Safety Report

July 2024

Safety@Grant

CODE OF EXCELLENCE

Our Commitment to Safety

*We believe that a safe workplace and community is founded upon an environment where **all voices can and will speak up, ask questions, and be heard without reprisal**. We will provide and maintain the proper training, tools, job layout, equipment and employees to perform work safely.*

Injuries Reported

Date	Body Part	Description & Response
6/5	Left Hip	**Hit Left Hip on Door Handle** Employee was holding the door open with their foot, leaned down to pick up item off the floor, and as they were heading out of the room, their left hip hit the door handle. Employee returned to work without restriction. A good example of reporting injuries no matter the significance.
6/6	Arm Strain	**Arm Strain** Employee was pushing pipe on dunnage and heard a pop in their arm. The pain gradually got worse but mellowed out eventually with a nagging strain. Continued use of good body positioning and remembering to stretch prior to performing work.
6/26	Strained Back	**Strained Back** Employee strained lower back while lifting an air compressor for 390 roof seal repair job. A reminder to utilize good lifting and body positioning techniques and ask for help when needed. A WO is assigned to the Safety Dept to look at formalizing a lifting and back injury prevention training. This training is to be provided on a periodic and ongoing basis.

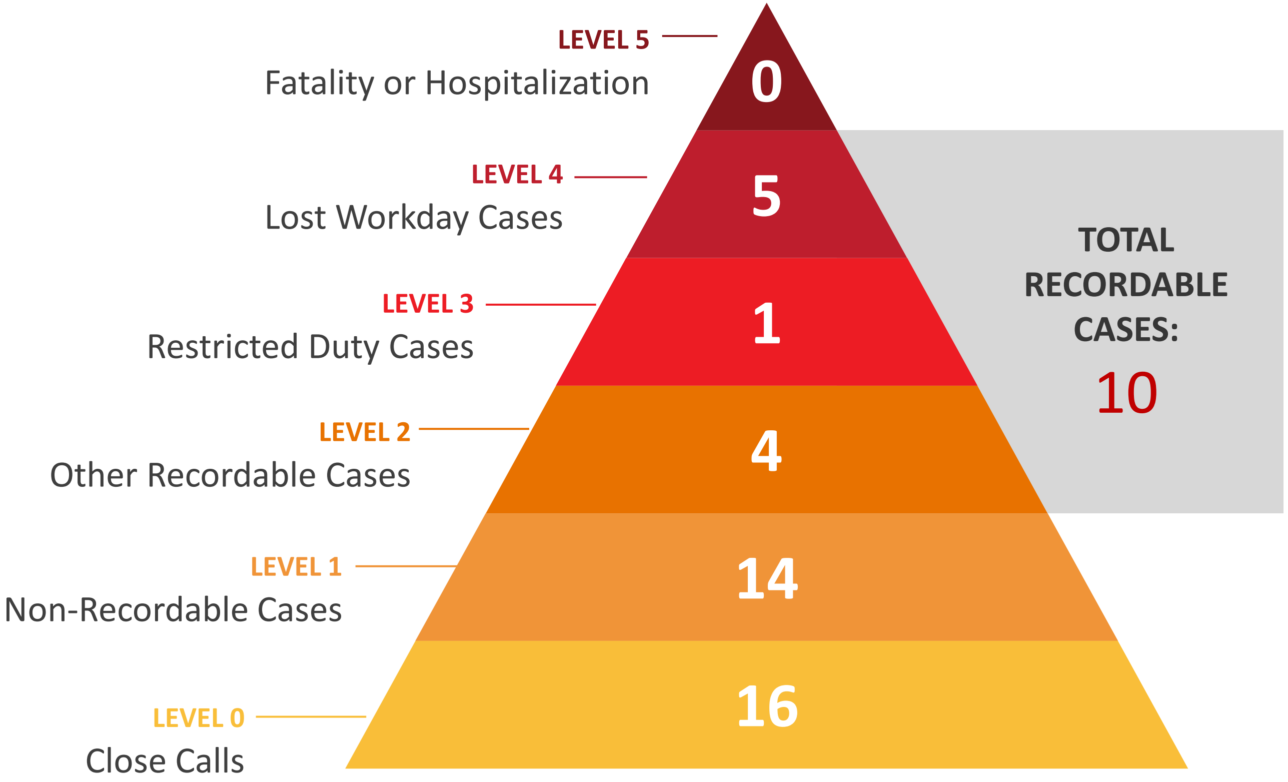
2024

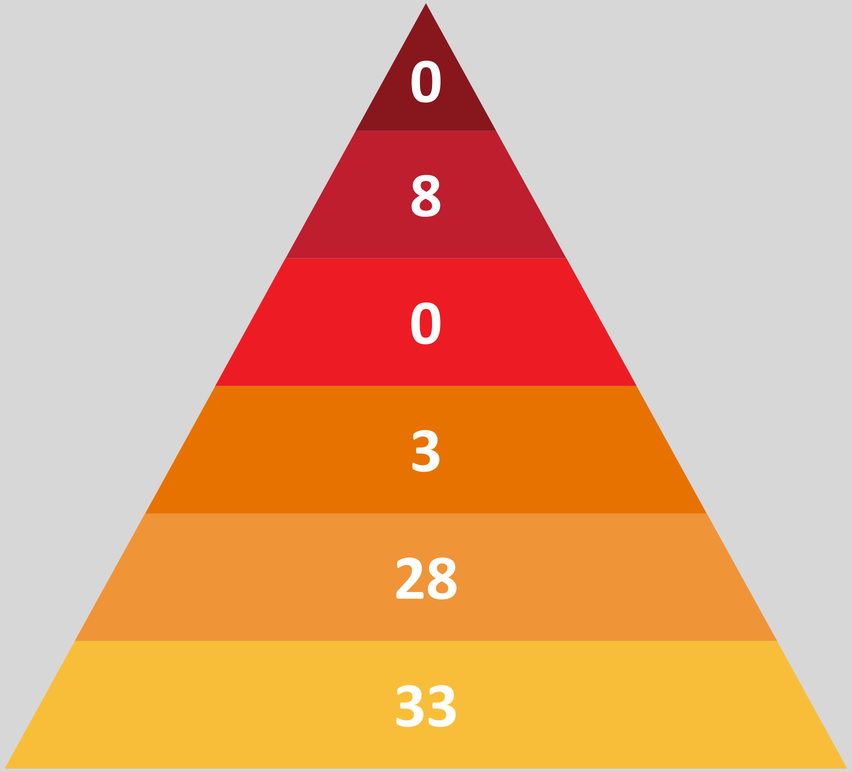
	Last Month	Year-to-Date
Total Injuries Reported	2	14
Other Recordable Case(s)	0	4
Restricted Duty Case(s)	0	1
Lost Workday Case(s)	1	5

2024 Incidents Summary

VS

2023





Close Calls

Date	Overview	Location	Description & Response
6/18	Bad Cutout	RCLO b/n Heritage Center & PRD	**Bad Cutout** A Hydro employee reported a pole that was arcing and sparking. Upon investigation, a UG dip (K114) feeding a 2500KKVA padmount. The equipment that was feeding this dip was an old AB Chance cutout that is notorious for failure under high pump loads. The transformer was an old live front so there was no means of breaking load with our standard load break elbow. The crew did a great, safe job load breaking the other two cutouts to shut off the large pumps. The cutout has been replaced. Risk will submit an additional CR addressing the larger issue of remaining known defective cutouts.

