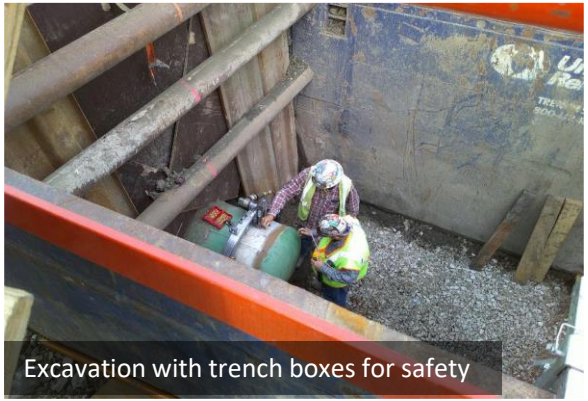
- Northern abandoned 85 miles of 1931-vintage, 20-inch-diameter mainline between Ogden, Iowa, and Ventura, Iowa, in 2023
- To replace capacity, Northern constructed 1.6 miles of 30-inch-diameter pipeline
- Ancillary projects included:
  - Removing pipeline tie-overs and block valves at seven sites
  - Disconnecting the vintage line from seven branch lines
  - Modifying approximately 17 town border stations
  - Modifying two compressor stations
  - Removing or relocating ~59 farm taps
  - Installation of cathodic protection

Pipe lowering

Pipe bending

Ogden-to-Ventura A-line Abandonment

Pipe lowering



Excavation with trench boxes for safety

Soil being restored

Positioning fabricated pipe

Cap removal from pipeline for new connection

Restoration in progress

Ventura-to-Farmington A-line Abandonment

Northern commenced engineering and design work to support the 2028 abandonment of 131-miles of 1931-vintage,16-inch-diameter mainline between Ventura, Iowa, and Farmington, Minnesota. In addition to constructing seven miles of 30-inch-diameter pipeline and 10 miles of 36-inch-diameter pipeline, ancillary projects include:

- Removal of pipeline tie-overs and block valves at 12 sites
- Modifications to 19 town border stations
- Modifications to two compressor stations
- Removal or relocation of ~113 farm taps
- Modification of cathodic protection systems

