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# Northwest Pipeline Shipper Advisory Board Meeting

## Spring 2025

April 9, 2025

# Shipper Advisory Board Agenda

1. Welcome and Safety Moment
2. Western Interstates Growth and M&ERP
3. North Mist Update
4. Northwest Coalition for Energy Choice – What's New
5. WECC – Resource Adequacy
6. Rockies Growth Outlook
7. Business Development Update
8. Government Affairs – Keys to Success
9. NextGen Gas

Gary Venz  
Jerimiah Ross  
Jordan McDonough  
Christine Wallat  
Scott Johnson (NWN)  
Natasha Jackson  
Kris Raper (WECC)  
Jason Connelly  
Christine Wallat  
Jimmie Hammontree  
Kasey St. John  
Chad Bracher

## Lunch Break

10. Market Fundamentals – Energy GPS
11. Passage Modernization Project
12. Seattle District Operations Update
13. Invoicing the CRM Surcharge
14. Winter Recap and Summer Road Map
15. Mastio Customer Survey
16. Closing

Jeff Richter  
Beau Galloway  
Sam Chesnut  
Brad Dillon  
Mark Warren  
Carolyn Ebner  
Mark Mohan

## SAB Business Meeting – April 9, 2025

- Feel free to ask questions at any time.
- To keep the atmosphere light and fun we have asked presenters to share a joke.
- Feedback is appreciated.
- Breaks will be provided to accommodate both B&B.
- Lunch will be provided (at lunch time)
- Presentation is posted at:  
[Williams - Northwest Pipeline](#)
- Fall SAB is right around the corner. Please think about agenda items you would like us to consider...and share.



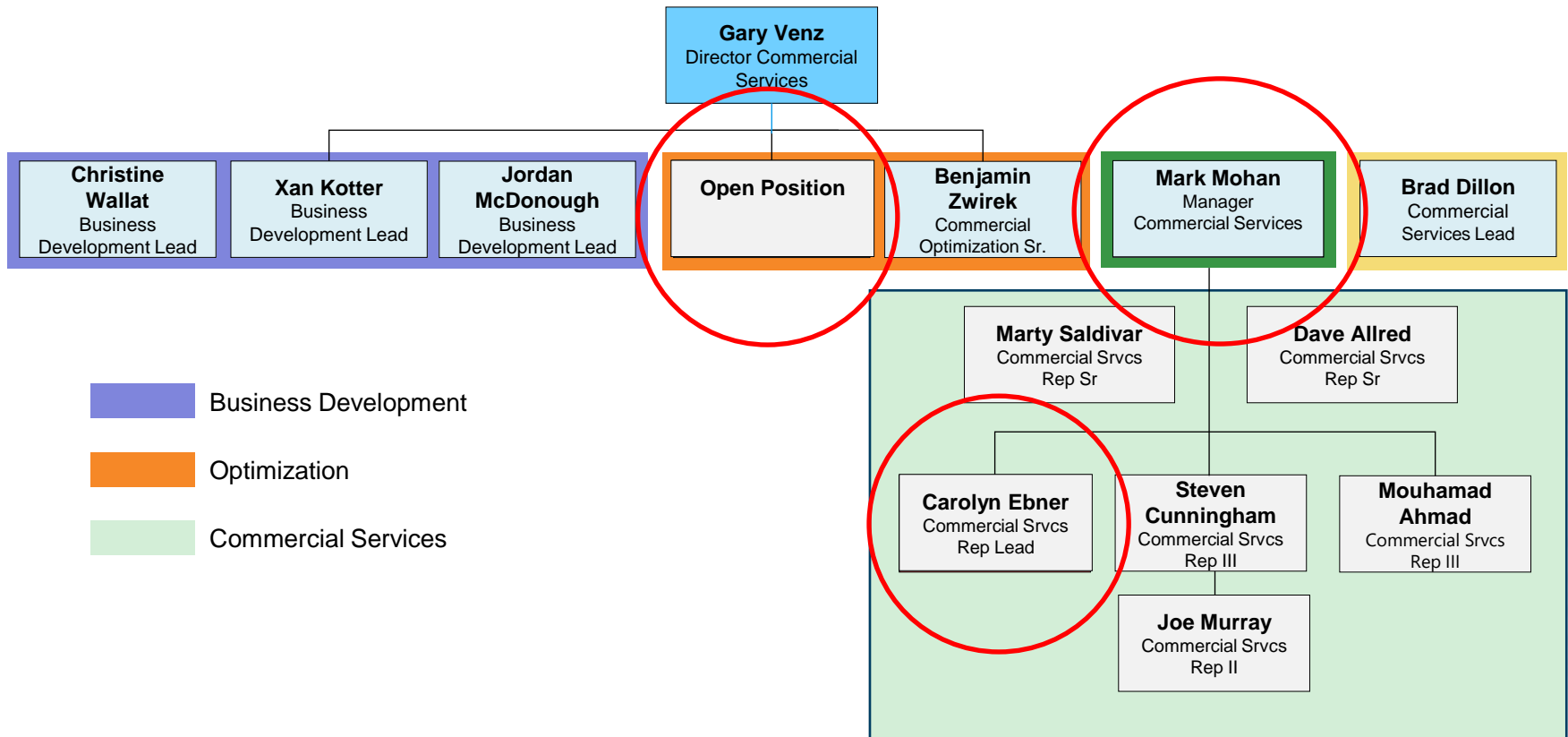
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# Welcome & Safety Moment

Gary Venz, Director Commercial Services



# Northwest Pipeline Commercial Team – Organizational Update



# Introduction

## Professional Timeline

2007: XTO



2010: OXY



2018: NextEra



2020: Williams

■ Manager- Regulated Rev Acctg

■ Commercial Development- Transco



**Mark Mohan**

Manager Commercial Services



Houston Tower

281-217-5295

[mark.mohan@williams.com](mailto:mark.mohan@williams.com)

## Hobbies

- Family time
- Coffee Shops
- Movies
- Houston Sports
- Tennis



# 2024 Northwest Pipeline Highlights

## What kept us busy:

### #3 Mega Pipes

#### **Mastio Customer Survey**

- 69 respondents
- Improvement in nearly every category

### 10 Year Contract Life

#### **Critical to financial strength**

- Fully contract between Sumas and Opal – Both directions

### 2nd Highest Throughput

#### **Critical energy delivery system**

- 930 Bcf transported in 2024
- Record peak day January 15 ~4.5 Bcf

### Executed M&ERP

#### **Commitment to program**

- Sumas
- Green River
- Mecham
- Pleasant View

### Commercialized Four Projects

#### **Responsive to customer needs**

- Kelso Beaver Reliability - Wild Trail
- Naughton Coal-to-Gas
- Huntingdon Connector

### Gas/Electric Coordination

#### **Stood up After MLK Weekend**

- Winter readiness
- Regional energy study
- Development of common messages
- Regional symposium

### Government Affairs

#### **Proactive Posture**

- Investment in GA&O as strategic partner

### Damage Prevention

#### **Public awareness**



### Plymouth Vaporization

#### **Modernization and investment**

- Critical to NWP operation during peak events and customers who contract for services

# 2025 Northwest Pipeline Focus Areas

## What we are working on:

### Commercial Excellence

#### Get better everyday

- Respond to customer feedback
- Organizational agility to grow NWP commercial talent
- Provide creative solutions to meet customers' needs that are executable

### Gas/Electric Coordination

#### Ongoing participation

- 2025 has key deliverables associated with work started in 2024

### Safe/Reliable Operator

#### Critical energy delivery system

- Complete planned maintenance and keep gas flowing to our customers
- Winter readiness focus

### Execute on Projects

#### Do what we said we were going to do

- Plethora of projects require deliberate organizational alignment
- Growth/M&ERP

### Digital Transformation

#### Investment in technology

- Passage future state

### What else?

#### Focus on Being #1

- Environmental Stewardship
- GA&O front and center
- M&ERP phase II Development
- Doing things the right way for the right reasons



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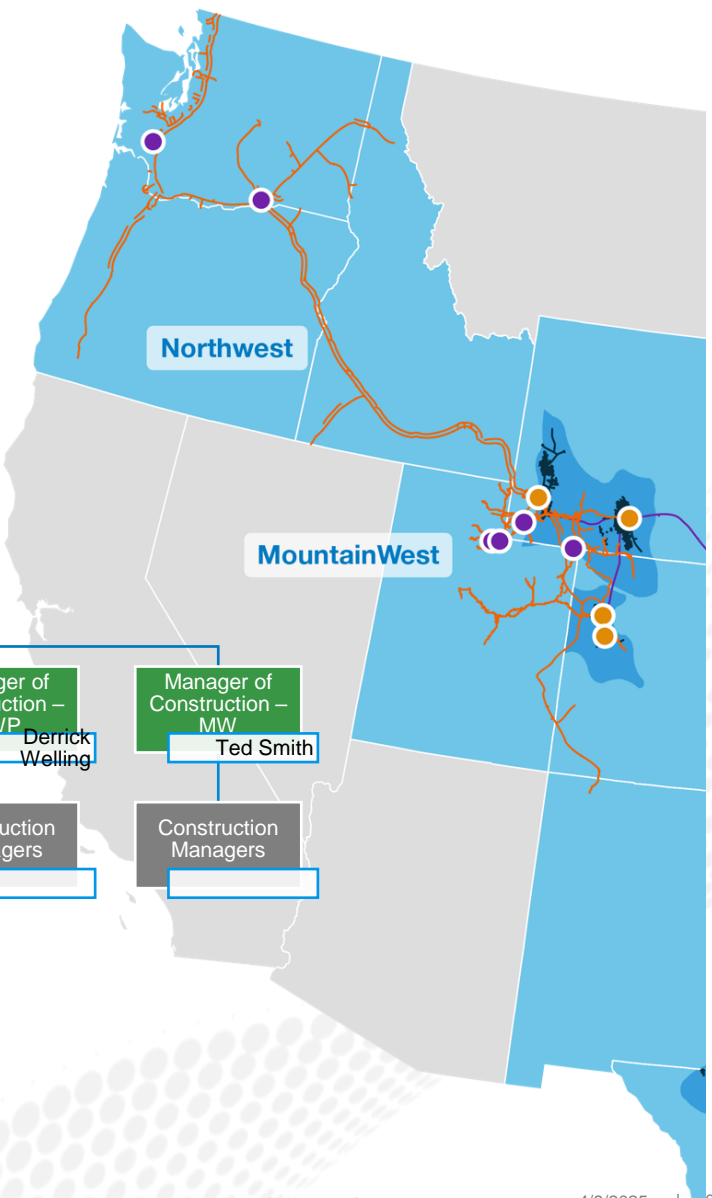
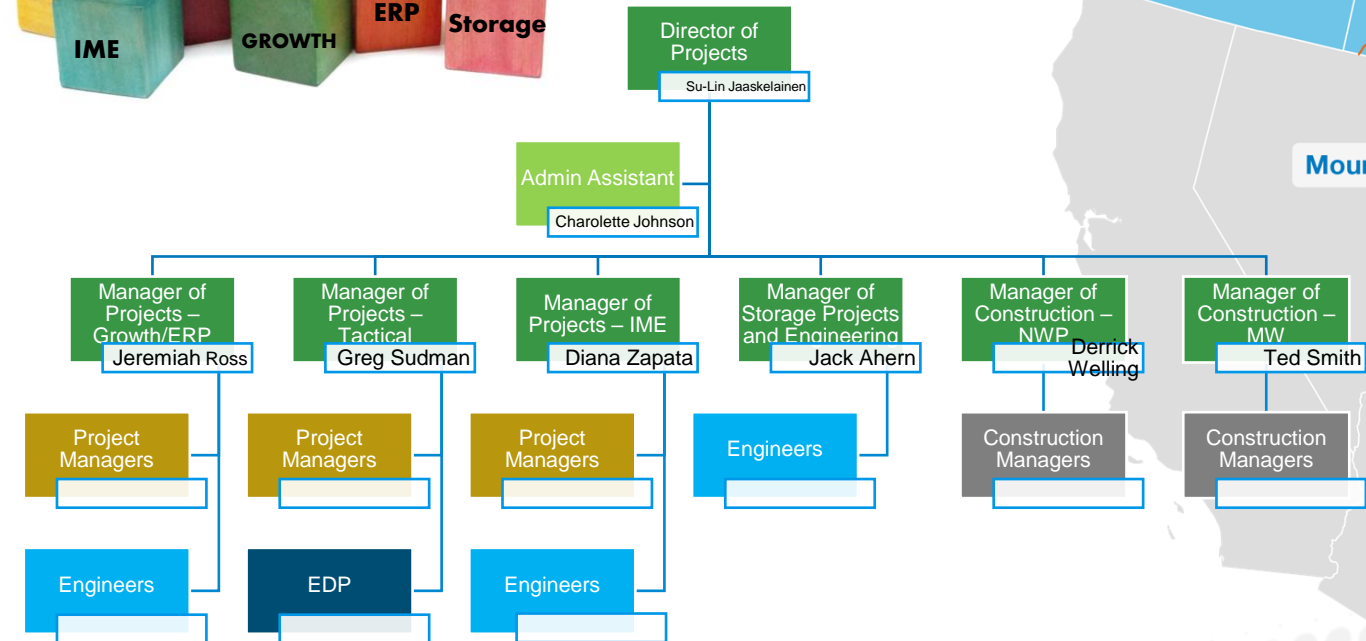
# Western Interstates Growth and M&ERP

Jeremiah Ross, Manager Projects Western Interstates

Jordan McDonough, Business Development Lead

Christine Wallat, Business Development Lead

# Western Interstates Execution Organization





# Western Interstates Priorities



**Energizing Our  
Workforce**

Culture of  
Transparency  
& Innovation

Financial  
Acumen &  
Presentation  
Quality

PM  
Bootcamp  
Revamp

Leadership  
Development



**Business Process  
Modernization**

Schedules for  
Every Project

Benchmarking  
& Estimating  
Tools

Value  
Engineering &  
Alternatives  
Analysis

Project Hub &  
Project  
Workflow



**Project Execution  
Excellence**

Outage  
Optimization

Maintenance  
Capital  
Programs &  
Optimization

Western  
Interstates  
Execution  
Strategy

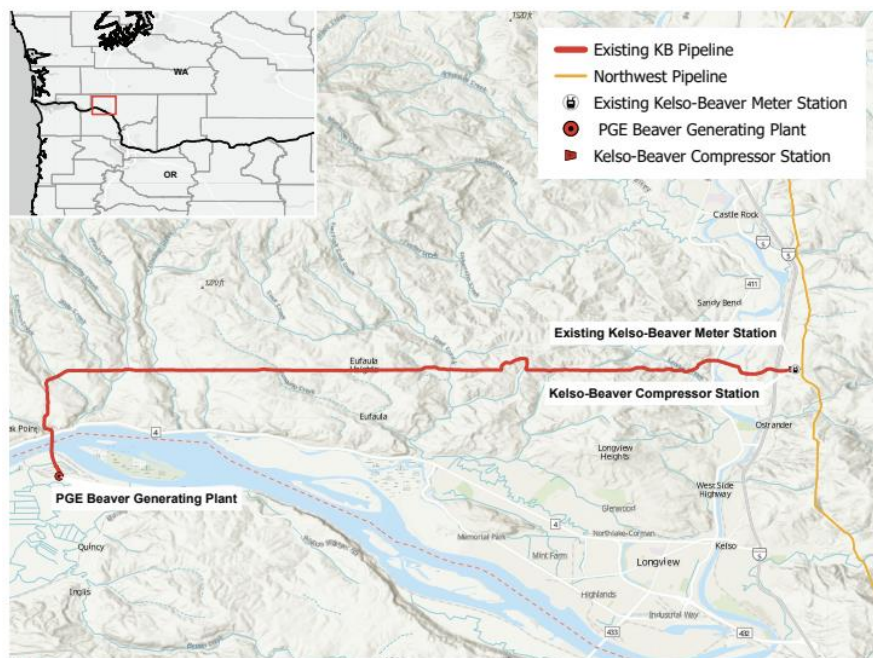
Document  
Controls  
Strategy  
Advance

**Baseline**

# Baseline Performance

# Kelso-Beaver Reliability Project

The Kelso-Beaver (KB) Reliability Project will provide the firm lateral transportation service necessary for shippers to access and utilize the state-approved North Mist Project.



