



Long-Term Gas Infrastructure Plan

Workshop No. 2

Dec. 16, 2024



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If you would like to ask a question, enter it in the chat along with your name and organization.

Questions will be addressed at the end of the presentation.

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Opening

Deb Egelhoff, Manager — Gas Regulatory Compliance
and Advocacy

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Where we are in the process

July 1, 2024: LTGIP Work Plans were filed

Sept. 23, 2024: Kickoff Stakeholder Workshop

Dec. 16, 2024: Forecast and Capital Planning Workshop

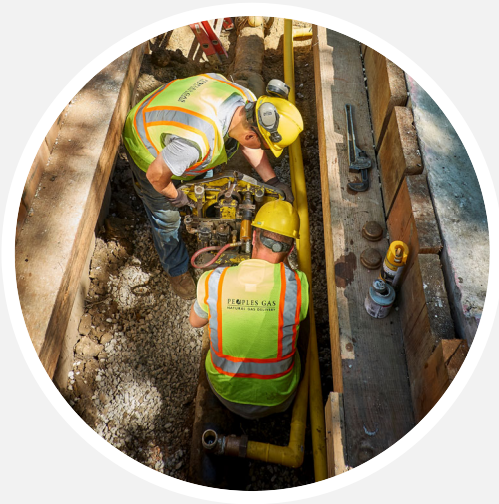
2025: Preview LTGIP Plans over multiple meetings

July 1, 2025: LTGIP Plans to be filed

Dedicated webpages:

[Peoples Gas LTGIP](#)

[North Shore Gas LTGIP](#)



Today's meeting objectives

1. Gas forecasting
2. Planning background
3. Planning process
4. Closing

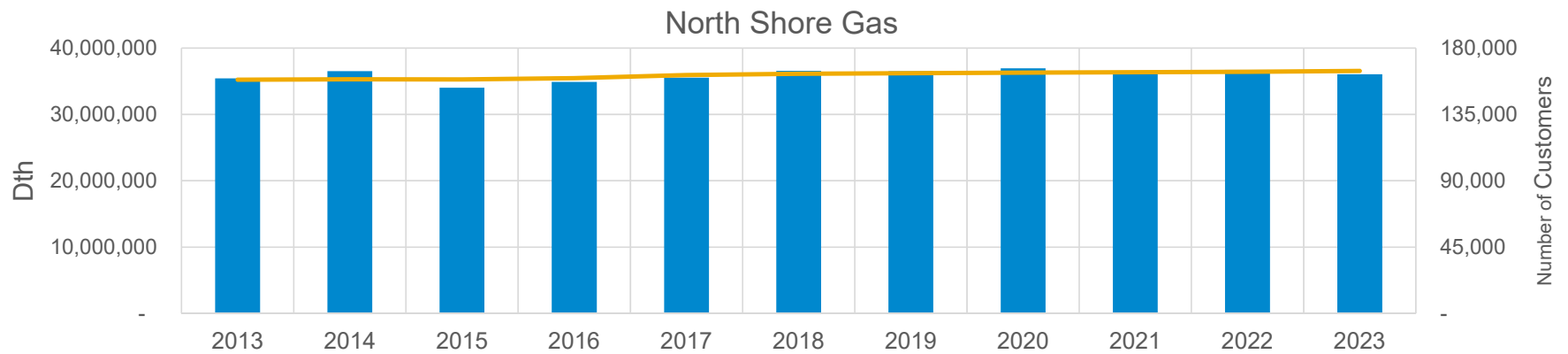
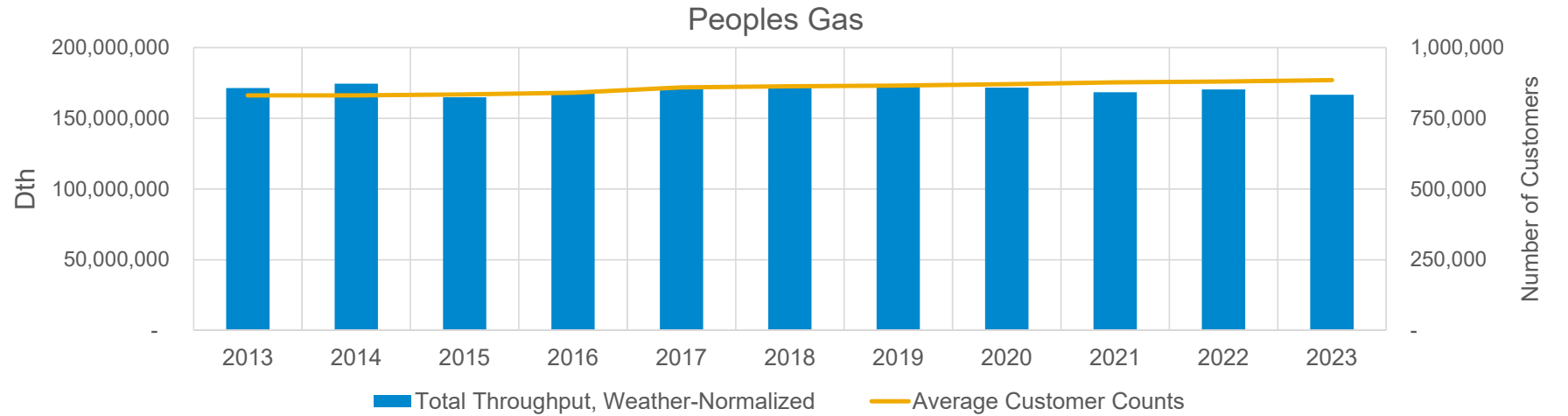
Gas Forecasting