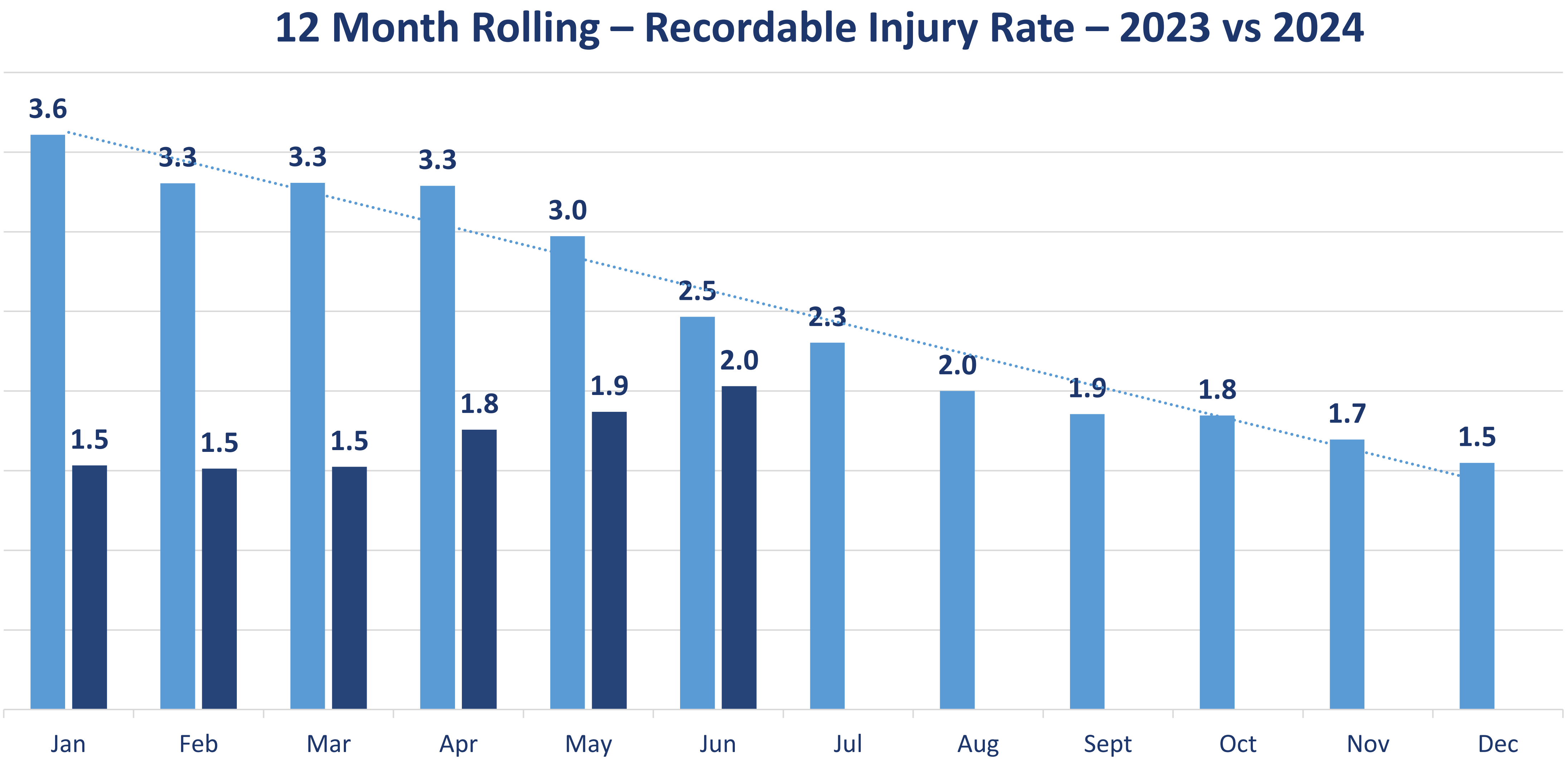
Vehicle Incidents

Date	Location	Description & Response
6/7	ESC	**Strap Fell Off Load** While traveling to the dump, the load must've shifted during travel and a rachet strap fell off. Once noticed, inspected the load to make sure nothing was missing then re-strapped. Notified the supervisor of the event. A 360 walk around and a strap inspection took place before leaving the yard. Good catch by this driver to be aware of his vehicle and pulling over once safe to make the needed adjustments to their straps prior to continuing trip.
6/18	ESC Quincy	**Parked District Vehicle Struck by Passing Vehicle** While parked on the side of the road in a designated parking spot, a passing truck struck the District vehicle with its passenger side mirror. Employee was not in the truck at the time. The driver of the other vehicle turned around and provided their information. Damage to the District vehicle is the taillight. This is a good reminder to be aware of surroundings when parking or working in areas with vehicle traffic.