## Project Benefits:

- The KB Reliability Project adds the natural gas infrastructure necessary to meet the growing energy needs of the Pacific Northwest.
- By enhancing system reliability, the KB Reliability Project ensures consistent energy delivery even during periods of erratic winter demand, providing peace of mind for communities and businesses served by Northwest Pipeline.
- The KB Reliability Project supports reliability for the region through access to diverse storage supply.
- Access to additional storage will support the availability of on-demand natural gas peaking facilities. These facilities help mitigate brownouts or blackouts when power demand exceeds renewable energy sources.
- The additional storage at the North Mist Project will reduce natural gas price volatility, an ongoing concern for the region.

## Kelso-Beaver Reliability Project Scope:

**Acquisition:** KB Pipeline – 18 miles of 20"

**Path:** Expansion of KB Pipeline to make it bi-directional

**Volume:** 131 MDth/d into NWP Pipeline and 52 MDth/d delivery into Mist

**Facilities:** 5,500 HP electric compression

**Storage:** NWP subscribed 1.6 bcf on the Mist Resiliency Project

**Target ISD:** Q4 2028

# Wild Trail

Integrated expansion of the mainline to provide firm incremental transportation of 83 MDth/d from the Wild Horse receipt point in Rio Blanco, CO with delivery to Muddy Creek and Ignacio



## Project Benefits:

- Replaces displacement reliant capacity with physical capacity in the expansion corridor providing additional supply for coal conversions and growing demand
- Supports debottlenecking of the White River Hub for egress to access California markets via deliveries to Kern River

## Wild Trail Project Scope:

**Path:** White River Hub to Kern River  
White River Hub to El Paso

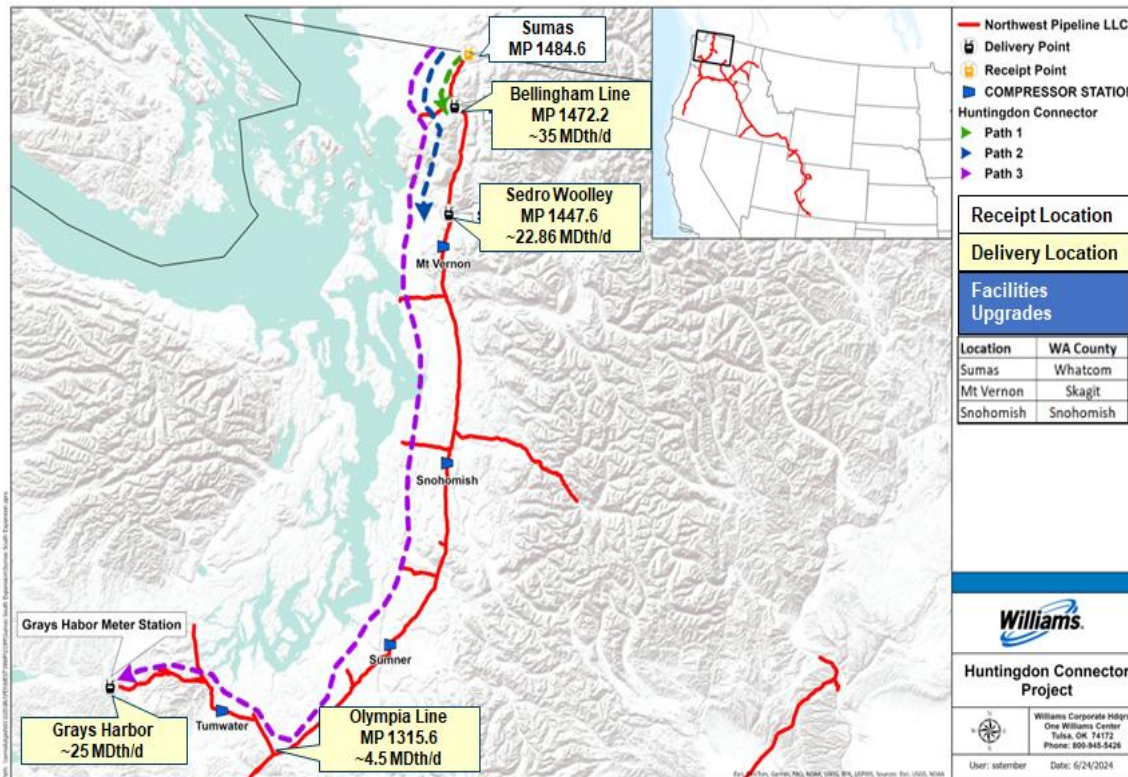
**Volume:** 83 MDth/d

**Facilities:** Greenfield compressor in Daggett County, UT.

**Target ISD:** Q4 2027

# Huntingdon Connector Project

Integrated expansion of the mainline to provide firm incremental transportation up to 87.4 MDth/d from the Sumas receipt point in Whatcom County, Washington to various delivery points south along the I-5 corridor.



## Project Benefits:

Provides a solution for an increase in PacNW demand while reducing NOx emissions

## Huntingdon Connector Project Scope:

**Path:** Sumas to delivery points in the I5 corridor

**Volume:** Up to 87.4 MDth/d

**Facilities:** Turbine upgrades and the re-staging of compressors at existing compressor stations.

**Target ISD:** Q4 2026 (Prior Notice)



# NWP Projects in Execution



## Growth

- KB Reliability Project (2028)
- Huntingdon Connector (2026)
- Wild Trail (2027)
- Ryckman Creek (2025)

## ERP HP Replacements

- Sumas (In-service)
- Green River (In-service)
- Soda Springs (2025)
- Pocatello (2026)
- Kemmerer (2027)

## ERP Turbine Upgrades

- Pergram Unit 2 (2025)
- Muddy Creek Unit 2 (2025)
- Cisco Unit 1 and 2 (2025)
- Buhl Unit 1 (2026)
- McMinnville Unit 1 (2026)



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# North Mist Update

Scott Johnson, Director Gas Supply, Northwest Natural Gas





# Northwest Coalition – What's New

Natasha Jackson, Director of State Affairs, NWGA



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# WECC – Resource Adequacy Assessment

WECC guest



# Northwest Pipeline 2025

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**Kris Raper,**  
*Vice President, Strategic Engagement  
& External Affairs*

Electric Reliability  
& Security for  
the West

04.08.2025

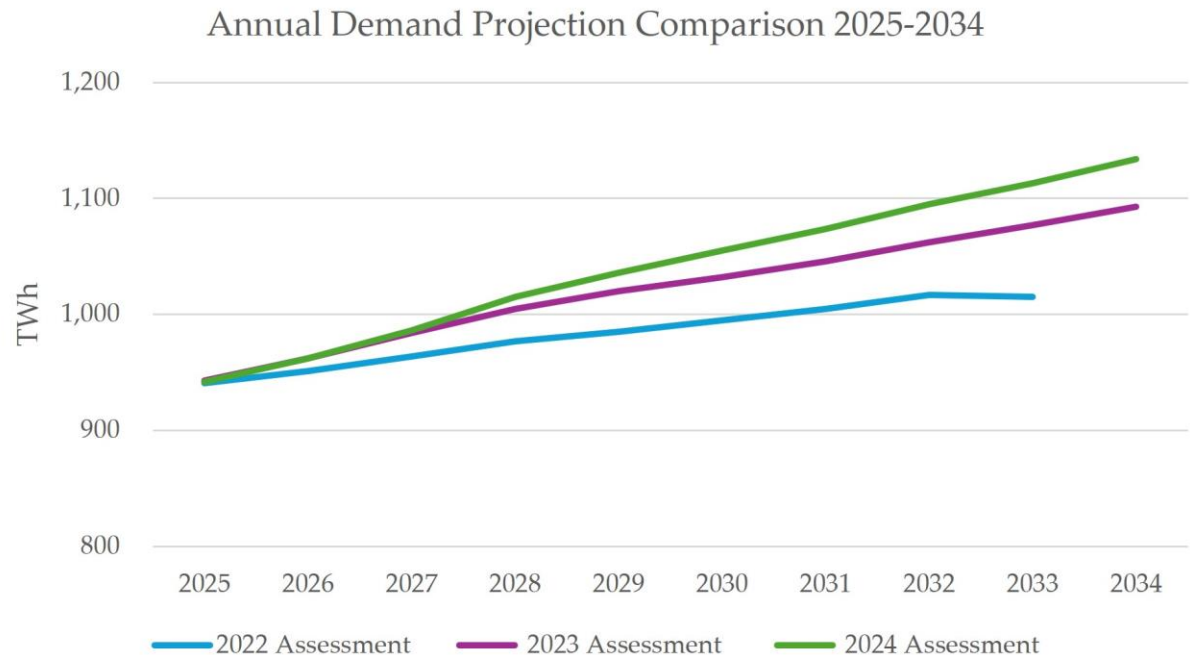
# Load Growth

## 2024 Resource Plans Forecast Annual Demand to Grow 20.4% From 2025–2034

- That is over four times the historical growth rate of 4.5% between 2013 and 2022

## Major Driver of Growth is Expansion of Large Loads

- Data centers, manufacturing facilities, and cryptocurrency mining operations

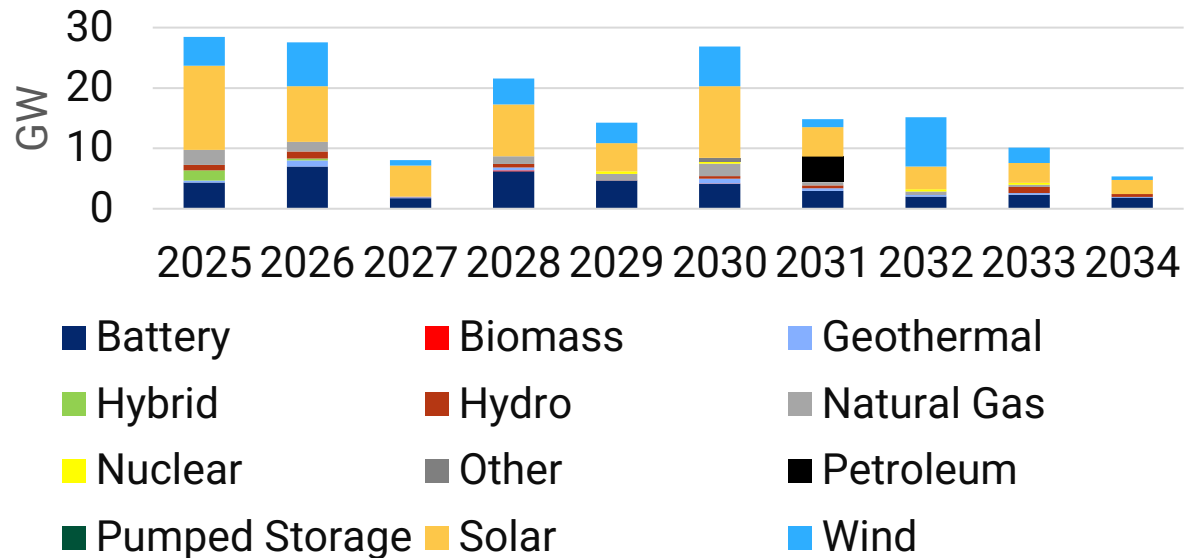


# Resource Additions

**To Accommodate The Projected Growth, Over 172 GW of New Generation Capacity is Planned To Be Built Over The Next Decade**

- More than 85% of that is battery storage, solar, and wind

## Planned Resources in the Western Interconnection



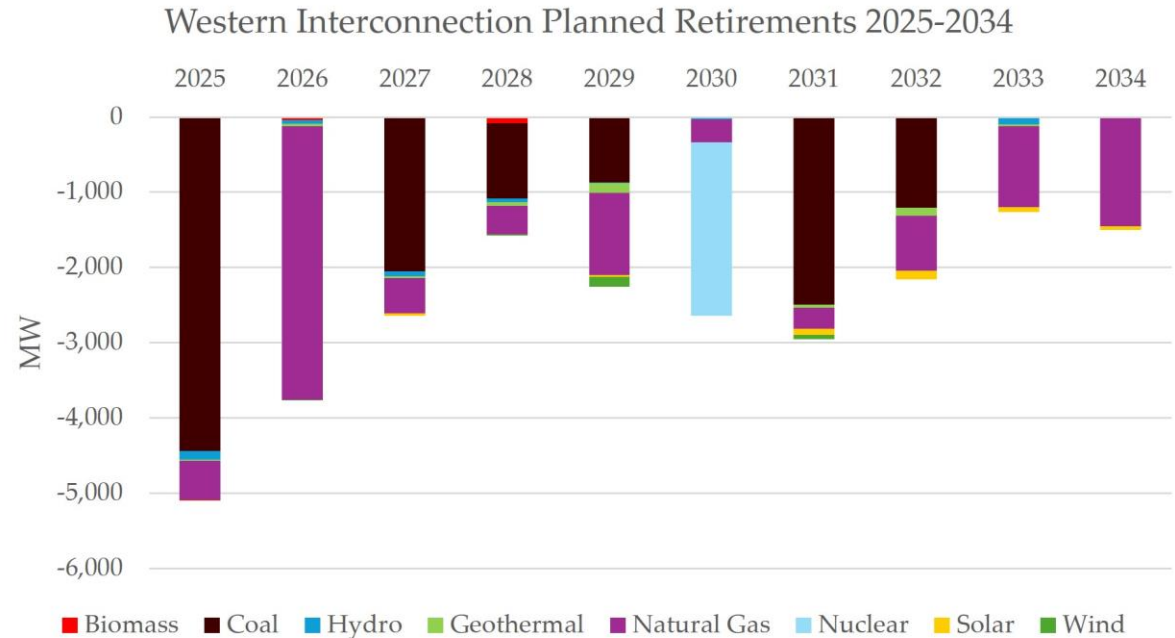
# Resource Retirements

**25.85 GW**

of generation retirements  
over the next 10 years

**More than 24 GW**

are baseload generation (e.g.,  
coal, natural gas, nuclear)





# Variability

## Approximately 147 GW

of energy-limited resources are planned to be built over the next decade: battery storage, hybrid, solar, and wind

## The Addition of These Resources,

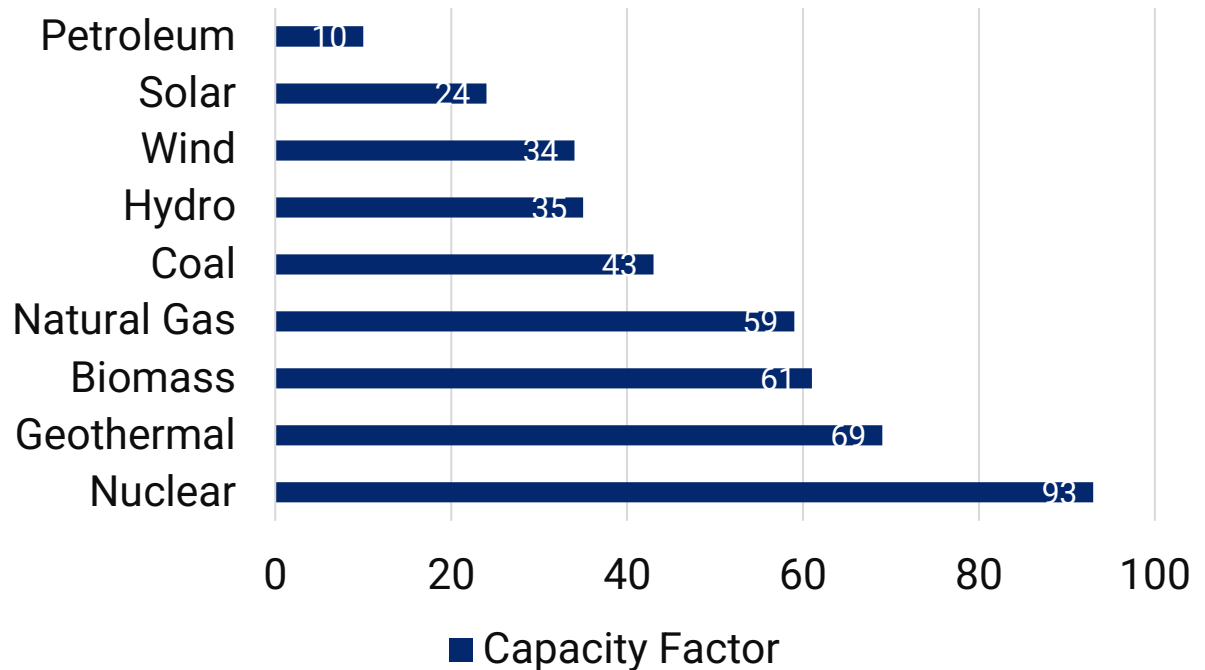
along with the retirement of 26 GW of baseload generation, most of which is coal and natural gas, will increase system variability

## This Increases Risk

and creates challenges in system planning and operation

## 2023 Capacity Factors by Fuel Type

Source: EIA



# Integrated Resource Plans

**Historically,**  
the number of  
new resources  
built according  
to plan and on  
time has varied.



**2018  
–2023**

**Between 2018  
and 2023,**  
approximately  
76% of  
proposed  
resource  
additions came  
online in the  
year scheduled.