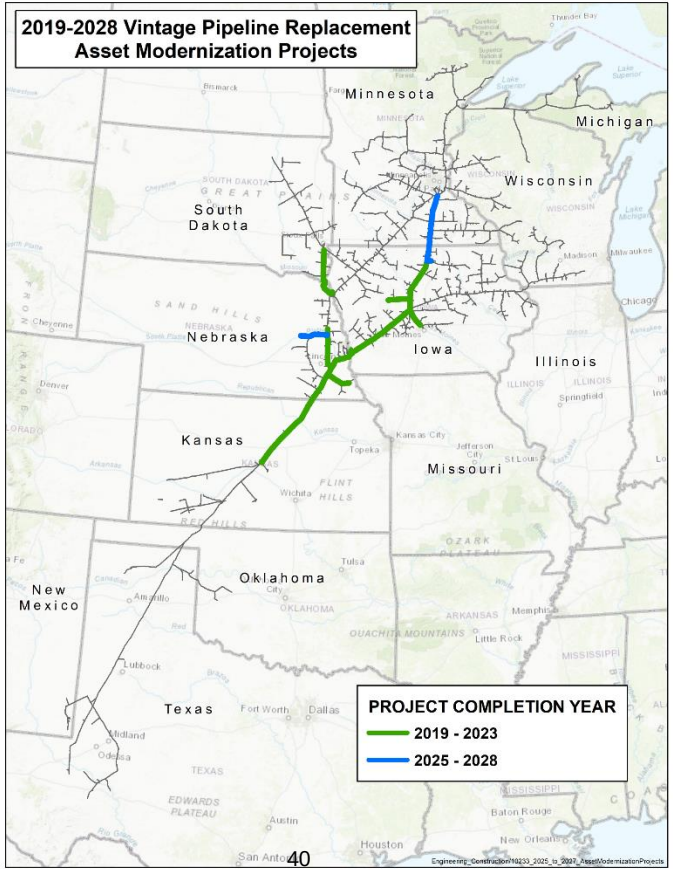
Segment of pipe cut for installation

Line stop fitting with bypass to temporarily maintain gas flow

Positioning a fabricated block valve setting

Vintage Pipeline Abandonment: Upcoming Projects

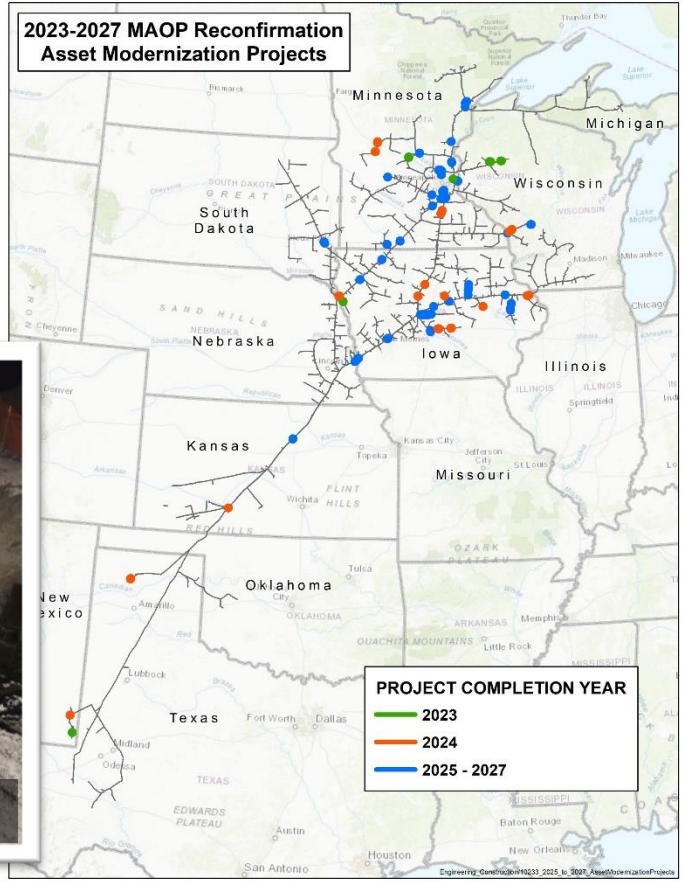
- Prior to the Asset Modernization program, Northern's system had ~900 miles of acetylene-welded and mechanically coupled large-diameter mainlines
- In 2028, Northern anticipates abandoning the last of the major, large-diameter, mechanically coupled and acetylene-welded mainlines: 131-miles of 16-inch-diameter mainline between Ventura, Iowa and Farmington, Minnesota
- In 2025, Northern will abandon six miles of the 1931-vintage Mason City, Iowa, branch line and will install 2.7 miles of 10-inch-diameter pipeline
- In 2026, Northern will replace the remaining seven miles of the 10-inch-diameter, 1932-vintage Columbus, Nebraska, branch line



MAOP Reconfirmation

- Since 2019, PHMSA requires MAOP reconfirmation in high consequence areas, moderate consequence areas, and Class 3 locations that operate at or above 30% specified minimum yield strength
- If no pressure test record exists for a pipeline, the MAOP must be reestablished - typically through a pressure test or pipe replacement
- Northern has approximately 603 miles of pipeline within areas of consequence, with 510 miles having adequate records to support MAOP
- Through 2024, Northern reestablished MAOP on 19 miles and plans to complete projects to reestablish MAOP on 26 miles in 2025
- The remaining 48 miles will be completed by 2034 per PHMSA rules


Pressure testing 30-inch-diameter pipe



MAOP Reconfirmation

- Approximately 190 reconfirmation projects are planned between 2025 and 2034
- ~60% of the projects are to reconfirm the MAOP of less than 2,500 feet of pipe
- ~10% of the projects are for more than 1 mile of pipeline
- While pressure testing is the preferred option for reconfirmation, this is not always viable:
  - Vintage, mechanically coupled or acetylene-welded pipe will leak and is not suitable for hydrotests
  - In some locations, a failed pressure test would be difficult or dangerous to remediate (under interstates, wetlands, etc.)
  - Pressure testing can require a multi-week pipeline outage – in some cases, this will significantly impact customers
- Where appropriate, Northern utilizes project efficiencies, combining project scopes to remediate the MAOP records deficiencies

Meters and downstream piping missing pressure test records

Rupture Mitigation Valves

- PHMSA requires installation of rupture mitigation valves, such as an automatic shut-off valve (ASV) or a remote-control valve (RCV), to minimize the volume of gas released from a pipeline in the case of a pipeline rupture, helping to improve public safety and mitigate environmental consequences
- The Final Rule applies to pipelines greater than 6-inches in diameter, constructed after April 10, 2023
- Nothern is assessing its recent pipeline construction to ensure compliance with the PHMSA rule and will install rupture mitigation valves or equivalent technologies as needed
- In 2024, Northern spent approximately $5.0 million on projects to install RCVs on four existing pipelines and plans to spend an average of $5.8 million per year through 2028

Rupture mitigation valve