Jared Peccarelli, Manager — Sales Forecasting

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Gas Forecasting

Current System Conditions

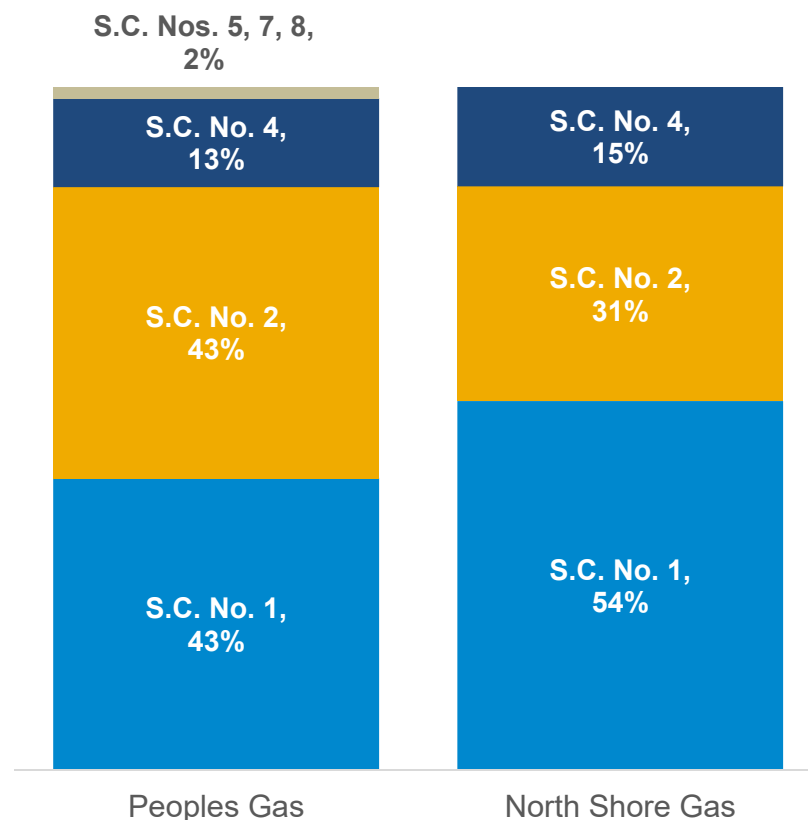


Forecast Methodology Using Service Classes

Service Class	Modeling Type
<ul style="list-style-type: none"> Small Residential Service (No. 1) (“Residential”) 	Econometric
<ul style="list-style-type: none"> General Service (No. 2) (“Small Commercial & Industrial”) 	
<ul style="list-style-type: none"> Large Volume Demand Service (No. 4) (“Large Commercial & Industrial”) 	Trend
<ul style="list-style-type: none"> Contract Service Electric Generation (No. 5)¹ 	
<ul style="list-style-type: none"> Contract Service to Prevent Bypass (No. 7)¹ 	
<ul style="list-style-type: none"> Compressed Natural Gas Service (No. 8)² 	

1. North Shore Gas does not have any active or projected customers
2. Peoples Gas only

Proportion of Total Calendar Sales in 2023 by Service Class



Methodology Overview

Econometric

- Residential and Small Commercial & Industrial (C&I) customers¹
- Average use per customer (UPC)²
 - Weather²
 - Energy efficiency
 - Economic/pricing
- Customer counts³
 - Demographics (e.g., population)
 - Seasonality
- Sales = Average UPC x Customer Counts

1. Service class (S.C.) Nos. 1 and 2
2. Separate models for heating and non-heating customers
3. 12-year average (“normal”) heating degree days in Chicago (O’Hare)

Trend

- Large C&I, Electric Generation, Special Contract and CNG customers⁴
- Historical monthly billed sales by customer or account
- Customer specific intelligence from account management team
- Contract information and terms
- Customer forecasts aggregated to service classes