**In 2023,**  
53% of new  
resources  
planned to  
come online at  
the beginning of  
the year  
actually came  
online.

**202  
3**



**If The Past  
Is a Model**  
for building  
planned  
resources over  
the next 10  
years, resource  
adequacy will  
be at risk.



[WWW.WECC.ORG](http://WWW.WECC.ORG) | (801) 582-0353



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USA



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# Rockies Growth Outlook

Jason Connelly, Director Business Development, Strategic Development



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# Business Development Update

Christine Wallat, Business Development Lead

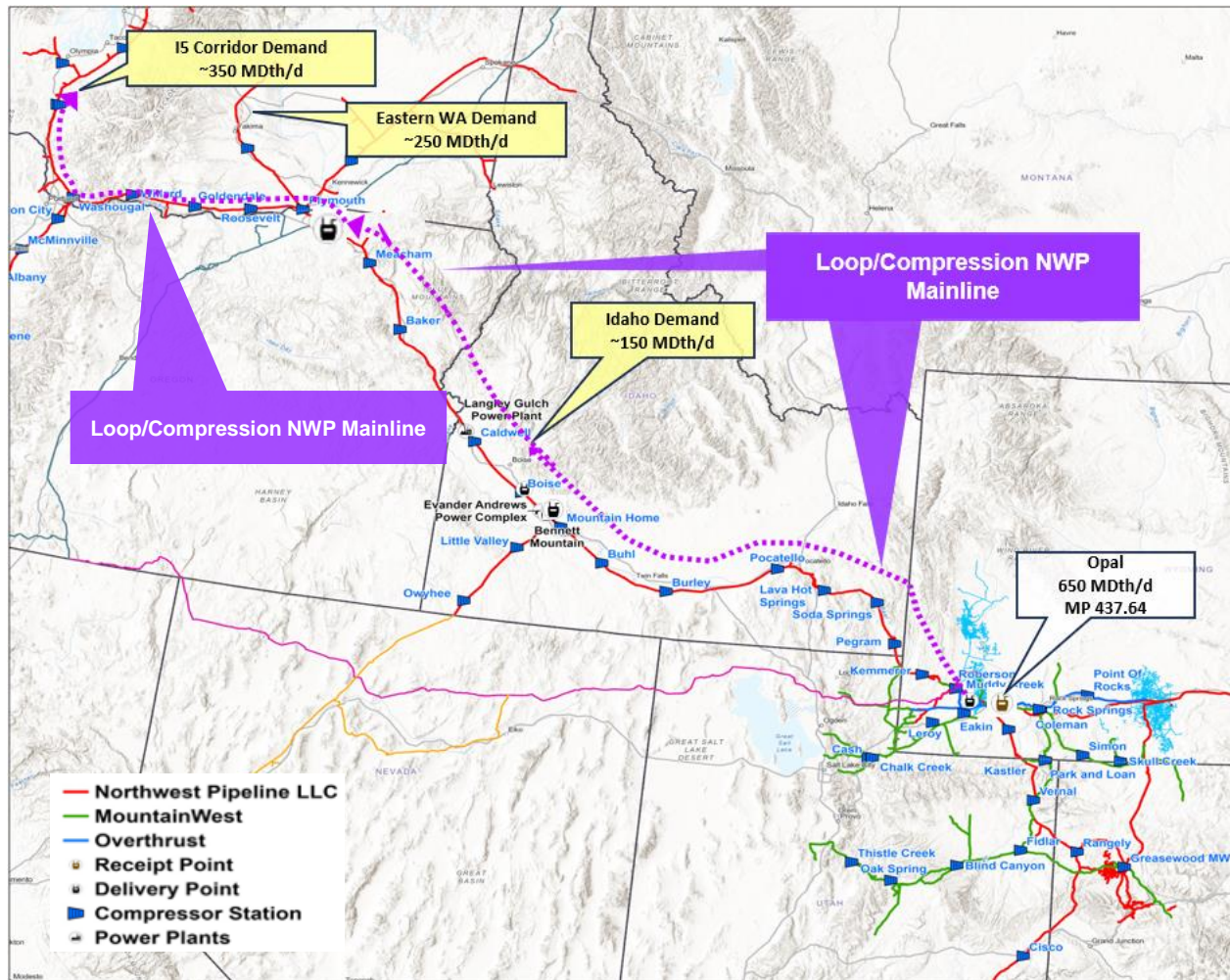
# Why Williams' is focused on the Rockies

**Natural gas supply for Idaho, Oregon and Washington primarily originates from the Western Canadian Sedimentary Basin (WCSB) and the U.S. Rockies region. To meet the growing demand in the Pacific Northwest, expansions will be necessary.**

- Rockies gas is well-positioned for production growth. Infrastructure constraints limit supply responses from WCSB, Permian, and Northeast regions, necessitating a solution from the Rockies.
  - **Regulatory:** Regulatory factors may affect supply responses from certain basins. Expansion from the Rockies involves fewer federal regulatory agencies compared to a build-out from Canada, resulting in a reduction in time and cost associated with pipeline permitting and development.
  - **Proximity:** The Rockies region is geographically closer to Idaho, Oregon and Washington, potentially reducing transportation costs and time. Reduction in miles of new pipeline capacity when compared to regional alternatives.
  - **Existing Infrastructure:** There is robust infrastructure in place, including multiple long-haul pipelines and storage facilities, which can efficiently support the supply.
  - **Cost:** Demand growth in the PacNW is distributed between Idaho, Eastern Washington and the I-5 corridor offering a unique opportunity to provide value engineering and leverage economies of scale.
  - **Regional Resiliency:** Providing access to ample natural gas supply from Opal/Stanfield into the I-5 corridor balances regional supply diversity between Canadian and domestic supply, mitigates supply disruption risk, reduces reliance on displacement, and increases regional energy resiliency in the PacNW.
  - **Environmental:** GHG emissions reductions by adding loop in the Columbia River Gorge estimated to reduce emissions by 30-50% over current state operations.
  - **Brownfield Expansion:** Maximizes existing right-of-way construction for a majority of route alternatives, while minimizing loop sections (potential to rationalize latent capacity and backhaul opportunities on regional pipelines, while reducing the construction and environmental impact between Opal and Stanfield).



# ROSE (650 MDth/d) and North Star (350 MDth/d)



## Project Fundamentals:

- Regional increase in forecasted demand is creating opportunities to leverage economies of scale for infrastructure not experienced in the last decade

## Project Overview:

- Integrated expansion of NWP creating seamless path between Opal and I-5 corridor
  - Receipts: Opal area and Stanfield
  - Delivery options: Idaho, E. Washington and I-5 corridor
- Target ISD: Q4 2030

## Strategic Rationale:

- Provide Rockies sourced supply to support PacNW demand additions including data centers
- Williams has a strong position in inter-Rockies infrastructure

## Current Status:

- Refining scenarios in progress
- Commercial meetings underway with prospective Shippers
- Initial GA&O work indicates no showstoppers

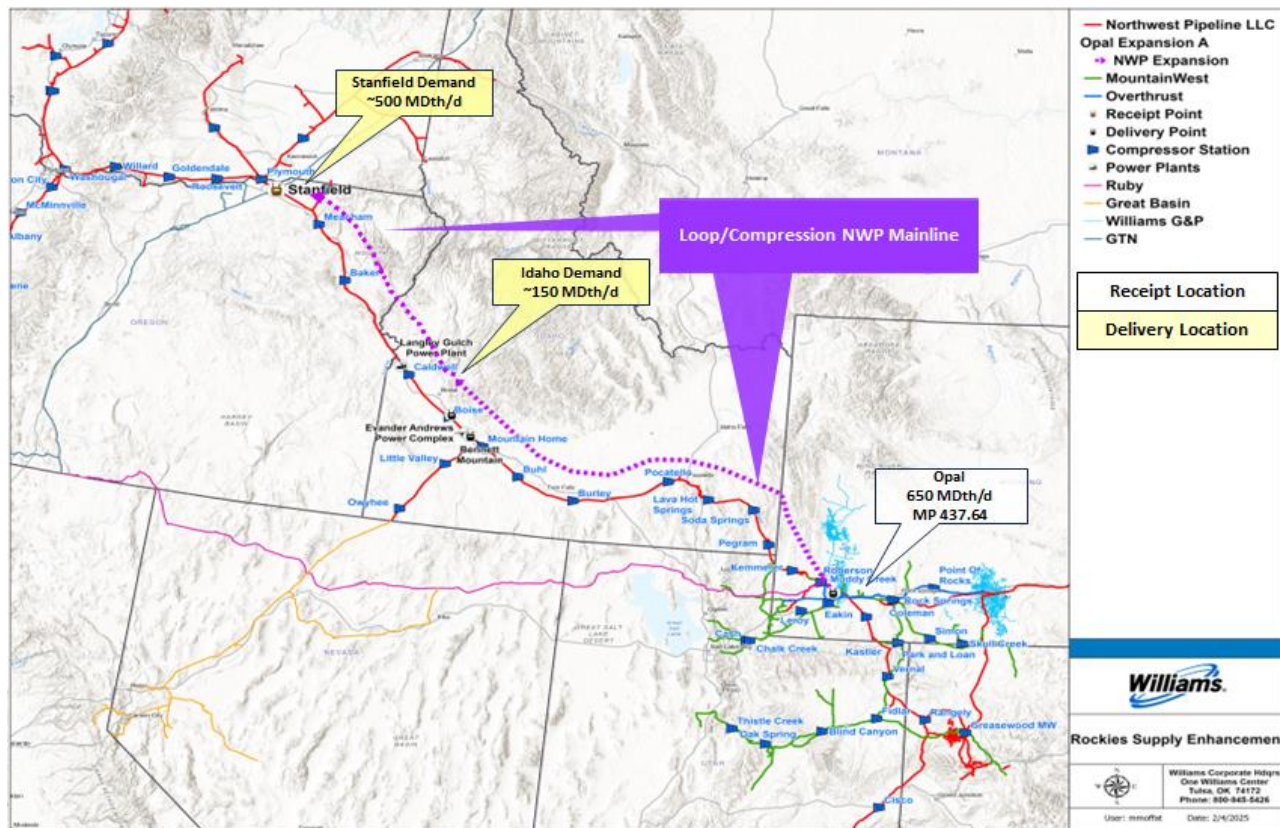
# Rockies Opal Supply Enhancement (ROSE) 650 MDth (Opal to Stanfield)

## Concept:

- Integrated expansion of the mainline to provide up to 650 MDth/d of incremental firm transportation to access Rockies supply at Opal to delivery point(s) in Idaho and Stanfield, Oregon to support PacNW demand additions including data centers.

## Project Scope: (650 MDth/d):

Path: Opal to Stanfield  
Pipeline: Traditional Expansion or Bullet Line (brownfield or greenfield)  
Compression: Increase compression





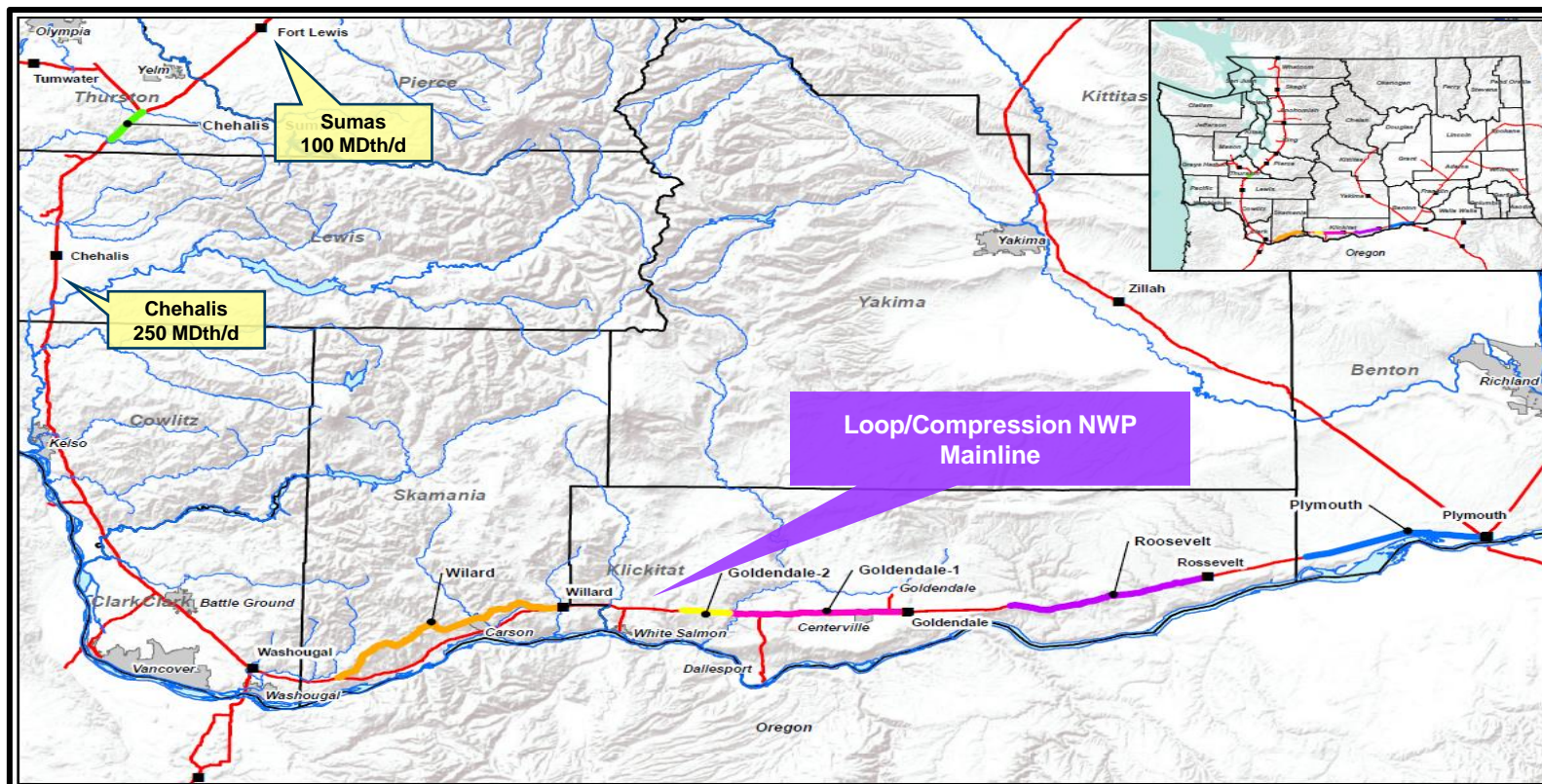
# North Star 350 MDth/d (Stanfield to I5) – Current Load Assumptions

## Concept:

Integrated/combined expansion to provide up to 350 MDth/d of firm transportation to access Rockies supply from the proposed ROSE project Opal to Stanfield, OR at the interconnection with GTN and flow from Stanfield, OR to serve demand growth along the I-5 Corridor.