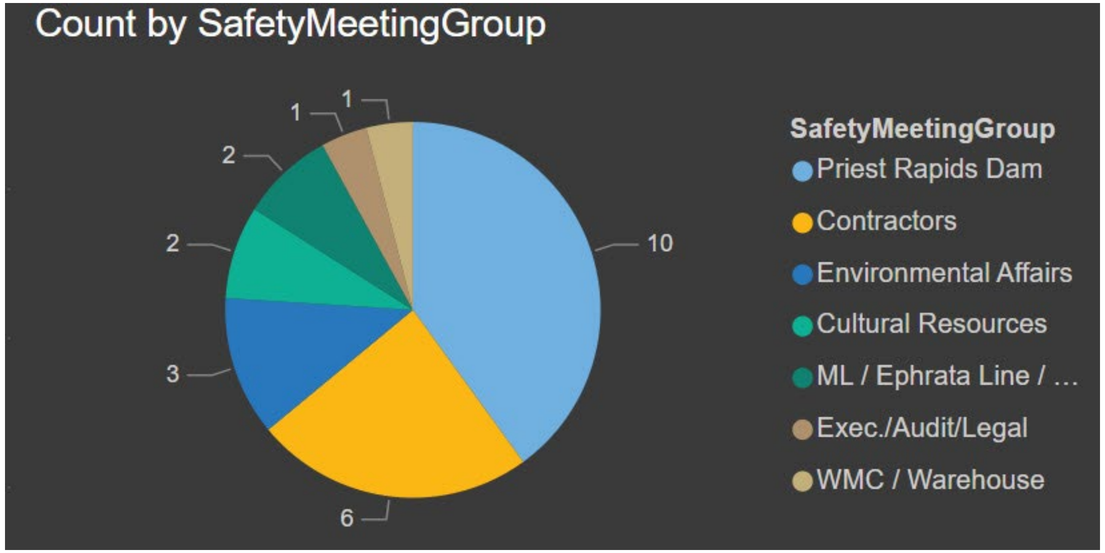
Contractor Incidents

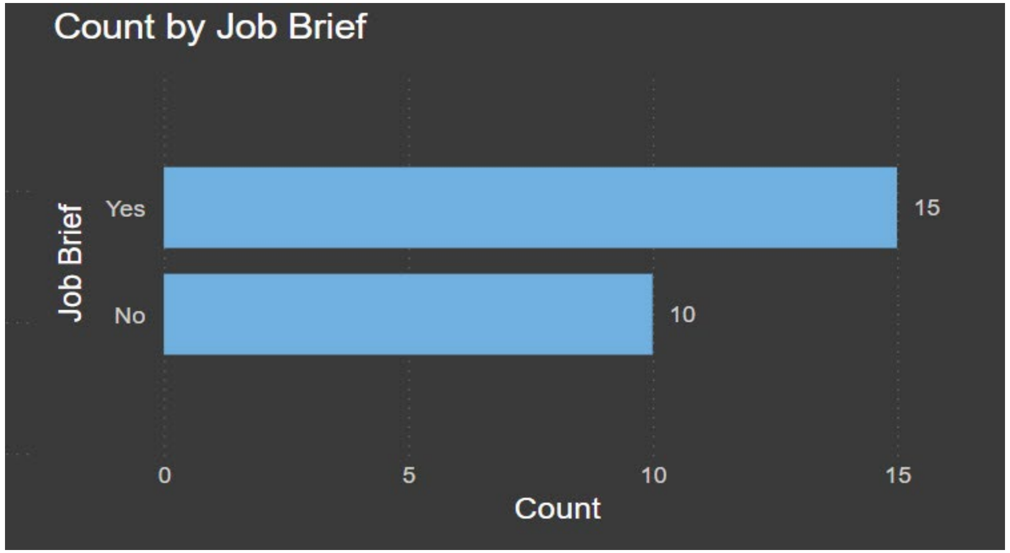
Date	Location	Description & Response
6/8	PRD	**Crane #1 Stopped** Contractor was using Crane #1 to remove the thrust bracket from P01. The lift is approximately 150,000 lbs. As the load was traveling toward the upstream wall, it suddenly stopped. As a result, the load swung quite a bit. The crane operator was able to reset the controller and continue with the life. The load was flown close to the upstream wall and then traveled down the powerhouse. Once again, the crane shut off and the load experienced large swings. The contractor attempted to install new batteries in the controller, but it didn’t resolve the issue. A new controller needed to be used to complete this life. This is a safety concern. Depending on which direction the load was traveling, it's possible it could have impacted other equipment or the powerhouse wall. Given the upcoming critical lifts for the P01 outage, sudden crane stoppages should be investigated and resolved. A Corrective Action is assigned to further investigate the use of this crane remote until further corrections can be made.
6/25	ESC	**Unsafe Equipment Operation** A contractor was observed operating their backhoe while seated on a plastic container ratchet strapped to the back of the seat which was in the forward-facing position. The District Rep and Safety were notified. Per DR instruction the work was stopped. Safety coordinator and project team will be meeting with contractor today to discuss safety issues. A work order has been assigned to the DR to document the meeting with clear expectations to move forward.