4. S.C. Nos. 4, 5, 7 and 8

Data Sources



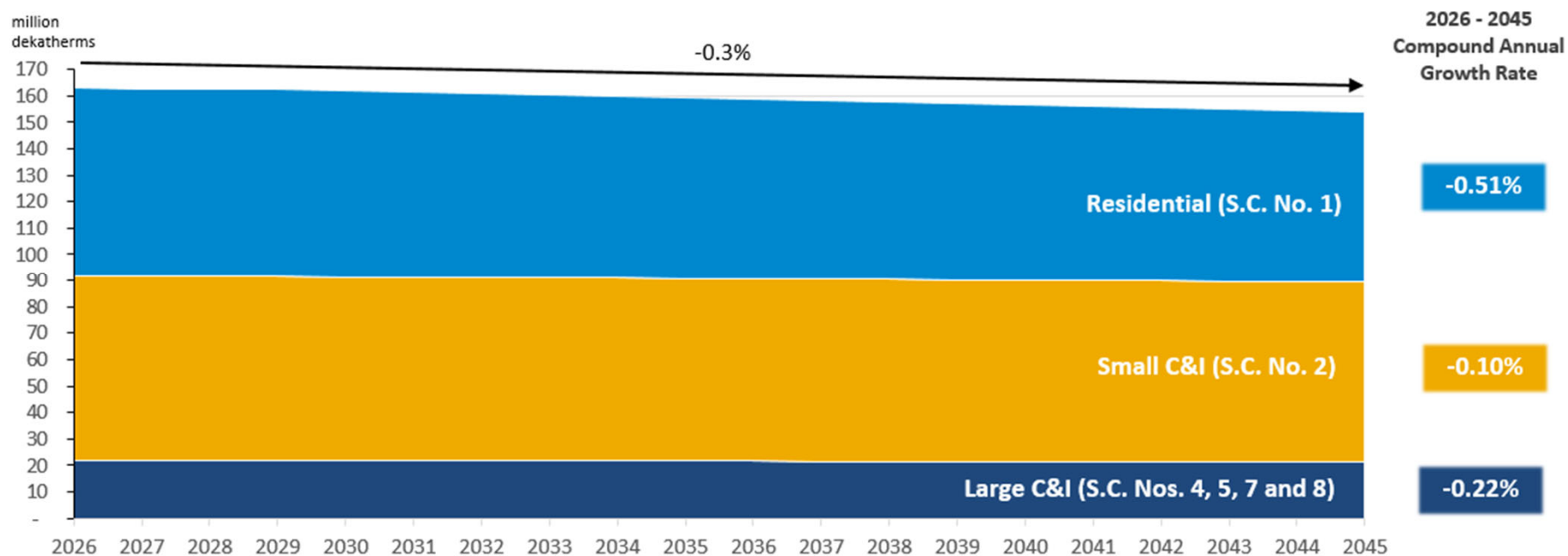
- Billing system
- Financial ledger
- Moody's Analytics
- National Weather Service¹
- U.S. Energy Information Administration
- Internal business partners
 - Account management
 - Energy efficiency

1. National Oceanic and Atmospheric Administration (NOAA)

Gas Forecasting

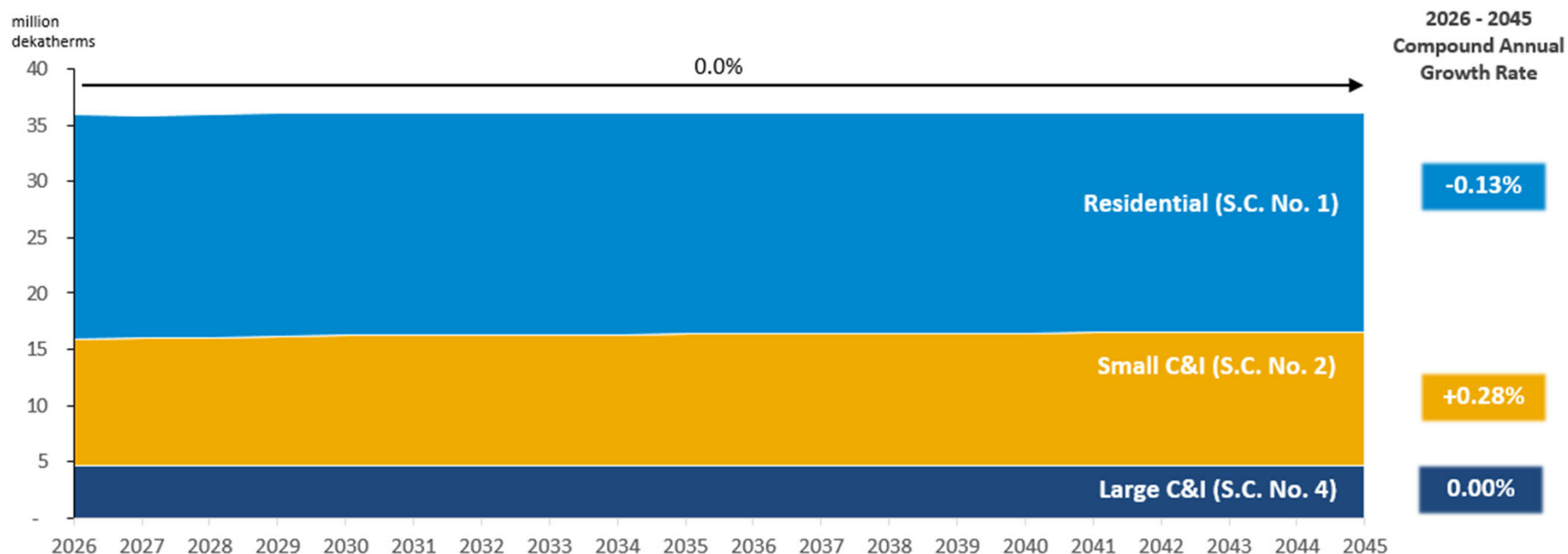
Baseline Forecast – Peoples Gas

Gas consumption is forecasted to decline slightly through 2045 in the baseline “business as usual” scenario