## Project Scope: (350 MDth/d):

Path: Stanfield to Sumas  
Pipeline: 167 miles of looping. Includes 9 miles of 30" at Chehalis and 158 miles of 24" along the Columbia Gorge (960 MAOP)  
Compression: 49,210 ISO HP – (Plymouth C/S – Taurus 70, Washougal C/S Taurus 70 & Mars 100, Chehalis C/S Taurus 70)  
Retirements: Unit 1 @ Chehalis, Unit 1 @ Washougal



# Next Steps / Project Schedule

## Next Steps:

- Meetings with prospective customers to understand needs
- Refine expansion opportunities for varying scenarios
- Precedent Agreement reviews for potential anchor shippers
- Planning for a Q2/Q3 Open Season in 2025

## Project Schedule:

- 2Q/3Q 2025 Anchor Shipper PAs Executed
- 2Q/3Q 2025 Non-binding Open Season
- 2Q 2026 FERC Pre-filing
- 2Q 2027 FERC Filing
- 1Q 2029 FERC NTP
- 2029/2030 Construction

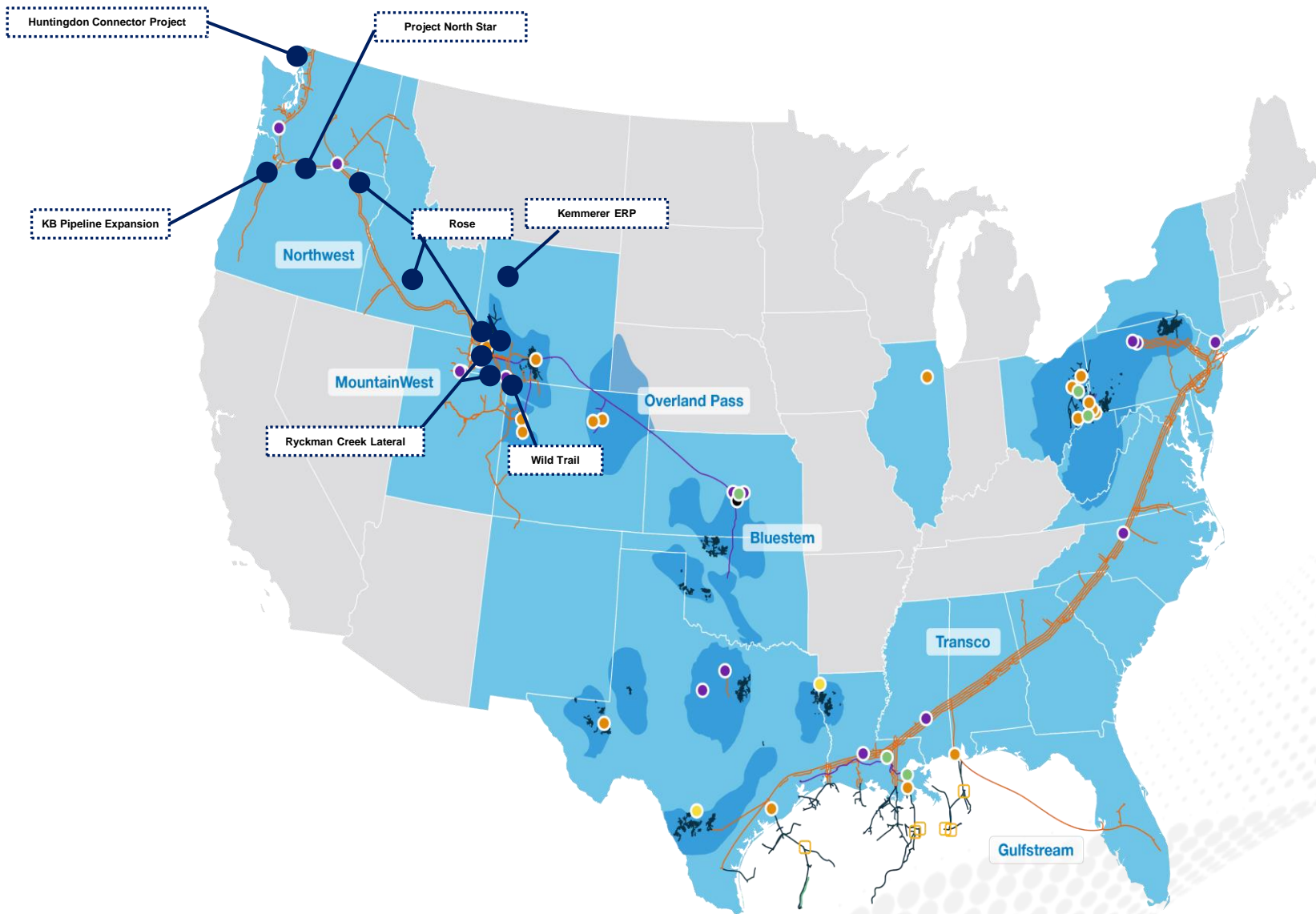


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# Government Affairs – Keys to Success

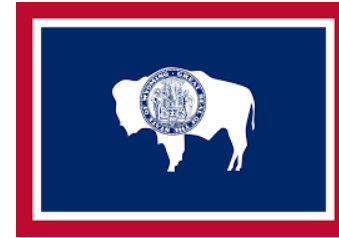
Jimmie Hammontree, State Gov't & Regulatory Affairs

Kasey St. John, Community & Project Outreach





# Williams Perspective on Legislative Sessions



# Government Affairs and Outreach Strategy

- + • Awareness of political nuances leads our proactive approach. We continue to build relationships and trust, ultimately driving education and brand awareness.
- o • Tools in our toolbox:
  - Stakeholder briefings/meetings
  - Polling
  - Social media monitoring
  - Demographic research
  - Landowner risk analysis
  - Charitable giving / community engagement
  - Regular coordination with customers
  - On-the-ground consulting teams

# Update on Recent Activities

- Briefings with state legislators for projects in multiple states
- Meeting with Governor Bob Ferguson's Climate and Energy Policy Advisor Kate Brouns
- Discussion with Washington State Building & Construction Trades Council
- Ongoing energy huddles with Utah Governor's Energy Advisor Emy Lesofski
- Stakeholder identification and engagement for KB Reliability Project and Huntington Connector
- Community meeting for KB Reliability Project





# What's Next?

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- ❑ Meeting request with Washington Governor Ferguson
- ❑ Meeting with Utah Governor Cox at end of April
- ❑ Wrap up meetings with state legislators for Huntingdon Connector, North Star, and Wild Trail projects
- ❑ Finalize initial Government Affairs and Outreach effort on North Star
- ❑ Alignment with customers on outreach strategy/efforts
- ❑ Support from Washington and Oregon legislators for the KB Reliability Project

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YOU**





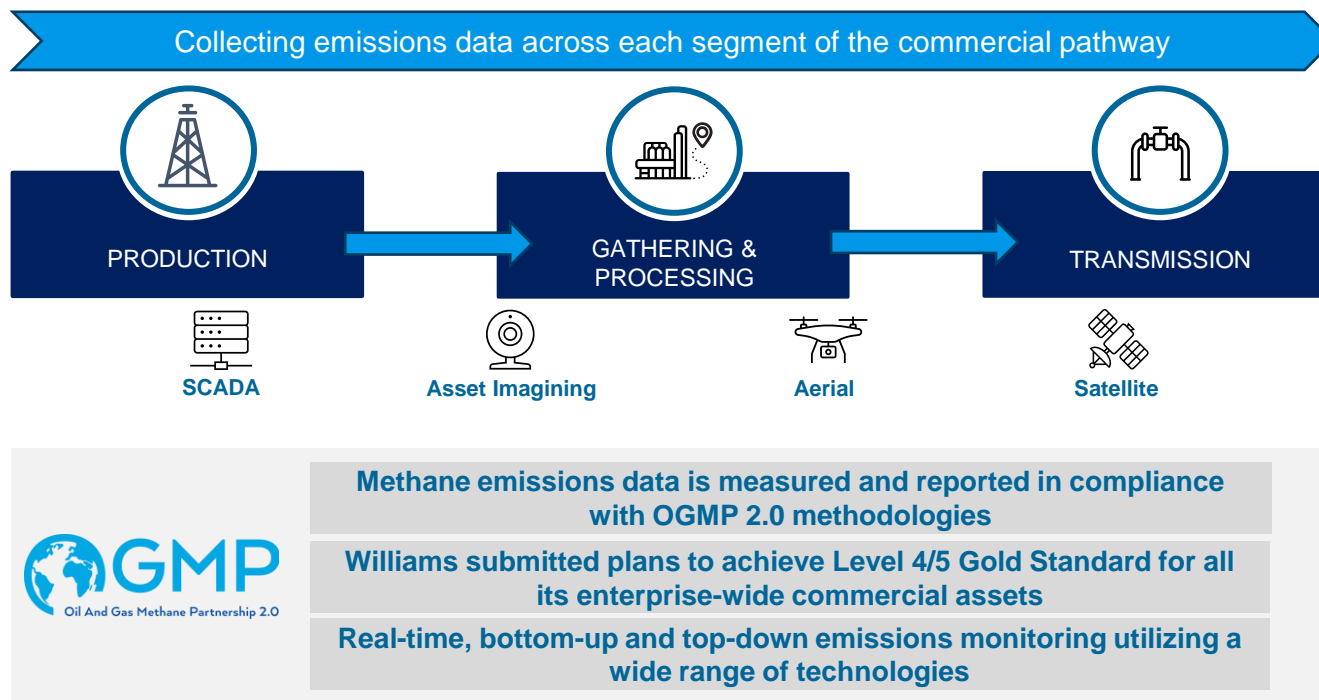
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# NextGen Gas

Chad Bracher, Business Development Lead

# NextGen Gas is Setting the Standard for Certified Gas

## Williams' Quantification Monitoring Reporting and Verification (QMRV) Program





# Certification & Marketing of Environmental Attributes

Williams' emissions data is processed by our strategic partner, Context Labs, verified by KPMG and then market by Sequent

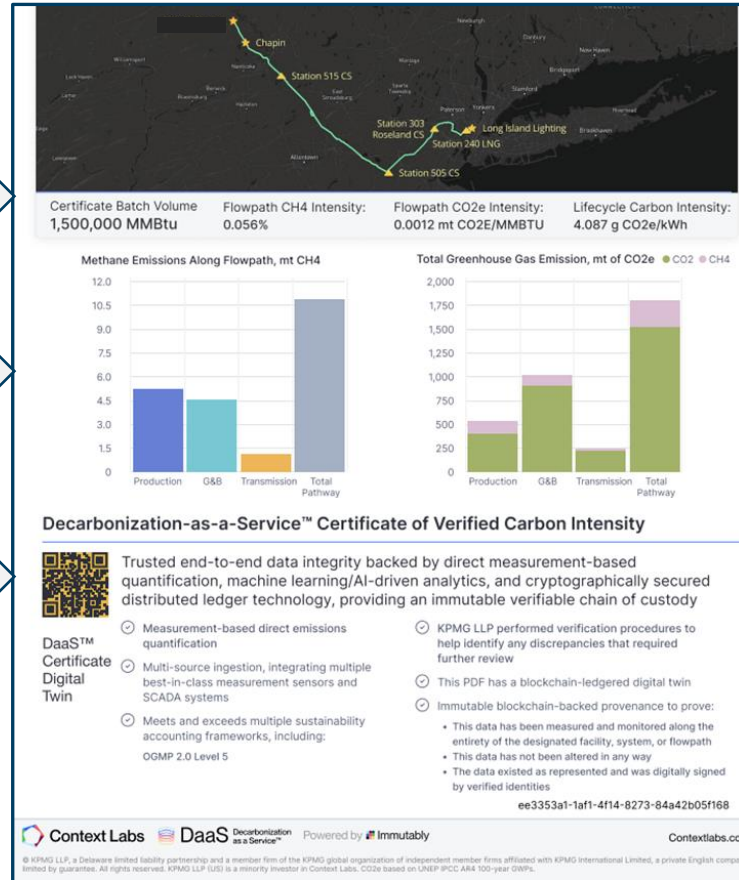






Sequent Energy  
Management

A WILLIAMS COMPANY



# Sample NextGen Gas Certificate



Verified Carbon Intensity Certificate		Date: June 2024
Environmental Attribute Fact Sheet		Cert ID: End-To-End-06-2024
Production - Methane Intensity - 0.0267%		
Gathering & Boosting - Methane Intensity - 0.0234%		
Transmission - Methane Intensity - 0.006%		
Operator	Williams	
System	Transco Pipeline	
Receipt Point	Chapin	
Delivery Point	Long Island Lighting	
Compressor Station(s)	Station 515 CS, Station 505 CS, Station 303 Roseland CS, Station 240 LNG	
Operating Period	June 2024	
Volume	1,500,000 MMBtu	
CH4 Emissions	0.145 mt CH4	
Protocol (Emissions)	Developed following OGMP 2.0 Level 5	
Protocol (Intensity)	NGSI	
CO2 Emissions	218.13 mt CO2	
CO2e Emissions	246.13 mt CO2e*	
*The Global Warming Potential (GWP) of methane (CH4) is 25 times that of carbon dioxide (CO2) over a 100-year period. This means that 1 metric ton of CH4 is equivalent to 25 metric tons of CO2e in terms of its impact on global warming.		
Granularity	Site - Level	
Certification	DaaS™ Certificate of Verified Methane Intensity	
Verification provided by:	KPMG, LLP	
Verifier Signature	Ed25519:0BA80602815F04934835750672B1FBADFE230CB05733785955EDBF215881591107BCC40B1A03128B358D64D933BB45FC6F92FB302F112F193956B147BF0A6424	
Sub-Proof	DaaS™ Certificate Digital Twin	
<div><div> Context Labs</div><div> DaaS Decarbonization as a Service™</div><div>Powered by  Immutably</div></div> <div>Contextlabs.com</div> <div><small>© KPMG LLP, a Delaware limited liability partnership and a member firm of the KPMG global organization of independent member firms affiliated with KPMG International Limited, a private English company limited by guarantee. All rights reserved. KPMG LLP (US) is a minority investor in Context Labs. CO2e based on UNEP IPCC AR4 100-year GWPs.</small></div>		

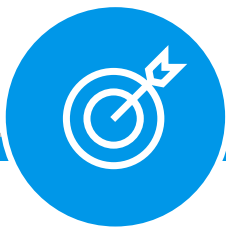
Data by path segment

Real-time data

Methane & carbon dioxide



## Williams' certified natural gas: your solution in a changing environment



### Regulatory Compliance

Trusted emissions data for compliance with most international standards and reducing carbon tax exposure.



### Emission Reduction Goals

Reliable quantification of total CO<sub>2</sub>e data for achieving emissions reduction targets.



### Market Differentiation

Lower carbon products can garner pricing premiums and gain access to evolving global markets.



### Lowering Cost of Net Zero

EA certificates can be bundled with, and lower the total cost of, many carbon offset products for Net Zero.

Chad Bracher  
[chad.bracher@williams.com](mailto:chad.bracher@williams.com)  
918.691.2433



# Market Fundamentals

Northwest Pipeline Shippers Advisory Board  
Spring 2025

# Market Fundamentals

- Hydro/Battery
- Summer Assessment
- Future Outlook

# Market Fundamentals

- **Hydro/Battery**
- Summer Assessment
- Future Outlook



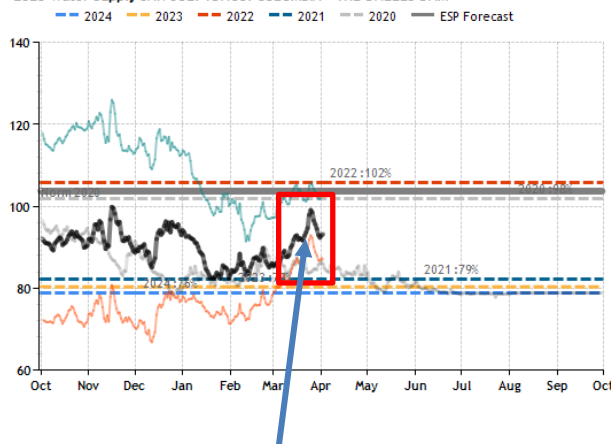
# Hydro – PNW Late Season Charge?

ESP Run 4/2/25 (Water Year 2025)			Prior Actuals in MAF					30yr Normals	
Period	ESP Fcst in MAF	Chg	2024	2023	2022	2021	2020	1991-2020	1981-2010
Jan-Jul	93.2 (90%)	0.3 (+0.3%)	79 (76%)	80 (77%)	106 (102%)	82 (79%)	102 (98%)	103.71	101.54
Apr-Jul	73.9 (90%)	0.3 (+0.4%)	60 (73%)	69 (84%)	87 (107%)	66 (80%)	85 (104%)	81.93	79.83
Apr-Aug	80.3 (90%)	0.2 (+0.3%)	66 (73%)	74 (83%)	96 (108%)	72 (80%)	92 (103%)	89.20	87.40
Apr-Sep	85.2 (90%)	0.0 (+0.0%)	70 (74%)	78 (83%)	100 (107%)	76 (81%)	97 (103%)	94.17	92.52

## Flood Control Summary - 2025

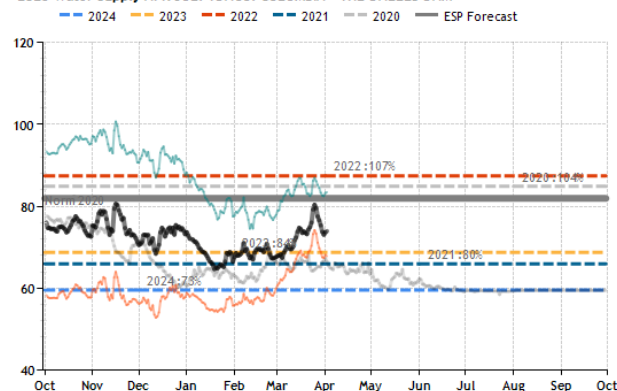
Date	Type	MAF	GCL Elev (ft)
3/7	Actual	75.1	1282.3
3/26	Interim	84.1	1254.2
3/31	Interim	80.8	1266.3
Current	Discuss	80.3	1267.4
4/7	Actual	??	??