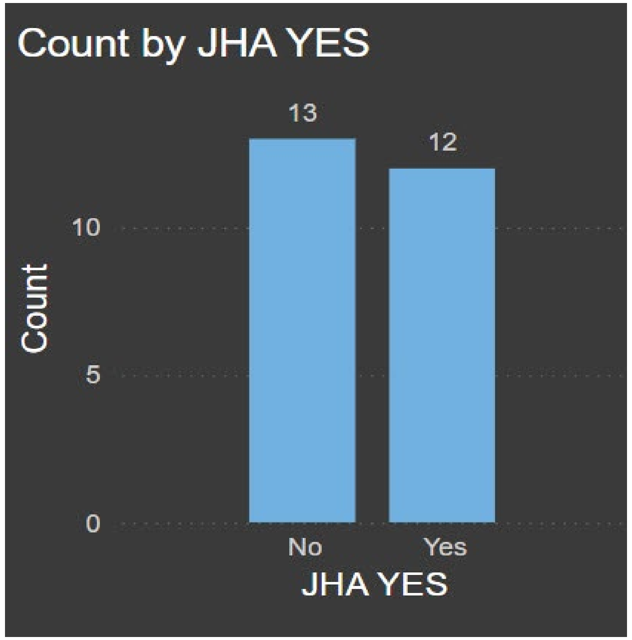
Leading & Lagging Indicators

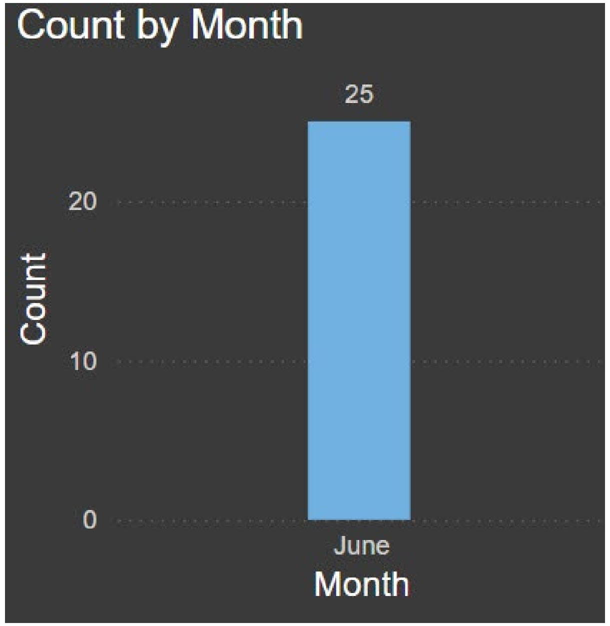


JSRs-Grant PUD & Contractors

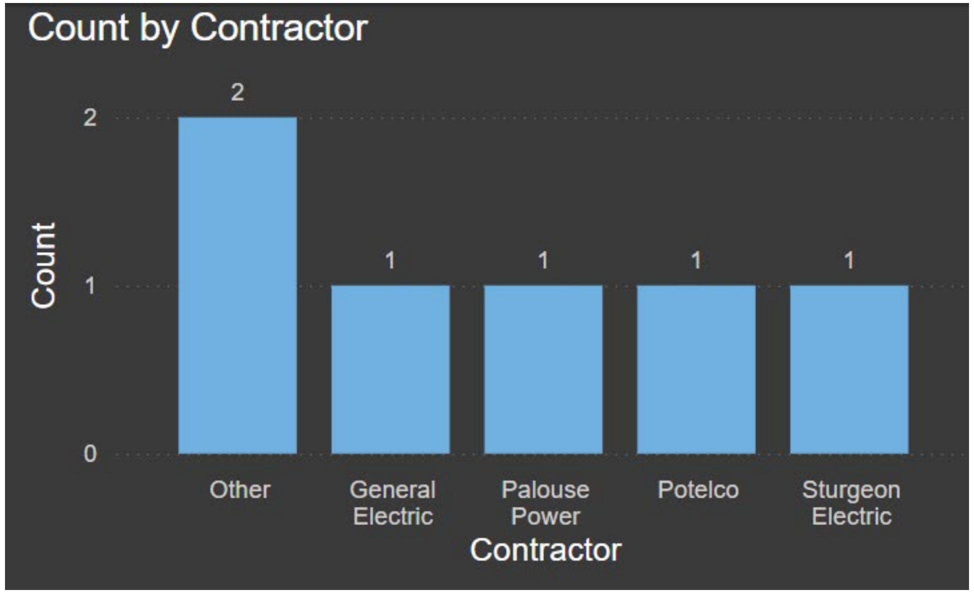


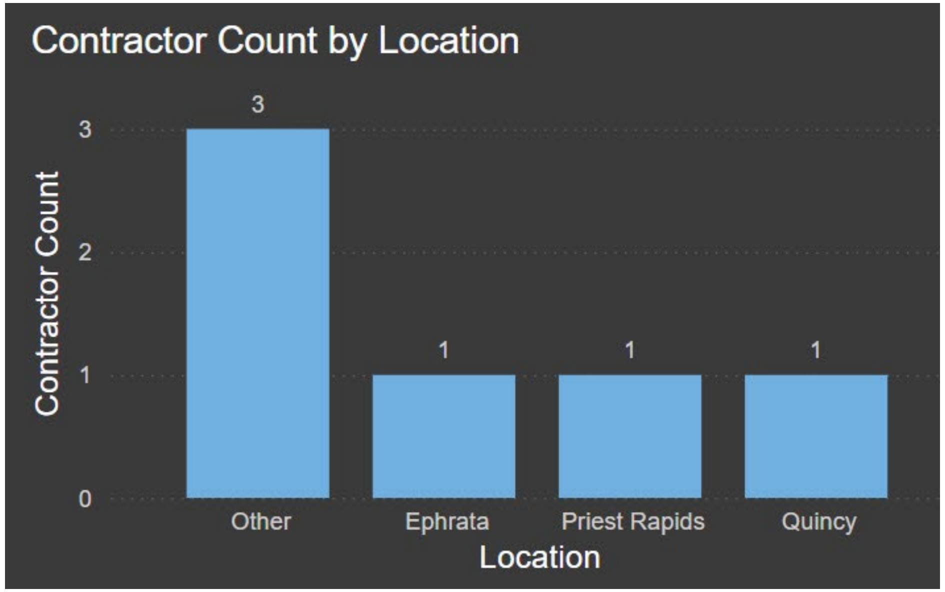


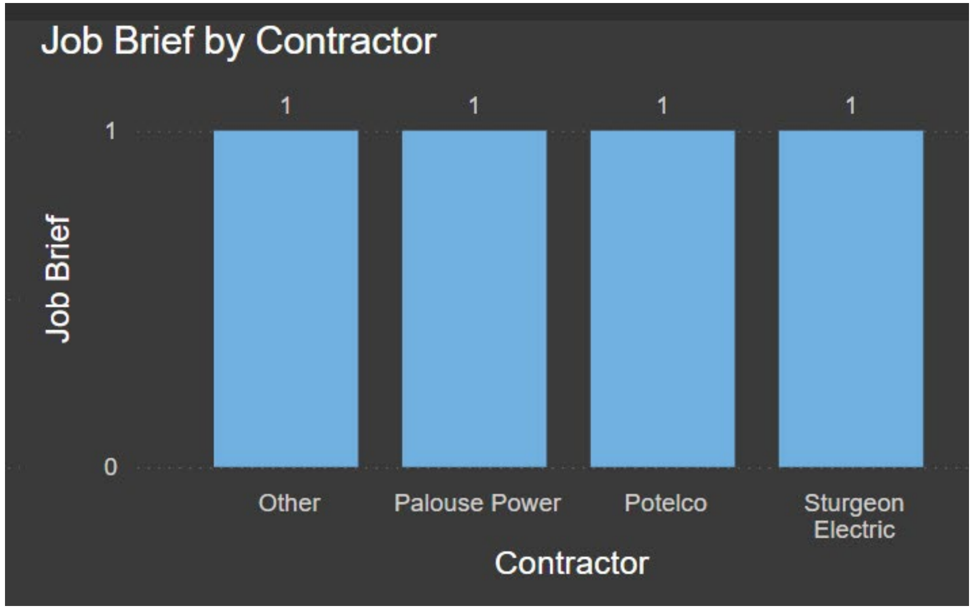


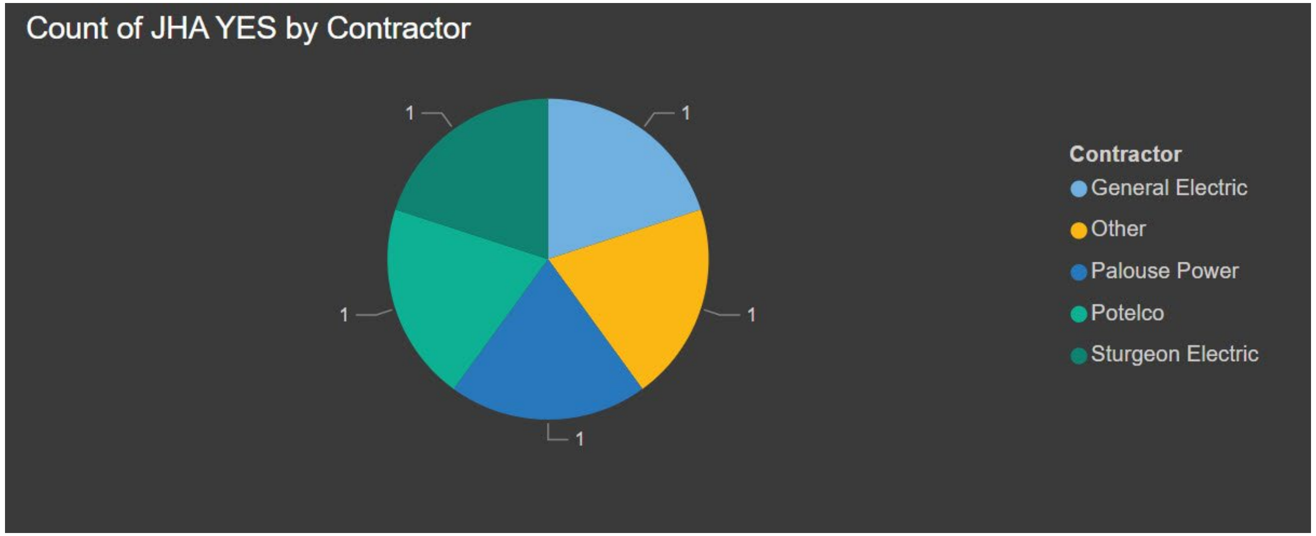


JSRs-Contractors









Recordable Injury Projection

At the current injury rate, we will likely record

16

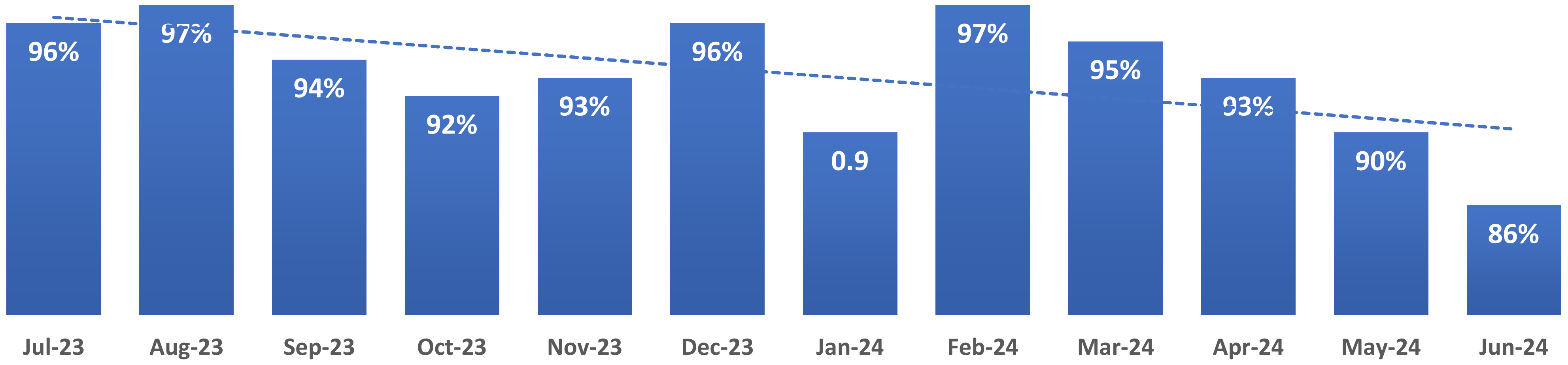
injuries on our OSHA Logs by the end of 2024.

$$\frac{\text{Total number of recordable incidents} \times 200{,}000}{\text{Total number of hours worked by all employees}}$$

The “recordable injury rate” is a calculation that describes the number of employees per 100 full-time workers or per 200,000 hours worked that have been involved in an injury or illness that requires medical treatment beyond first-aid.