Baseline Forecast – North Shore Gas

Gas consumption is forecasted to be flat through 2045 in the baseline “business as usual” scenario



Planning Background

Jon Czarnecki, Director — Gas Engineering

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Planning Background

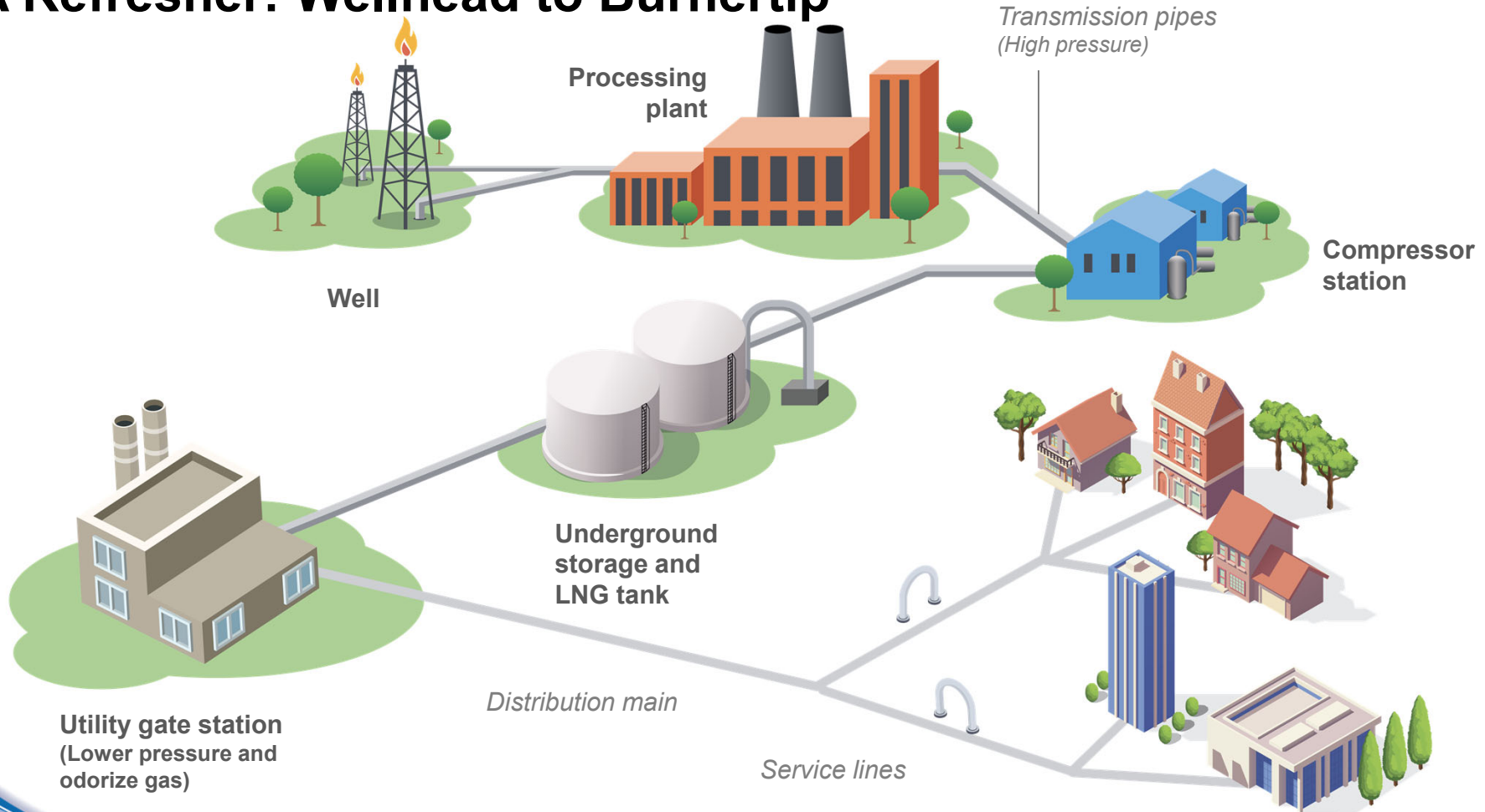


Topics to Discuss

1. Infrastructure refresher and work we do on that infrastructure
2. Why we do that work

Planning Background

A Refresher: Wellhead to Burnertip



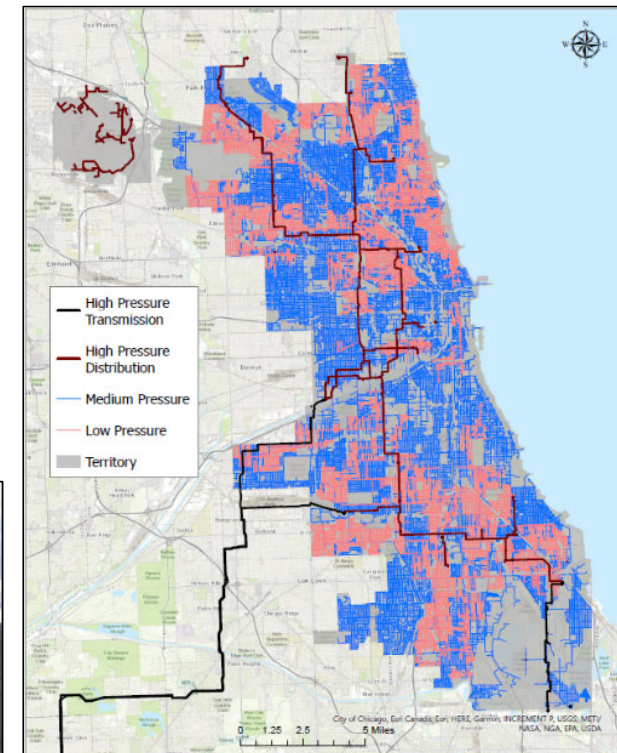
Planning Background

Specifically, the infrastructure at Peoples Gas includes:

- Pipe: Transmission and distribution mains and services
 - Cast iron and ductile iron (leak-prone)
- Valves and valve assemblies
- Regulation stations and regulation vaults
- Meters and metering equipment
- Manlove Field underground storage and liquefied natural gas (LNG)

What needs to be done:

These various types of infrastructure are extended or replaced.



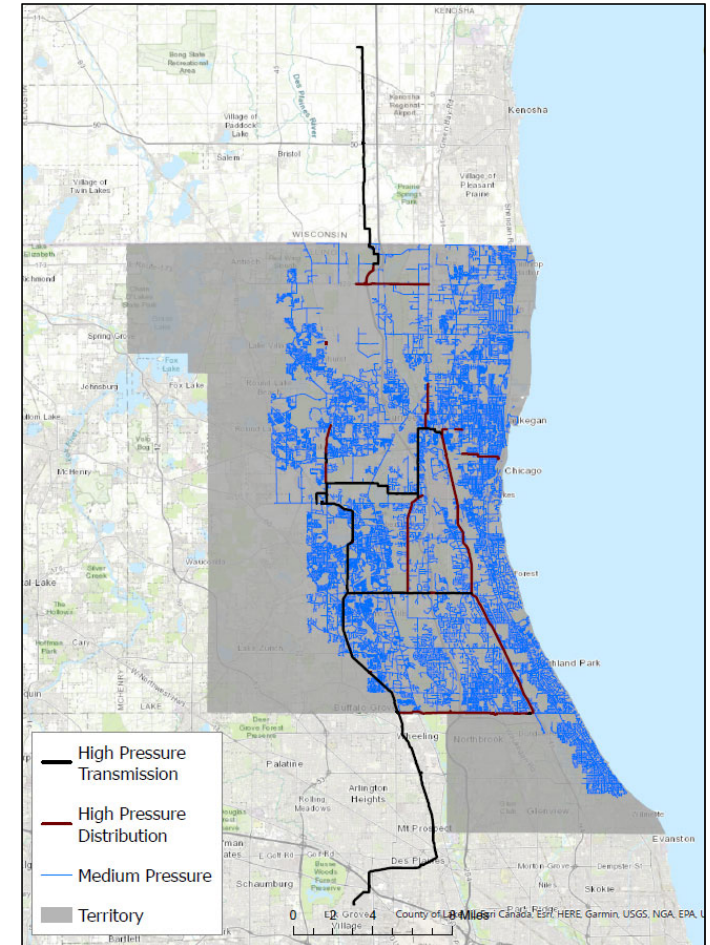
Planning Background

Specifically, the infrastructure at North Shore Gas includes:

- Pipe: Transmission and distribution mains and services
- Valves and valve assemblies
- Regulation stations and regulation vaults
- Meters and metering equipment
- Propane air plant

What needs to be done:

These various types of infrastructure are extended or replaced.