2025 Water Supply JAN-JUL: TDAO3: COLUMBIA - THE DALLES DAM

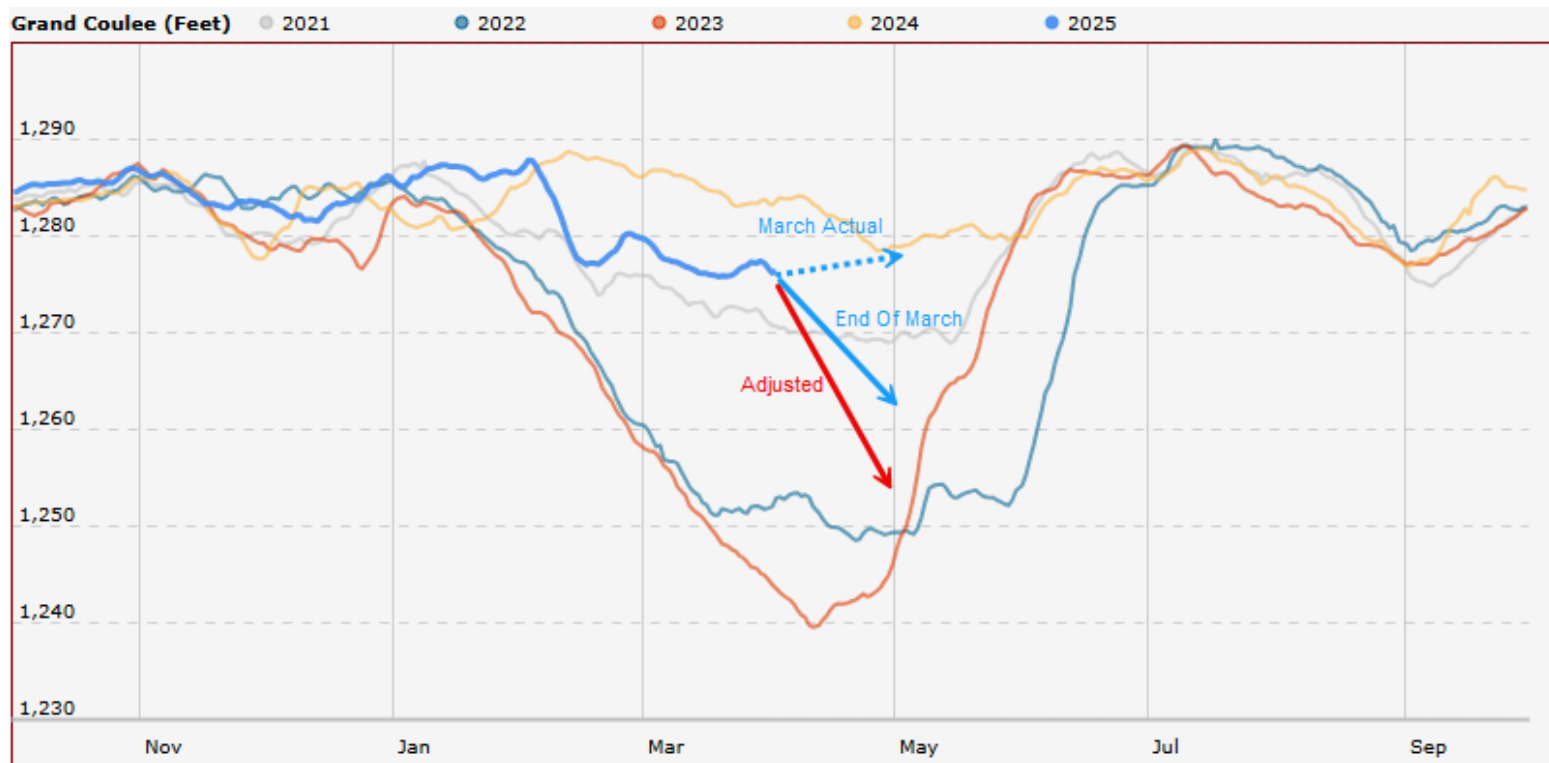


Hydro Volatility

2025 Water Supply APR-JUL: TDAO3: COLUMBIA - THE DALLES DAM



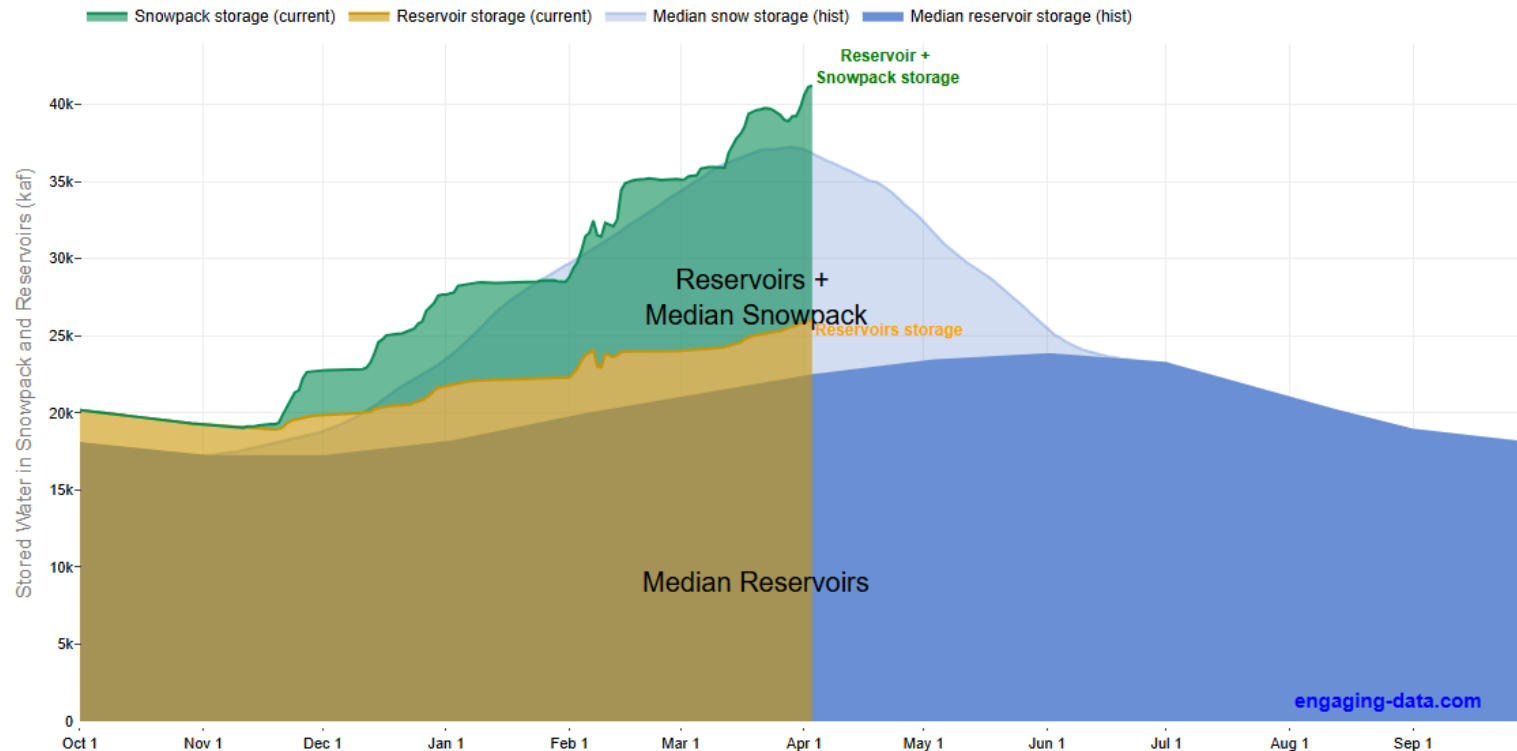
# Hydro – Release Storage (Draft)



# Hydro – PNW Highlights

- **Late Season Push**
  - Cold and Wet March (Snowpack Accumulation)
  - April Flood Control Adjustments
  - Draft Storage/Westside Buildup
- **British Columbia**
  - Site C in play
  - Alberta Flex

# Hydro – California 5/3/???



**Total Water Storage**  
**41,229 kaf**

111.9% of hist median  
110.7% of peak (3/29)

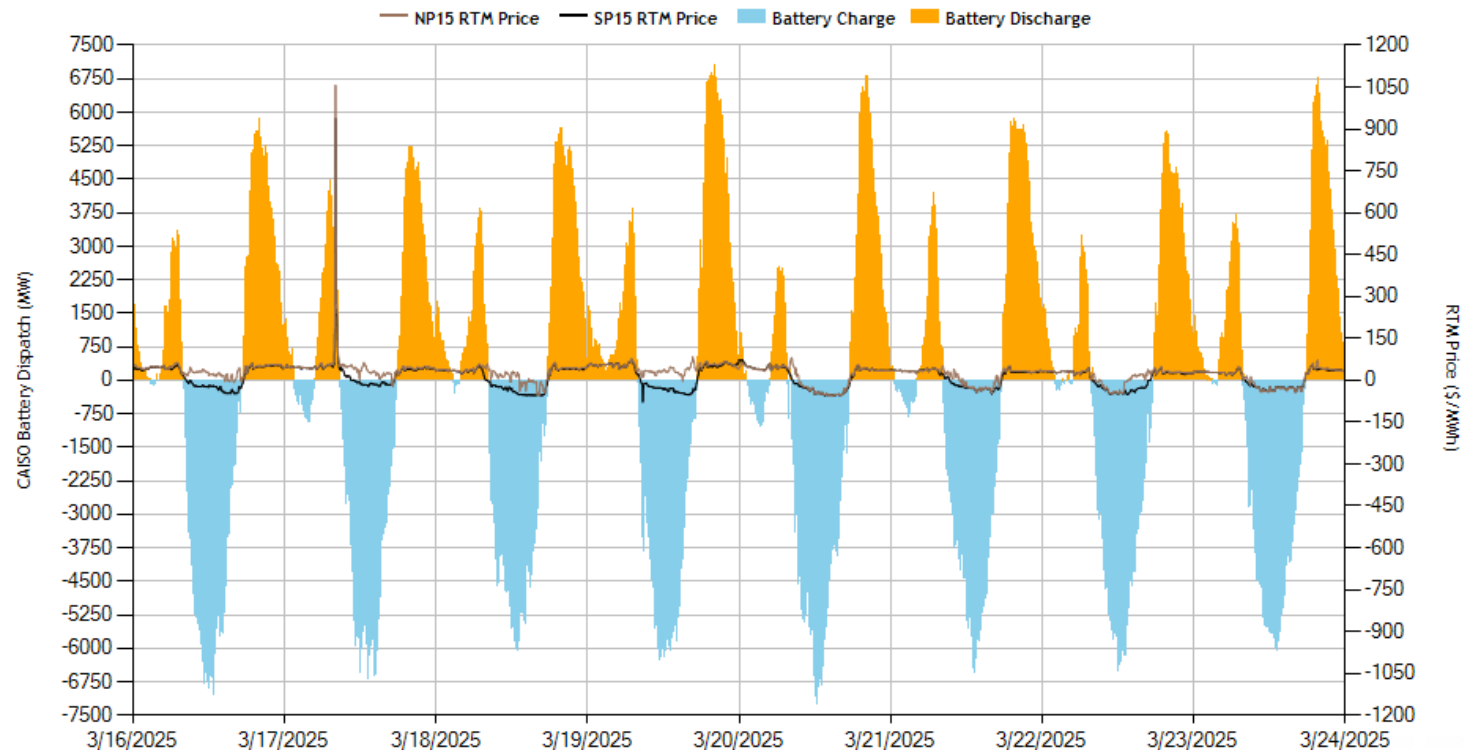
**Reservoir Storage**  
**26,041 kaf**

116.2% of hist median  
109.4% of peak (5/31)

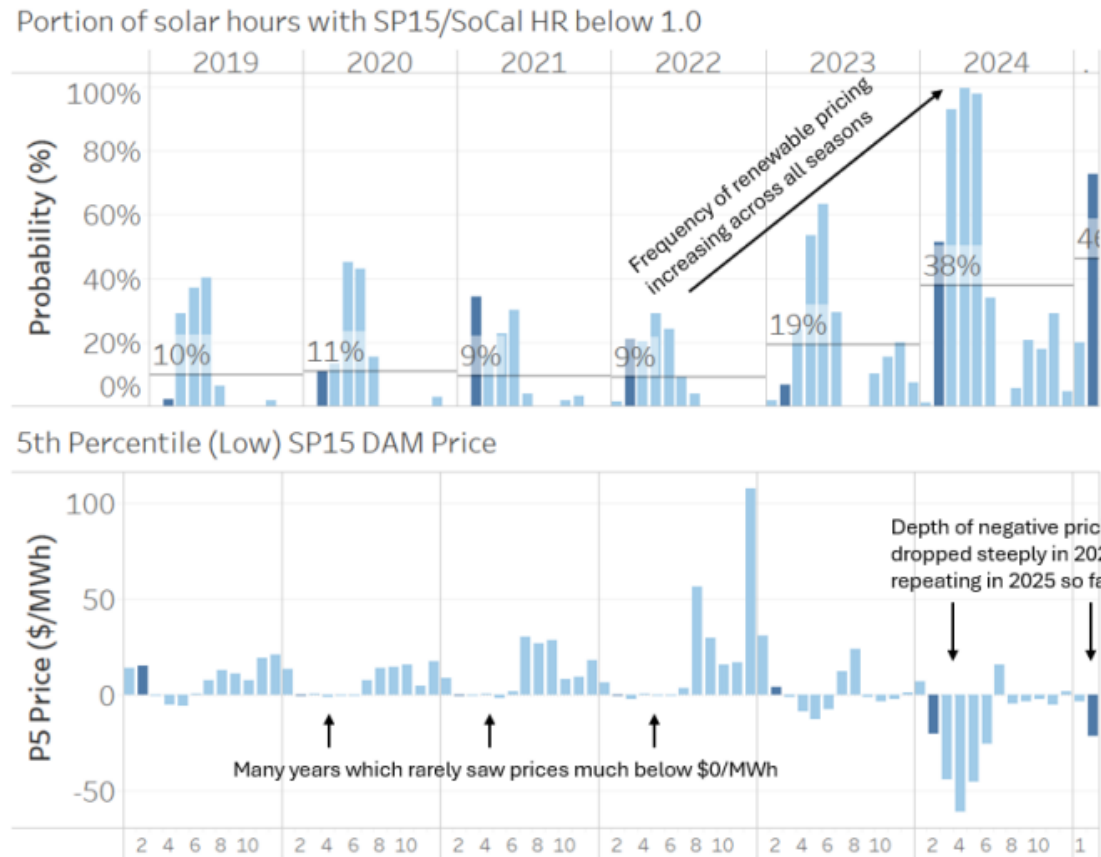
**Snowpack Storage**  
**15,188 kaf**

105.4% of hist median  
100% of peak (3/21)