Planning Background

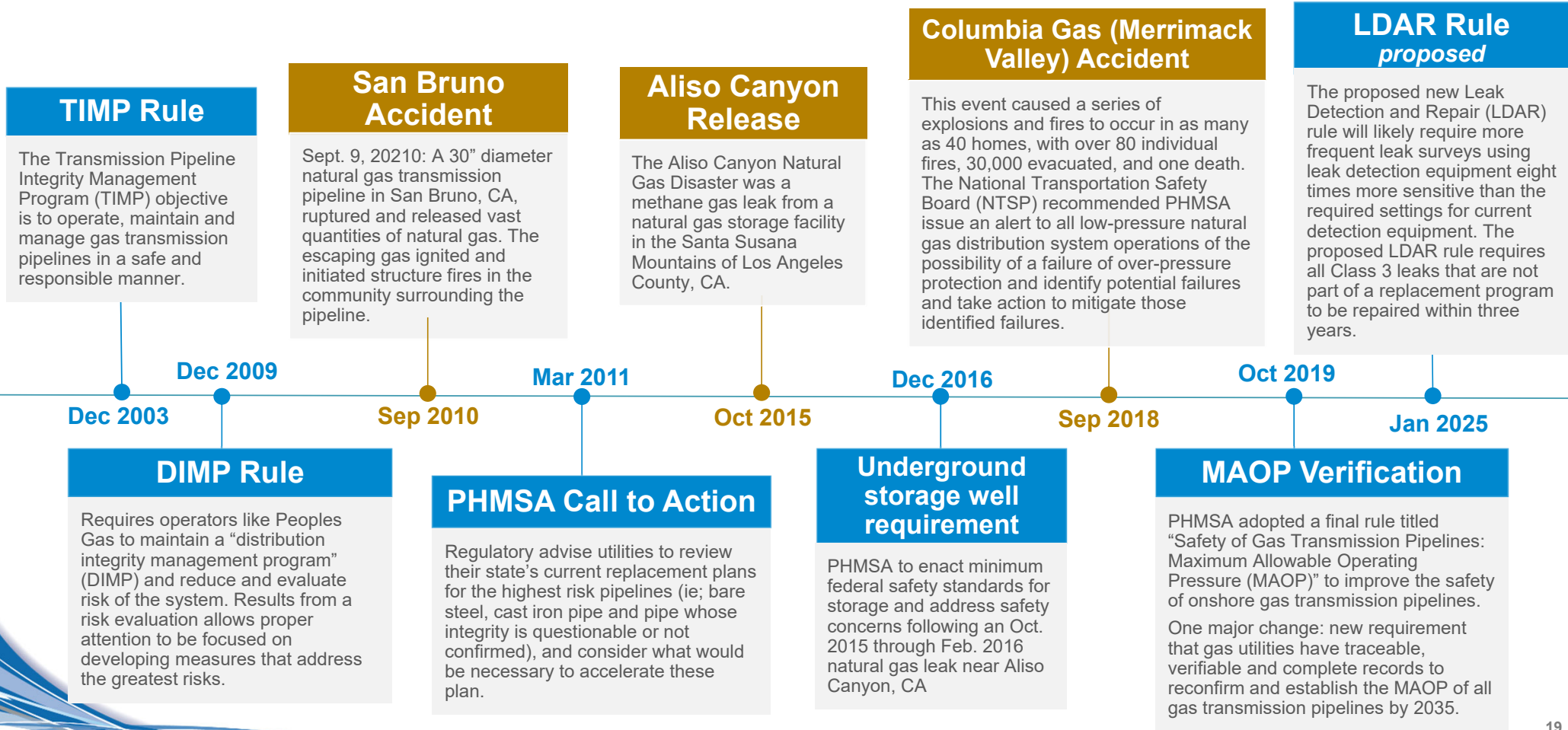
Why do we need to work on the infrastructure?

Rules and regulations dictate various obligations and requirements



Planning Background: Integrity Management and Threats

Events, Rules and Regulations Background



Integrity Management

Federal law requires establishment of programs to enhance safety by:

- Assessing the integrity of the pipelines
- Identifying risks to the integrity of the pipeline
- Implementing preventive actions to improve safety

Types of pipes subject to the law:

- Transmission: Big pipes at high pressure bringing gas to a city
- Distribution: Small pipes at lower pressure running down your street or bringing gas to your home



Part of an old leaking main

MAOP Reconfirmation

Maximum allowable operating pressure (MAOP) reconfirmation required by federal law:

- Transmission pipelines in higher population areas
- Transmission pipelines that do not have original construction pressure test records

Filed a MAOP Compliance & Cost Recovery Plan under Docket Nos. 23-0068 / 23-0069 (cons.)



Planning Background: Gas Storage

Peoples Gas Manlove Field

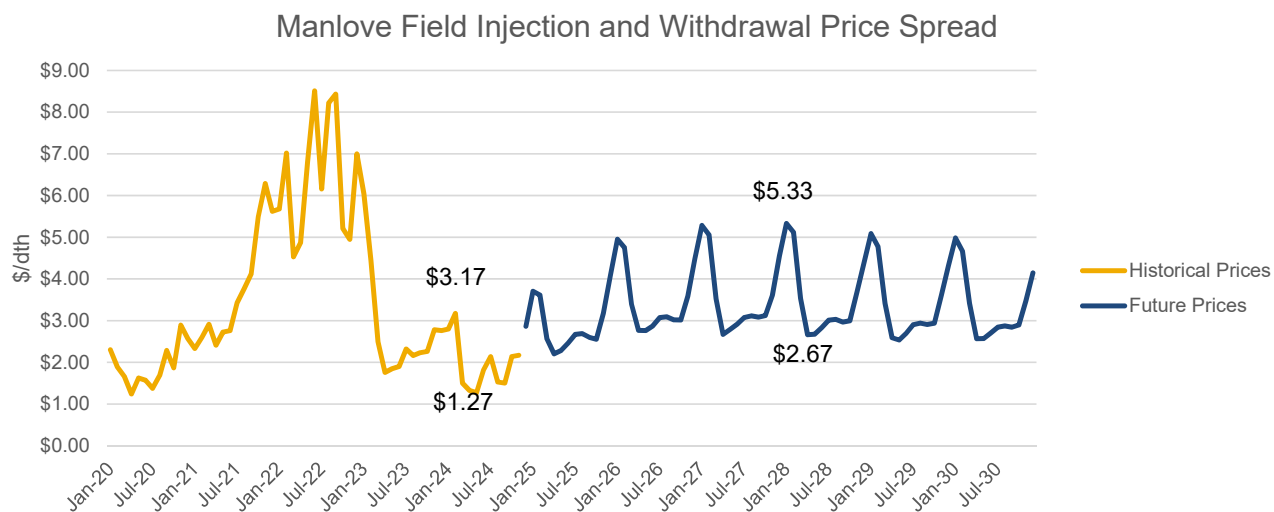


- Provides reliability and financial prudence while adhering to multiple rules and regulations
- Manlove Field is responsible for 25% of Peoples Gas and 6% of North Shore Gas winter supply
- Manlove Field is responsible for 41% of Peoples Gas and 14% of North Shore Gas peak day plan