# Battery Impact – Real Time Results



# Battery Impact – Frequency Escalating

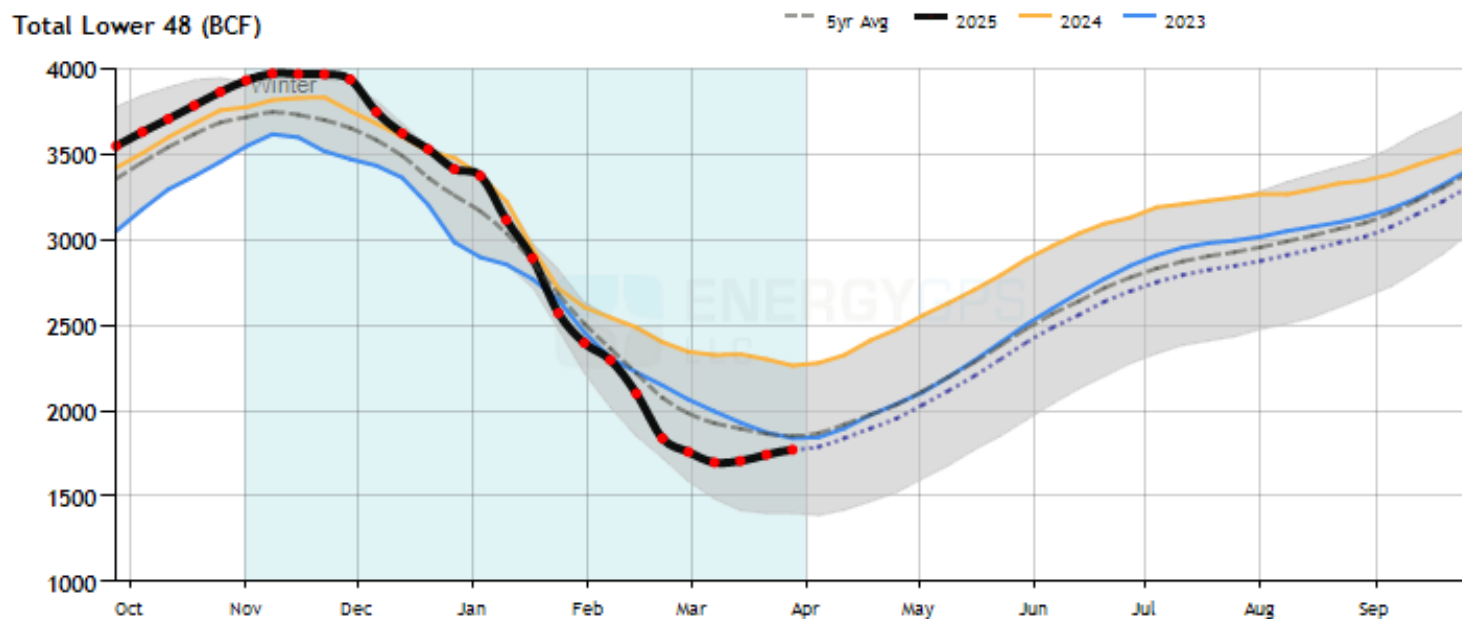




# Market Fundamentals

- Hydro/Battery
- **Summer Assessment**
- Future Outlook

# Summer Assessment – Lower 48 Storage



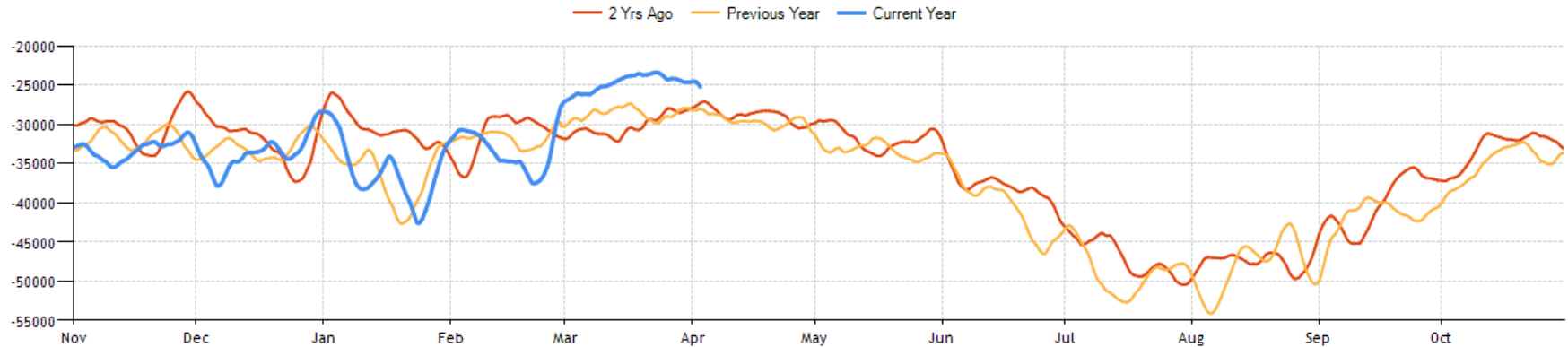
## Cold Q1-2025

- Storage withdrawals quite high
- Lack of production

## Price Signal Triggers

- Prompt Month topped \$4.75/Forward Curve Moved Up – enough for production?
- Prompt Month Toggle - \$4.00, uncertainty abound

# Summer Assessment – Spring Power Burns



## Spring (Q2-2025)

### Middle Third (ERCOT/SPP/MISO)

- Solar Buildout
- Wind Profiles Strong

### PJM

- Solar Buildout
- Modest Power Demand

### Desert Southwest

- Solar and Batteries

### California

- Hydro
- Renewables

### Pacific Northwest

- Hydro

## Summer (Q3-2025)

### ERCOT

- North/West Texas – Data Centers
- Summer Heat?? New normals

### Rockies/Desert Southwest/MISO

- Solar and Batteries
- Load Growth – Data Centers

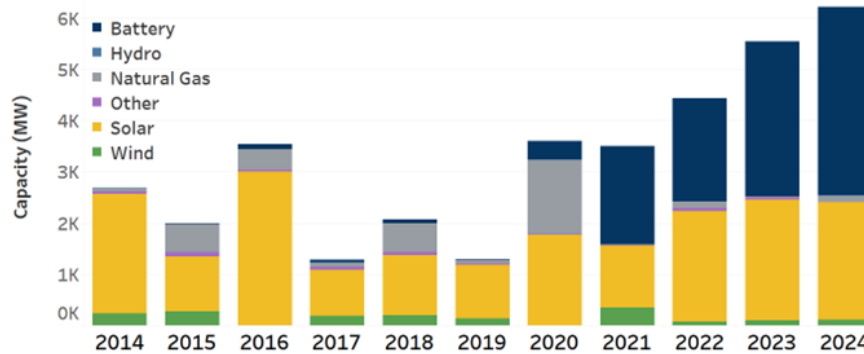
### California

- Coastal Heat

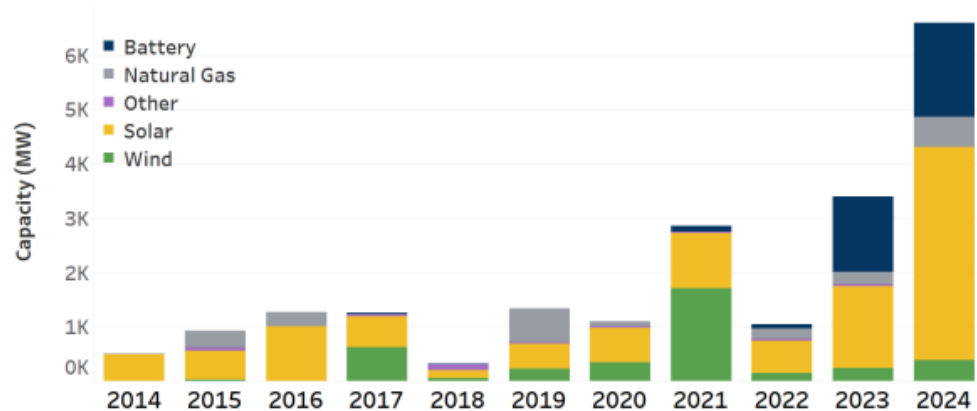
### Pacific Northwest

- Structural Demand
- Lean on California

# Summer Assessment - Regional Supply Buildout

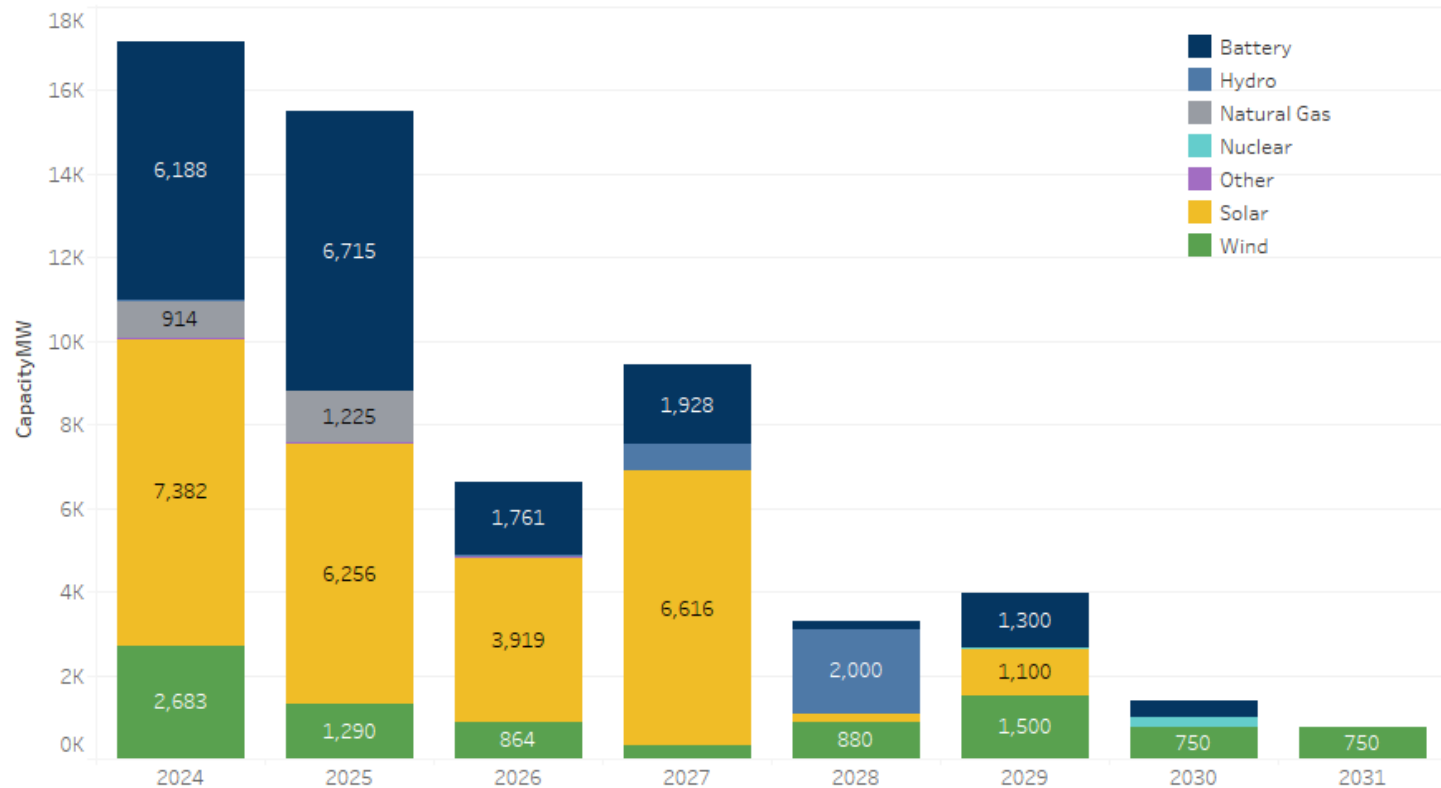


CA



DSW

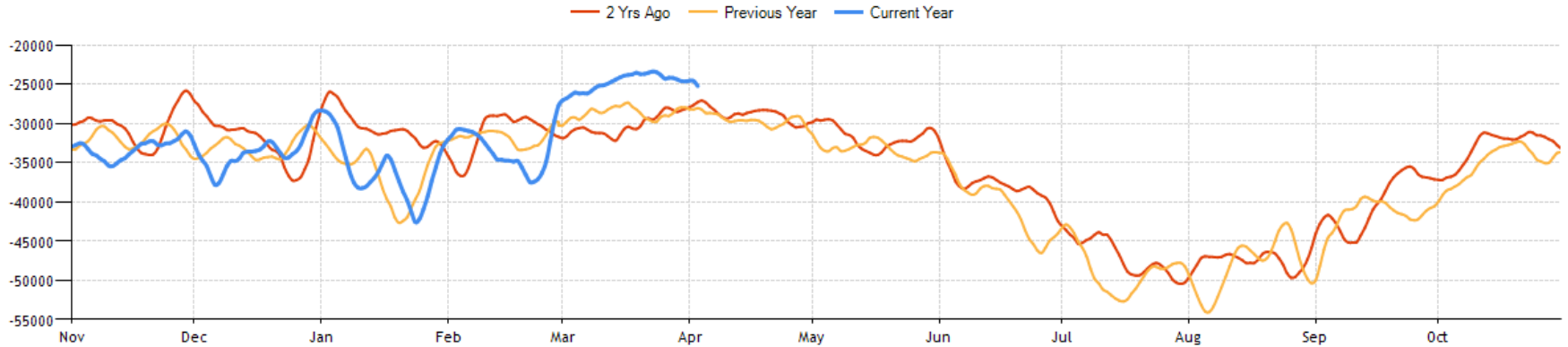
# Summer Assessment – Forward WECC Supply Buildout



# Market Fundamentals

- Hydro
- Summer Assessment
- **Future Outlook**

# Future – Power Burns



## Spring (Q2-2025)

### Middle Third (ERCOT/SPP/MISO)

- Solar Buildout
- Wind Profiles Strong

### PJM

- Solar Buildout
- Modest Power Demand

### Desert Southwest

- Solar and Batteries

### California

- Hydro
- Renewables

### Pacific Northwest

- Hydro

## Summer (Q3-2025)

### ERCOT

- North/West Texas – Data Centers
- Summer Heat?? New normals

### Rockies/Desert Southwest/MISO

- Solar and Batteries
- Load Growth – Data Centers

### California

- Coastal Heat

### Pacific Northwest

- Structural Demand
- Lean on California

## Winter/Beyond (2026-??)

### Lower 48

- Load Growth pace
  - Weather
  - Renewables
- ### Renewables
- Battery Capacity
  - Weather (2025 got lucky – cold/sun)

### New Build

- Reliable/Affordable
- Natural Gas Units

### Logistics/Policy

- Transmission Constraints
- Queue Constraints
- Washington DC



# Future Outlook – Discussion Points

## Key Elements

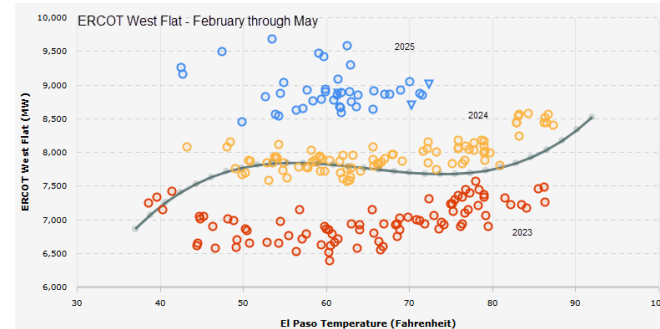
- Load Growth
- Weather Patterns Changing
- Energy Transition/Policy
- NG Storage Capacity

## Existing Grid Optimization

- Consolidation of Markets
- One Regional Transmission Organization (West seems to be going with **TWO**)

## Reliability Must Haves - Upgrades

- **Power**
  - Transmission
  - Distribution Network
  - New Build queue overhaul
- **Natural Gas**
  - Pipeline Expansions
  - Quantity of resource
  - Turbine Availability



**MUST HAVE**  
**Transmission Upgrades**



# Contact Information

- **Product/Consulting Contact Information**
  - Email | [sales@energygps.com](mailto:sales@energygps.com), [support@energygps.com](mailto:support@energygps.com), [Contact Us](#)
- **EGPS Staff - Jeff Richter**
  - Jeff Richter
    - Cell/Whats App | 503-989-9540
    - ICE | jrichter3 or jrichter@energygps.com
- **Newsletter Blog** – [www.energygps.com](http://www.energygps.com)



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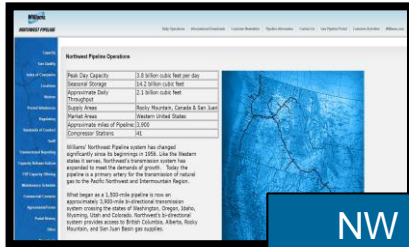
# Passage Modernization Project

Beau Galloway, Director Commercial Technology

# Commercial Technology – What We Do

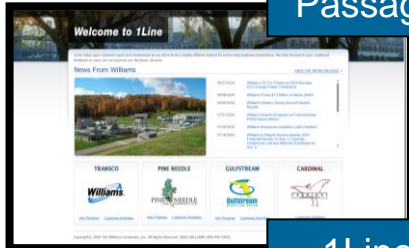
# SYSTEMS

Maintain commercial systems

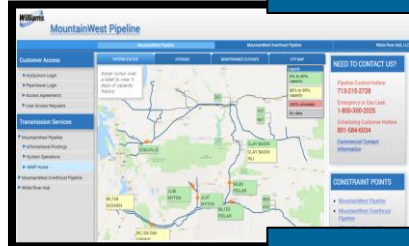


# NW Passage

Support  
customers and  
commercial  
reps



## 1 Line



## Latitude

## Identify and implement enhancements

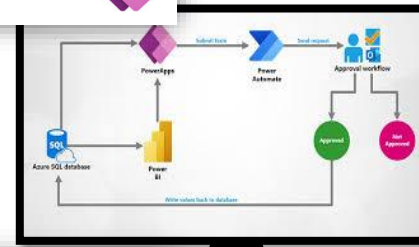


## Quorum

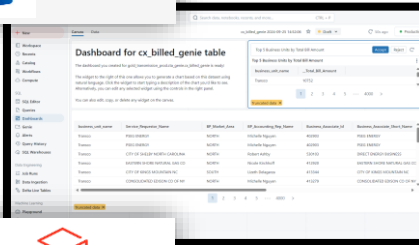
# ANALYTICS



## Data flow and integration



# Data visualization



## Workflow Automation



**databricks**

# Passage Current State



- The NW Passage system, used for transportation scheduling and billing, is facing challenges due to its outdated design and unsupported software. This impacts efficiency and overall performance.
- Additionally, its limited automation and on-premises setup make it difficult to keep up with new technology and evolving business needs.
- To address these issues, we need to evaluate the feasibility of upgrading or replacing NW Passage with modern software solutions. This will involve a comprehensive business gap assessment to identify areas for improvement while maintaining the features you value.
- Our goal is to ensure continued operational efficiency, streamline workflows, and enhance system performance, with strong support throughout the transition.