Planning Background: Gas Storage

Peoples Gas Manlove Field

- Seasonal pricing trends
 - Typically heating increases gas demand, resulting in pricing increases
 - Manlove Field purchases and injects in the spring/summer/fall at lower prices
 - The field withdraws 36,500,000 dth in the winter to avoid buying higher priced gas
 - \$2 of savings per Dth = \$73,000,000



Planning Process

Peggy Salvatore, Manager — Capital and Operations Planning

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“Give me six hours to chop down a tree and I will spend the first four sharpening the axe.”

— Abraham Lincoln

Capital Planning Process

1. Definitions
2. Individual project planning
3. Multiyear planning

Definitions

Projects are grouped for planning and reporting purposes:

Project Grouping	Drivers
Emergency	Driven by situation best addressed by replacing in place
Manlove Field	Driven by issue and/or risk, located at Manlove Field
Neighborhood	Geographically based, driven by issues and/or risks
Public improvement	Driven by other entities' work plans in the vicinity of the infrastructure
System expansion	Driven by new customers and/or changing customer needs
System improvement	Driven by issue and/or risk

Capital Planning Process

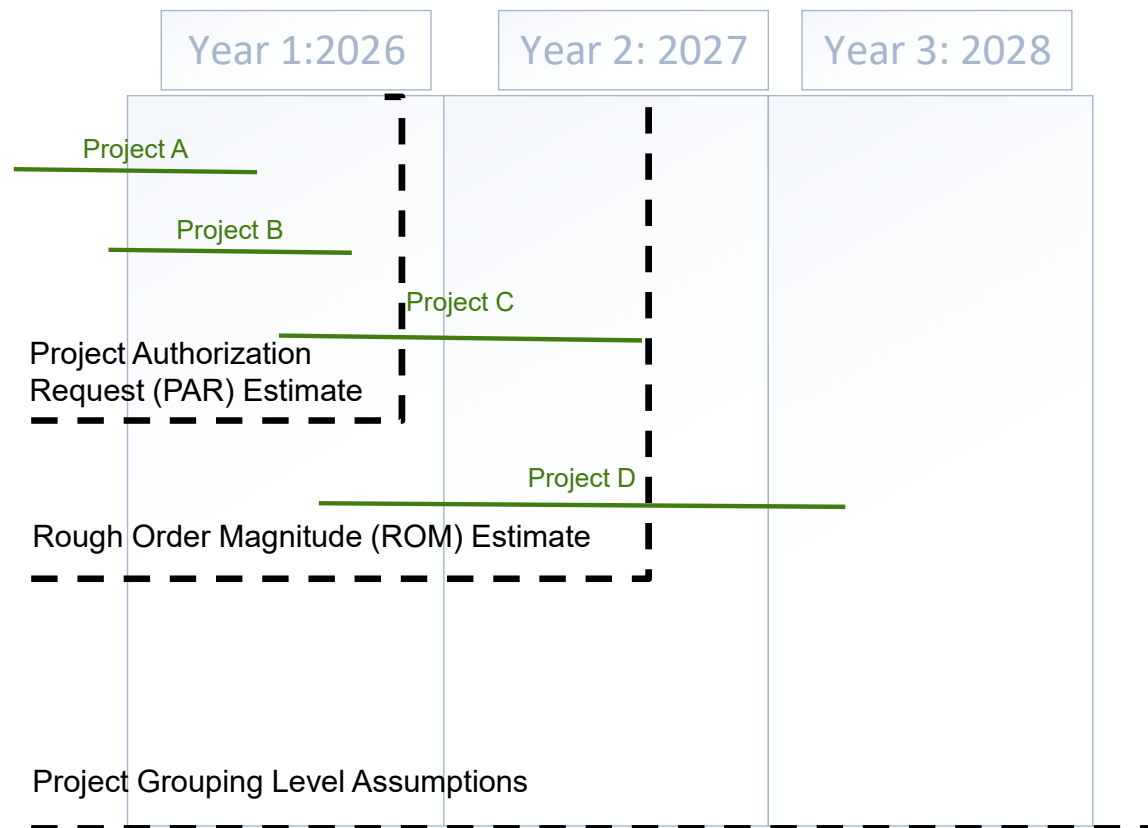
Definitions

Project planning:

Process for a specific location, from evaluation through closeout

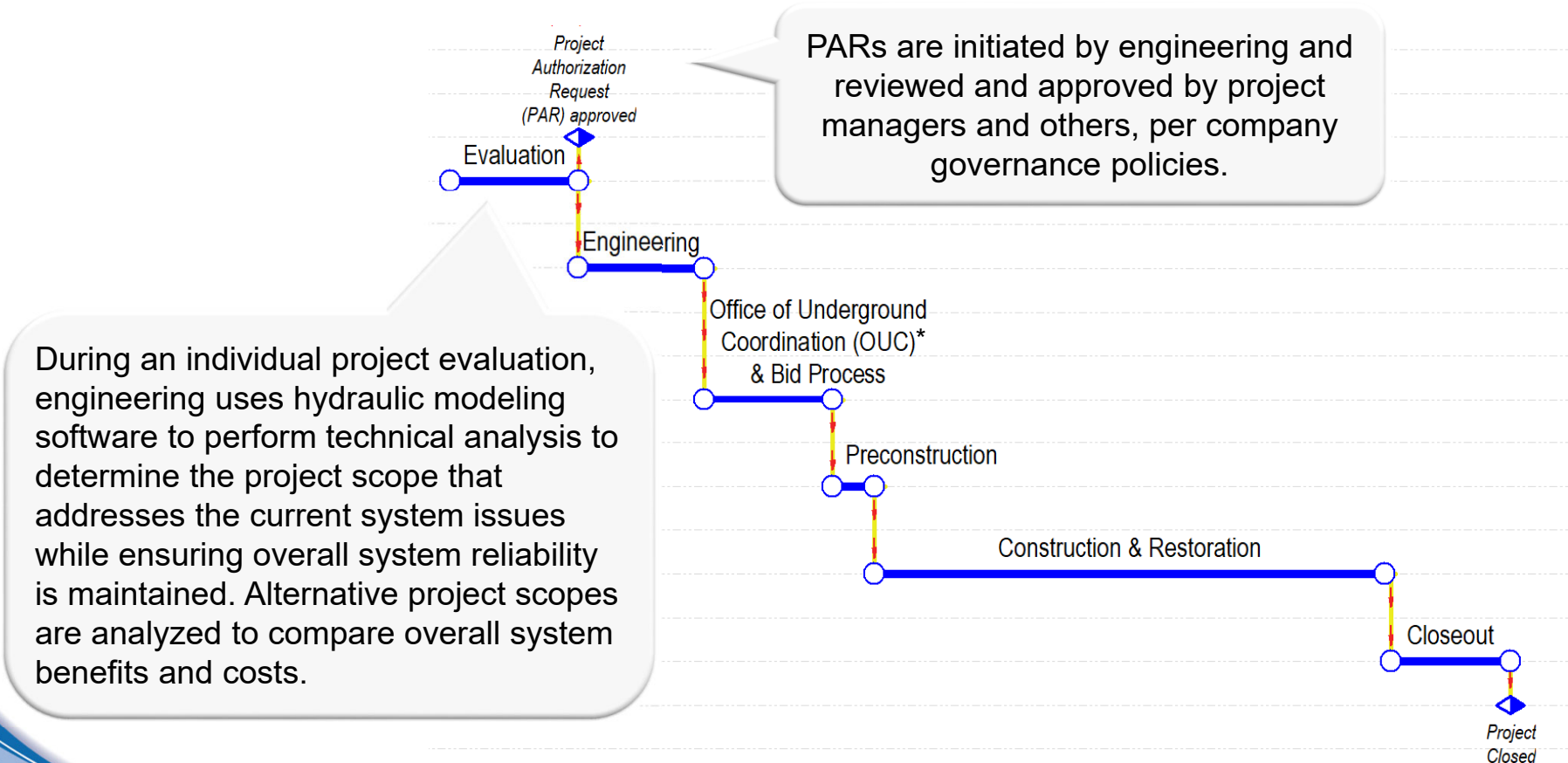
Annual and out-year planning: Process for a period of time, which includes specific projects and assumptions for future work

Rolling wave methodology: Iterative planning approach, using detailed project information for the planning time-period for which it is known and summary information for time-periods for which the project details are not known.



Capital Planning Process

Individual Project Gantt Chart



Annual Capital Planning Process

The steps involved with preparing the annual plan include:

1. Consolidate individual project information, including prioritization attributes
2. Develop assumptions for the project grouping portions of the work
3. Assess resource needs against resource availability*
4. Iterate and make adjustments until resource needs and availability are aligned

*Resource in the broad sense of headcount, materials, funding

Let's talk more about how work is prioritized

Letter	Title	Description
A	Required	<ul style="list-style-type: none">• Work is required to comply with federal, state, and/or city requirements
B	Issue	<ul style="list-style-type: none">• System has observed failures: leaks and/or poor supply. Repairs and maintenance have been attempted but issue persists.
C	High risk/issue monitoring	<ul style="list-style-type: none">• System attributes have a high risk of failure• Overpressure, redundancy doesn't exist and/or redundancy just as likely to fail• Lead time and/or coordination required in advance of potential need date
D	Medium to high risk	<ul style="list-style-type: none">• System attributes have a medium to high risk of failure• Leak may have occurred and were resolved through repair means
E	Medium risk/emergent	<ul style="list-style-type: none">• System attributes have a medium risk of failure

Summary

- Overall planning objectives are to support the “why” for the infrastructure work for our customers:
 - Safety
 - Reliability
 - Sustainability
 - Financial prudence

- Well-established plan provides roadmap

Closing

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Closing

What's Next

- Forecasting process will be used to prepare the five-year and 20-year forecasts
- Plan supports safety, reliability, sustainability and financial prudence to support future needs of our customers
- Next workshop will be held in 2025

Q&A

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