# Passage Evaluation

## Consolidate Williams' Systems



- Higher reliability
- Less systems for customers / marketers to manage
- Enhanced Scalability



- High capital investment
- Timeline to complete
- Change management

## Modernize Passage



- Minimal change management
- Modern code base
- Cloud hosted



- High capital investment
- Still have multiple systems to maintain
- Timeline to complete

## New Software Solution



- Consolidated systems
- Daily support outsourced



- Integration cost
- Change management
- Enhancement execution

## What's Next

### Phase I

#### Consolidation Review

- Tariff assessment – Complete
- Functional Assessment – Q2
- Technical Assessment – Q3
- Determine cost, resource and completion estimate – Q3

#### Modernization Review

- Determine cost, resource and completion estimate – Q3

#### New Software Solution Review

- Evaluate options
- Review options with customers

Decision to be made by Sept 30<sup>th</sup>

### Phase II

- Project planning and implementation
- Customer input throughout the project



# Current Enhancements

## Sub Cycle 2 Automation

- Provides consistent final scheduling results
- Minimizes errors in the scheduling process
- Immediate transfer of data with trading partners
- Improves overall efficiency

## Reduction Reason Enhancement

- Displays gas cut locations
- Introduces directional cut codes
- Empowers customers to self identify scheduling cuts

The image shows two overlapping screenshots of the Williams Northwest Pipeline system. The top screenshot is the 'Capacity Release Transactional Report Summary' page, which displays a table of capacity release transactions. The bottom screenshot is the 'Northwest Passage' scheduling interface, showing various input fields and a table for scheduling cuts.

**Capacity Release Transactional Report Summary**

Details	K	Post Date	Post Time	K Holder Name	Sec Req K	Releaser Name	Rel K	K Beg Date	K End Date	K Stat Des	K Qty - K	ARI Desc
		03/23/2023	17:02	Carlisle Commodities Merchant Trading L.P.	145153	Carlisle Commodities Merchant Trading L.P.	145153	12/01/2023	11/30/2023	Amended	6420	None
		03/23/2023	17:02	Carlisle Commodities Merchant Trading L.P.	145154	Carlisle Commodities Merchant Trading L.P.	145153	12/01/2023	11/30/2023	Amended	6100	None
		03/23/2023	17:02	Carlisle Commodities Merchant Trading L.P.	145155	Carlisle Commodities Merchant Trading L.P.	145153	12/01/2023	11/30/2023	Amended	6420	None
		03/23/2023	17:02	Carlisle Commodities Merchant Trading L.P.	145156	Carlisle Commodities Merchant Trading L.P.	145153	12/01/2023	11/30/2023	Amended	2818	None
		03/23/2023	17:02	Carlisle Commodities Merchant Trading L.P.	145157	Carlisle Commodities Merchant Trading L.P.	145153	12/01/2023	11/30/2023	Amended	2818	None
		03/23/2023	17:08	Enxco/Shell Oil Corporation	148164	Enxco/Shell Oil Corporation	148167	04/01/2023	03/31/2023	New	21019	None
		03/23/2023	17:08	Enxco/Shell Oil Corporation	148165	Enxco/Shell Oil Corporation	148167	04/01/2023	03/31/2023	New	21019	None
		03/20/2023	08:00	Public Utility District No. 1 of Clark County	148169	Ball Energy North America (US) LP	148168	03/21/2023	03/31/2023	New	1420	None
		03/19/2023	09:42	Public Utility District No. 1 of Clark County	148174	Ball Energy North America (US) LP	148173	11/01/2023	03/31/2023	Amended	1420	None

**NORTHWEST PASSAGE**

TSR: 67977322    TSR Name: Northwest Pipeline LLC    Server Time: 03/21/2023 08:20:43 AM MCT

Last Confirmed: EVN 3 03/20/2023 07:30 PM MCT    Agent Prop: 110    Sec Req Prop: 0    Beg Date: 03/21/2023    End Date: 03/21/2023

Mainline Prop: 0    Direction: Both    Cycle: Name    Rec Loc Prop: 0    Del Loc Prop: 0    Shippers Only: ☐    Show Discrep: ☐    Operators Only: ☐    Show Reports: ☐    Intraday Only: ☐    Alternate View: ☐

Beg Date/Time: 03/21/2023 08:00 AM MCT    Agent Prop/Name: 115 - Northwest Pipeline LLC    Sec Req Prop/Name: 0    End Date/Time: 03/22/2023 07:59 AM MCT    Agent: 67977322    Sec Req: 0

Date	Sec Req K	Rec Loc Prop	Rec Loc Name	Up ID	Up ID Prop	Up Name	Up K	Nom Rec	Rec Qty	Rec Rank	Del Loc Prop	Del Loc Name	On ID	On ID Prop	On Name	On K
N/A																

Summary: Nom Count: 0    Nom Rec: 0    Nom Del: 0    R Qty Rec: 0    R Qty Del: 0    Rec Qty: 0    Del Qty: 0    Showing: 0 of 0    Next D/T: 03/21/2023 08:20:38 AM MCT

**Scheduled Quantity**

- Testing system tuning underway
- Changes expected to be in production by the end of the month

# Upcoming

## AI Natural Language Model

- Allows for commercial representatives to query the data within our commercial system with natural language
- Faster turnaround time for customer questions
- Increase accuracy and consistency

The image displays two screenshots of the 'Genie' AI interface. The top screenshot shows the 'Contract Genie' interface, which includes a description, a list of key features, and a table of contract data. The bottom screenshot shows the 'Billing Genie' interface, which includes a description, a list of key features, and a donut chart showing the revenue breakdown by rate schedule type for Transco (Sabine Pass Liquefaction, LLC).

### Contract Genie

Description:

Welcome to the Contract Path Genie, your hub for exploring contract data within the natural gas industry. This space allows users to query and analyze data from our `cx_contract_path_genie` dataset. Below are some key features and guidance to help you get started:

- How many contracts are set to expire in the next quarter?
- How many contracts are associated with each Business Associate?

Explain the data

Microsoft Azure | databricks

Search data, notebooks, recent, and more... CTRL + P

New Workspace Recents Catalog Workflows Compute Marketplace SQL Editor Queries Dashboards Genie Alerts Query History

### Contract Genie

This query provides the total number of contracts associated with each business partner, summarizing the data by business associate name. `cx_contract_path_genie`

Business_Assoc_Name	Total_Contracts
GREENWOOD CWP	21
BOSTON GAS COMPANY	2
BRIGHTON OIL & GAS LP	2
NEWARK ENERGY CENTER LLC	3
CPU SHORE LLC	3
CLB OFFSHORE LLC	1
SIX ONE VEGA INCO LLC	1
GOMSHALL LLC	9
FREDRICK NATURAL GAS	11
ABC ENERGY LLC	4
TRANSOCO ENERGY C/O NE LLC	16

### Billing Genie

Welcome to the Invoiced Revenue Genie, your hub for exploring invoiced revenue and operational data within the natural gas industry. This space allows users to query and analyze data from our `cx_billed_date` dataset. Below are some key features and guidance to help you get started:

- What is the total revenue and...
- Provide a breakdown of revenue...
- Explain the data set

### Revenue Breakdown by Rate Schedule Type for Transco (Sabine Pass Liquefaction, LLC)

total\_revenue

Rate\_Schedule\_Type\_Abbr

- TFO
- CLC
- BAL

1 SELECT  
2 Rate\_Schedule\_Type\_Abbr,  
3 SUM('Total\_Bill\_Amount') AS total\_revenue  
4 FROM  
5 'gold\_transmission\_prod'. 'cx\_genie'. 'cx\_billing\_genie'  
6 WHERE  
7 'business\_unit\_name' = 'Transco'  
8 AND 'Service\_Requestor\_Name' ILIKE '%Sabine Pass Liquefaction, LLC'  
9 GROUP BY  
10 Rate\_Schedule\_Type\_Abbr



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# Seattle District Highlights Sumas ERP Project

Sam Chesnut, Supervisor Operations

# Sumas ERP Project





# Sumas Legacy Compression



2

# November 2023 Initial Reroute and Outage





# Project Kickoff



# Continuing Work







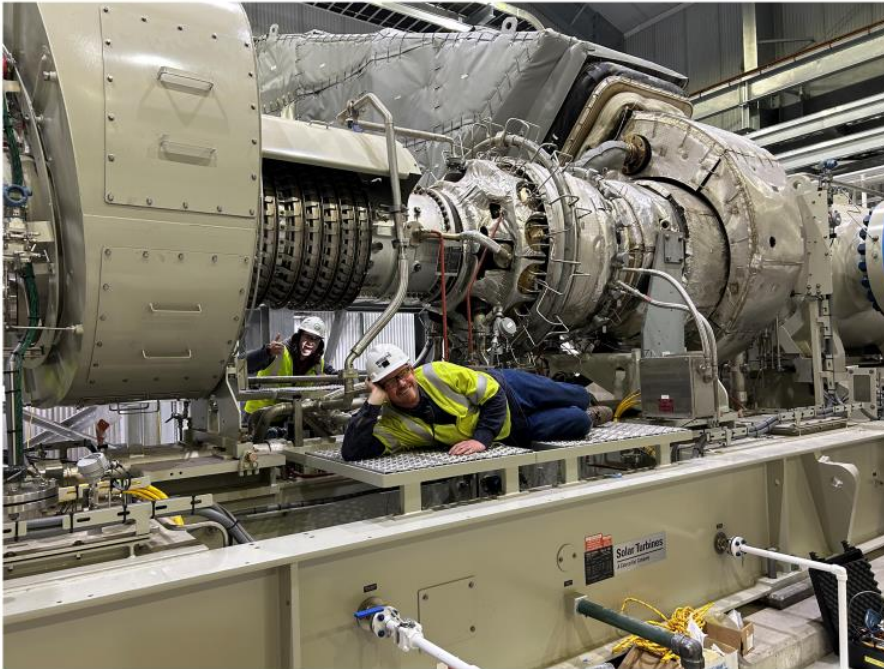
# Keeping the Gas Flowing

## Re-compressor Units



- Seal Gas Compressor: Takes normally vented gas from seals and puts it back into the pipeline
- Process Gas Compressor: Moves gas from the unit piping and compressor that would need to be vented to atmosphere back into the pipeline for maintenance work.

# Commissioning



- Compression in service on time.
- Emissions reduction of 77%
- Reliability increased by replacing legacy horsepower
- Methane Emission Reduction of 84%



# Questions?

---





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# Invoicing the CRM Surcharge

Brad Dillon, Commercial Services Lead

Loc Ind: PRPDXXXX

Line No	Chrg Type	TT	Rec Loc Name	Del Loc Name	Pkg ID	Repl/Rel SR K	Adj Type	Beg/End Tran Date	Days	Qty	Unit Price/Chrg Type Rate	CRM	ACA	Total Rate	Amt Due
1.001	RES - FIRM TRANS	129						04/01/25 - 04/30/25	30	1,000	0.37250	0.02256		0.39506	11,851.80
Total Charges:															\$11,851.80
1.002	RES-CAP REL CR	129				123456		04/01/25 - 04/30/25	30	-1,000	0.37250	0.02256		0.39506	-11,851.80
Total Credits:															-\$11,851.80
Total K Charges:															\$11,851.80
Total K Credits:															-\$11,851.80
Inv Tot Amt Due Payee for K:														111111	\$0.00

Svc Req K: 111111

Rate Sch: TF-1

Bill Pty: Company Y

Del Month/Year: April 2025

Inv ID: \*\*\*\*\*

Inv Date: 05/05/25

Svc Req K: PRPDXXXX

Rate Sch: TF-1

Loc Ind:

Line No	Chrg Type	TT	Rec Loc Name	Del Loc Name	Pkg ID	Repl/ Rel SR K	Adj Type	Beg/End Tran Date	Days	Qty	Unit Price/Chrg Type Rate	CRM	ACA	Total Rate	Amt Due
51.001	RES - FIRM TRANS	129				111111		04/01/25 - 04/30/25	30	1,000	0.37250	0.02256		0.39506	11,851.80

Total Charges: \$11,851.80

123456

Total K Charges: \$11,851.80  
Total K Credits: \$0.00

Inv Tot Amt Due Payee for K: 123456 \$11,851.80



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# Winter Recap and Summer Roadmap

Mark Warren, Manager Pipeline Control

# Pipeline Control - Topics

- Organization Overview
- Weather Resiliency Plan Implementation
- Upcoming Maintenance



# Pipeline Control – Organization Overview

## Pipeline Control Western Interstates



**Mark Warren**  
Mgr Pipeline Control Sr  
TX Houston - Tower



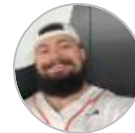
**Mike Rechenmacher**  
Controller Lead  
TX Houston - Tower



**Todd Freeman**  
Controller Lead  
TX Houston - Tower



**Shannon Tyler**  
Maintenance Coordinator, Sr  
TX Houston - Tower



**Dylon Williams**  
Controller Lead  
TX Houston - Tower



**Dan Goddard**  
Maintenance Coordinator, Staff  
UT Salt Lake City - Office

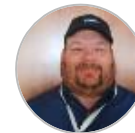
Open  
Supervisor

TX Houston - Tower



- Two consoles
- Nine Controllers
- One Specialist

## Northwest Pipeline



**Nathan Smith**  
Supervisor  
TX Houston - Tower



- Two consoles
- Nine Controllers
- One Specialist

## MountainWest



# Pipeline Control – Weather Resilience Plan Implementation

- Weather Resiliency Plan (WRP)
  - Developed in 2024
  - Sponsors
    - Camilo Amezquita – VP GM Northwest Pipeline
    - Melissa McGillen – VP Central Services
  - Intent – continuously improve system reliability and performance during extreme weather events
  - Elements
    - Annual actions
    - Pre-event
    - During event
    - Post event
- Mock / Limited Implementation executed January 2025



## Situation

- Cold weather forecasted to enter part of NWP market area on 1/20/2025
- Load forecast indicated peak of ~3,200 MDTs on 1/20/2025, well within system capacity
- Winter storm was forecasted to drop temperatures significantly for most of the US, east of the Rocky Mountains
- This introduced risk of well freeze-offs in Rockies and Texas
- Significant market forces from potential freeze-offs could swing the system from north to south flow
- Risk to the system was deemed to be quite manageable
- Opportunity to execute mock / limited implementation of the newly-developed WRP was identified



## Scope

- Commercial and Pipeline Control elements of WRP
- Focus on communication and tools for actively managing system
- Kick-off meeting
- Location Performance meetings – 2x per day
- Leverage new PowerBI reporting to identify and address customer, supply and interconnect behavior that is putting the system at risk
- Capture lessons learned
- Debrief for sponsors



## Highlights

- Effective collaboration and communication were exercised by Commercial and Pipeline Control
- Monitoring SCADA, Passage, PowerBI provided multiple perspectives on the situation
- WRP document was helpful for setting expectations
- Location Performance meetings
  - Identified underperforming locations
  - Worked as team to mitigate enactment of curtailments
  - Pipeline Control gave operational context to the numbers
  - Commercial proactively engage with customers to support system needs
  - Curtailment was avoided due to proactive, collaborative effort
- Lessons learned
  - Plymouth cooldown decision will be more broadly socialized, earlier
  - Data set for PowerBI report is being expanded



# 2025 Maintenance Impacts



Point	Task Description	District	Start Date	End Date	Duration	Anticipated Impacts	Design Flow	Outage Flow	Flow Impact
1	Moab DOT Hydro Test	Moab	July	July	12	Yes	348 Dth S 278 Dth N	0	348 Dth S 278 Dth N
2	Boise DOT pipe replacement Loop Line	Boise	8/26/2025	9/15/2025	21	Yes	450 Dth N 452 Dth S	289 Dth N 286 Dth S	161 Dth N 166 Dth S
2	Boise DOT pipe replacement Main Line	Boise	9/23/2025	10/27/2025	35	Yes	450 Dth N 452 Dth S	373 Dth N 358 Dth S	77 Dth N 94 Dth S
3	Sumas A Plant disconnect	Sumas	4/14/2025	4/15/2025	2	Yes	1296 Dth	957 Dth	357 Dth
3	Sumas B Plant disconnect	Sumas	4/16/2025	4/18/2025	3	Yes	1296 Dth	810 Dth	504 Dth
4	Cisco C/S M&ERP	Vernal	6/17/2025	10/31/2025	137	Yes	286 Dth N 358 Dth S	241 Dth N 283 Dth S	45 Dth N 75 Dth S
5	Muddy Creek M&ERP	Kemmerer	7/8/2025	10/15/2025	100	Yes	654 Dth N	599 Dth N	55 Dth N
6	Pegram #2 M&ERP	Pocatello	7/24/2025	10/8/2025	77	Yes	653 Dth N	518 Dth N	135 Dth N
7	Soda C/S M&ERP	Pocatello	8/1/2025	9/15/2025	46	Yes	TBD	TBD	TBD

# Impact Mitigation Strategies

- Analyze flow patterns to determine least impactful maintenance timeframes
- Coordinating with power generators, LDCs, end users and interconnects
- Avoid impacts to trading blocks as much as possible
- Utilizing multiple contractors in the same corridor at the same time
- Maximizing storage, line pack and interconnect flexibility
- Capitalizing on new and efficient technology
- Utilize stopple and bypass
- Plan inline inspections earlier in the year to avoid heating season impacts







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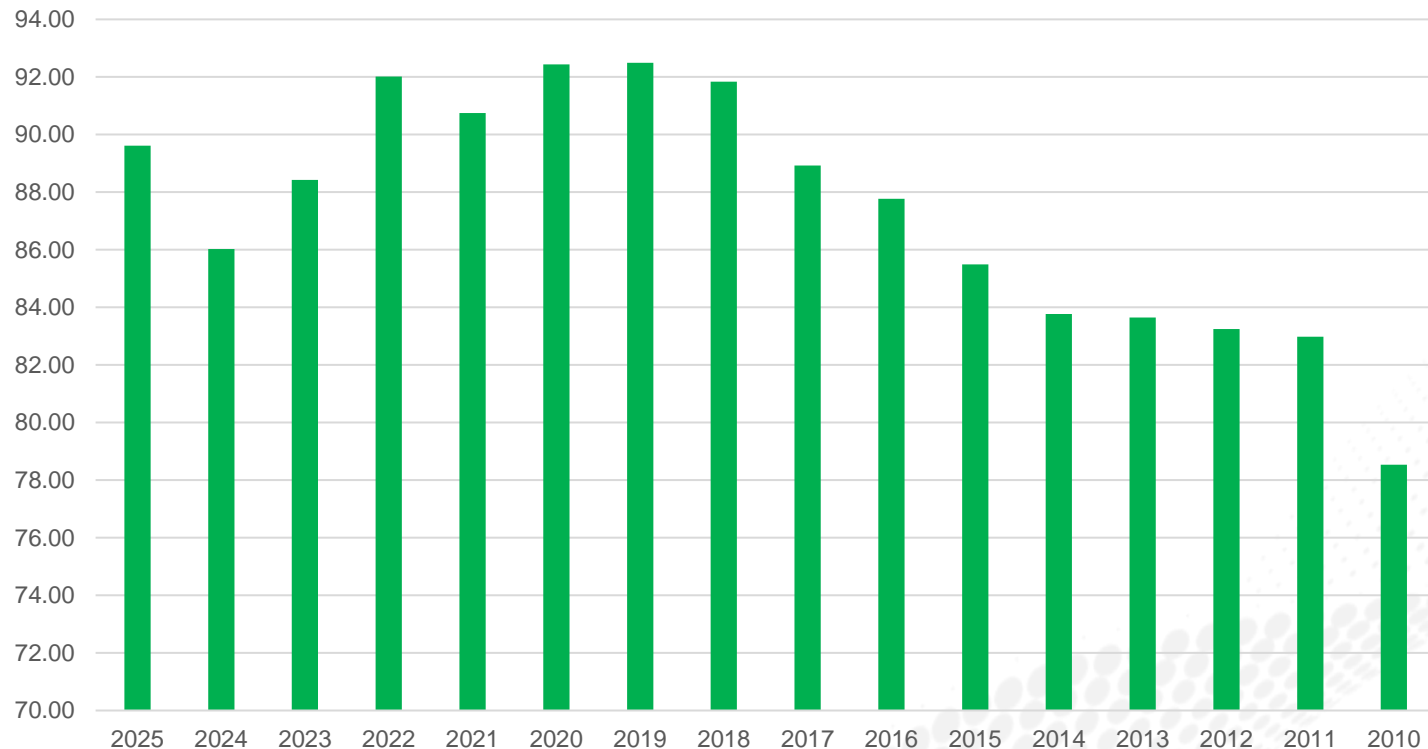
# Mastio Customer Survey

Carolyn (Arens) Ebner, Manager Commercial Services

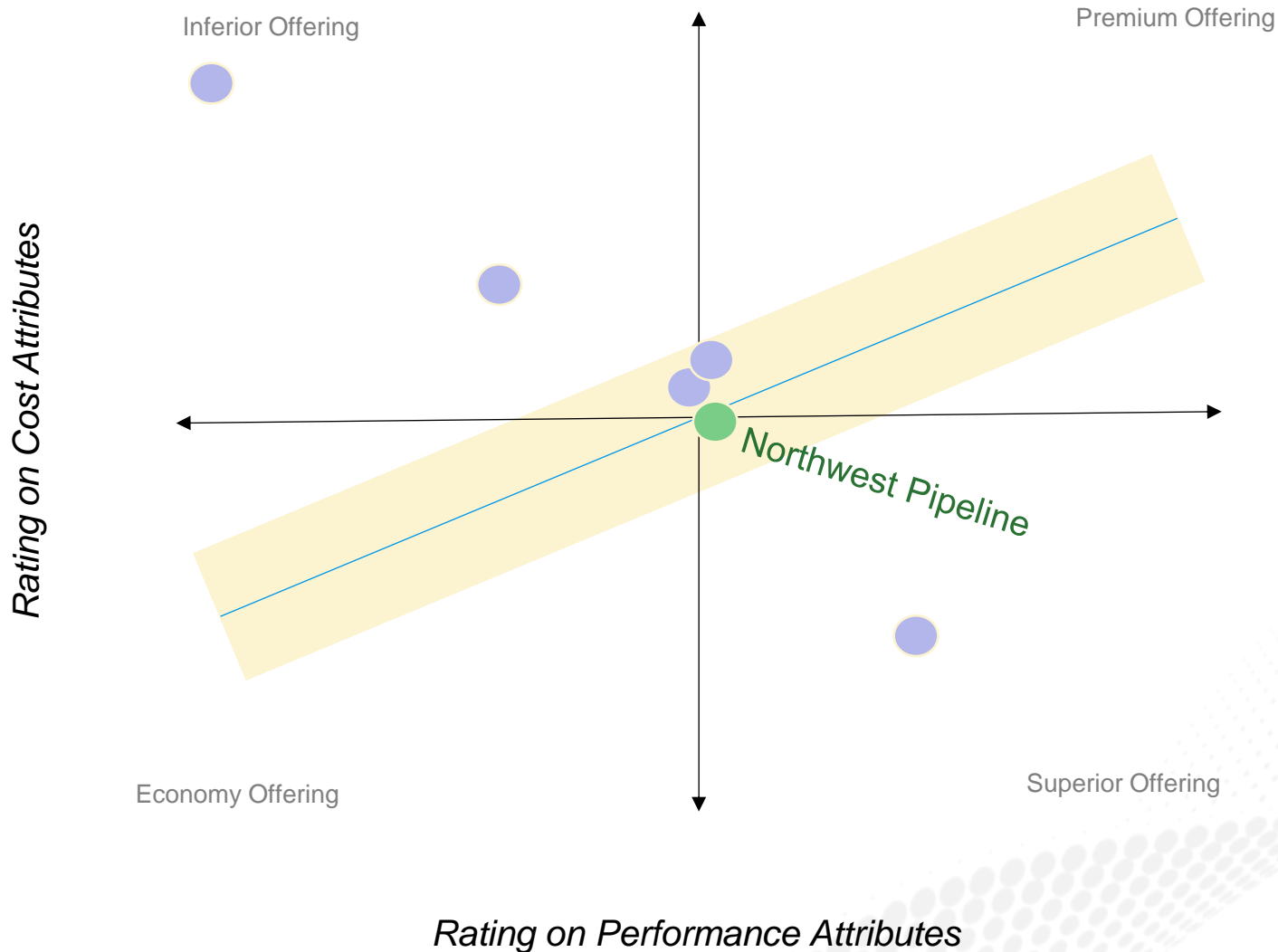
# Mastio Customer Survey Results

- **The 2025 Mastio Customer Satisfaction Index is 89.62** compared to last year of 86.03.
- We ranked #3 in Mega Pipes, #3 in Major Pipes, and Interstate Pipes #5.
- The Net Promotor Score is 85.5% compared to 2024 78.9% based on "How likely you would recommend to a colleague or another business."

Customer Satisfaction Index

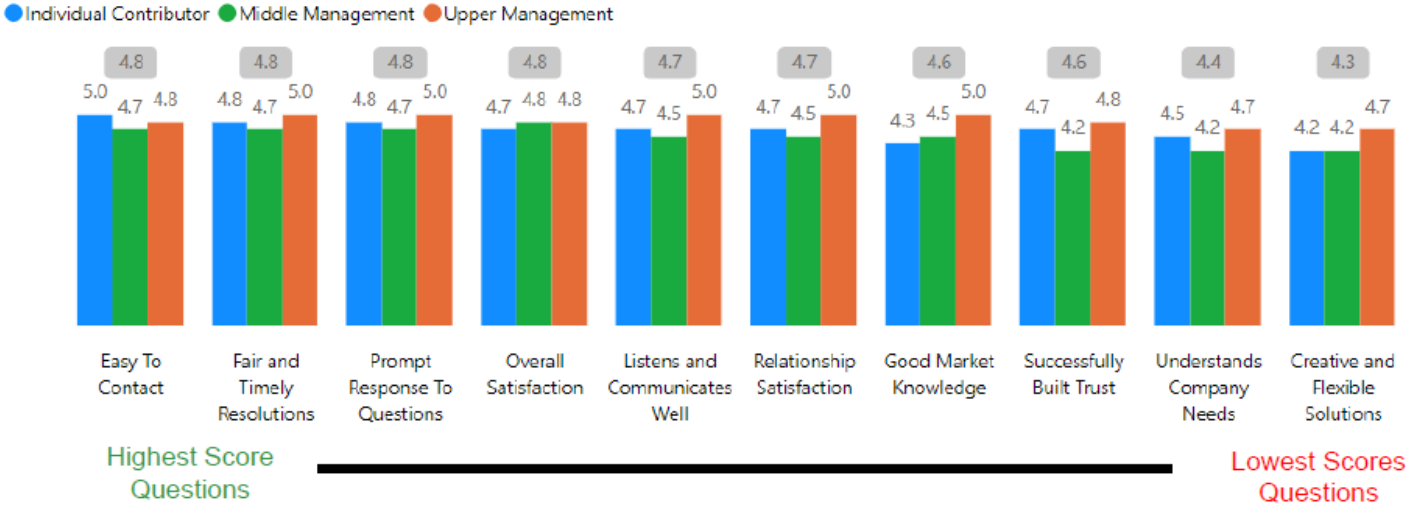


# 2025 Value Map

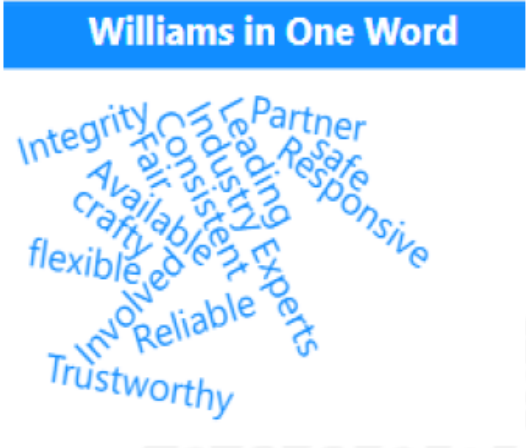
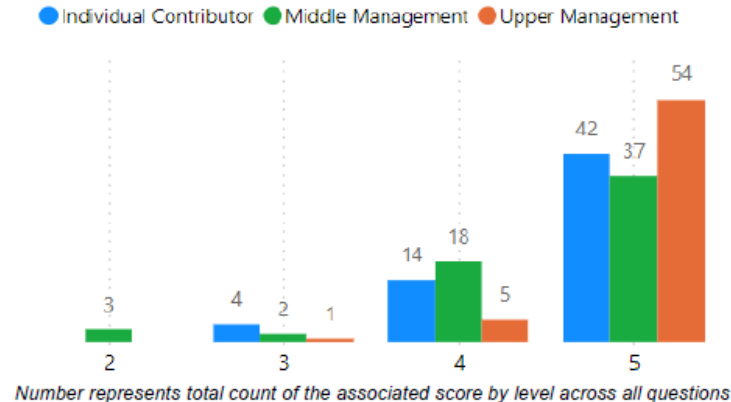


# 2024 Williams Commercial Customer Survey: Northwest Pipeline Results

Average Scores by Question & Job Level



Count of Scores by Answer & Job Level



# Voice of Customer Themes

## Mastio Survey

- **Areas of Strength**
  - Prompt responses to questions, requests and issues
  - Maintenance communication
  - Easy to work with and always willing to help
- **Areas of Improvement**
  - Continuation of training
  - Creative and Flexible Solutions
  - Frequency of Entitlements and Maintenance
  - Better / more modernized EBB

## Williams Independent Survey

- **Areas of Strength**
  - Ease of contact
  - Fair and timely resolutions
  - Competitive
  - Building Relationships
- **Areas of Improvement:**
  - Creative and flexible solutions
  - Understanding Customer
  - Training
  - Entitlements

# Mastio Customer Survey Action Items

- Continue to expand the Representatives knowledge of our customers and their business by creating customer profiles
  - Using Power BI analytic tools, engaging customer with their specific passage training needs, and identify potential business opportunities that meet their needs
- Update existing Help Files and create New Help to address common customer questions.
- EBB Upgrade
  - Passage Gap Analysis – commitment to include customer feedback and maintain highest value functionality



# Thank you for your survey time!

*“Reps from all levels exhibit the same behaviors: honesty, transparency, problem-solving, and respect for customers.”*

*“Great staff and team are always working hard to accommodate our needs.”*

*“I am very happy with the services provided and overall, I enjoy doing business with them.”*



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# Closing

Mark Mohan, Manager Commercial Services

## Closing Comments

- Fall SAB expected to be held in October in Portland
  - Date likely be coordinated with Gas/Electric symposium planned for Fall timeframe
- NWGA Annual Energy Conference June 3-5, Sunriver Resort - Oregon