Leading & Lagging Indicators

Safety Meeting Attendance



Open Safety Action Items

As of March 2024	As of April 2024
Year 2018 = 2	018 = 2
Yea	019 = 1
Yea	20 = 3
Year	21 = 5
Year	2 = 3
Year 2	Year 2023 = 5
Year 2024 = 0	Year 2024 = 0
Month Total = 20	**Month Total = 20**

What's an Action Item?

These are safety concerns that can be brought up anytime, including during a safety meeting.

They usually require some sort of further investigation or resolution, so they are assigned and tracked to make sure they're followed up on.

Safety, in partnership with CAP, is currently working on creating a new and improved Safety Action Item Slide which will reflect the Actual open safety action items. Thank you for your patience!

Conducting/Attending Substation Tours

Tour attendees who have not completed Substation and Switchyard Access Training are considered Unclassified Entrants.

A Qualified Electrical Employee (Class I) may escort a group of Unclassified Entrants.

If a Qualified Electrical Employee (Class I) is not present, Designated Employees (Class II) may escort Unclassified Entrants. The ratio of Designated Employees to Unclassified Entrants must remain 2:1.

Non-Qualified Personnel (Class III) do not have escort privileges.

Substation Entry/Walkthrough

•An appropriate tail board/pre job brief shall be conducted prior to entry.
•Entrants shall comply with the Substation Logbook Procedure and Substation Check In/Out Procedure.
•Unclassified Entrants are subject to the Non-Qualified Boundary distances table and must remain 20 feet from exposed energized equipment.

PPE

•All substation entrants shall wear a hardhat anytime they are in a substation outside of the control house or a vehicle.
•For safety reasons, only approved headwear are permitted to be worn underneath hard hats.
•At a minimum, sturdy leather footwear is required at all Grant PUD facilities except for administrative offices and areas open to public access.
•A high visibility safety vest, shirt or jacket must be worn while in the substation.

For additional inquires or to schedule a substation tour please contact the Electric Shop Supervisor, Jeremy Robertson.

July 2024
ELT Talking Points
First Aid & Life Saving Steps

First Aid & Life Saving Steps

Assessment

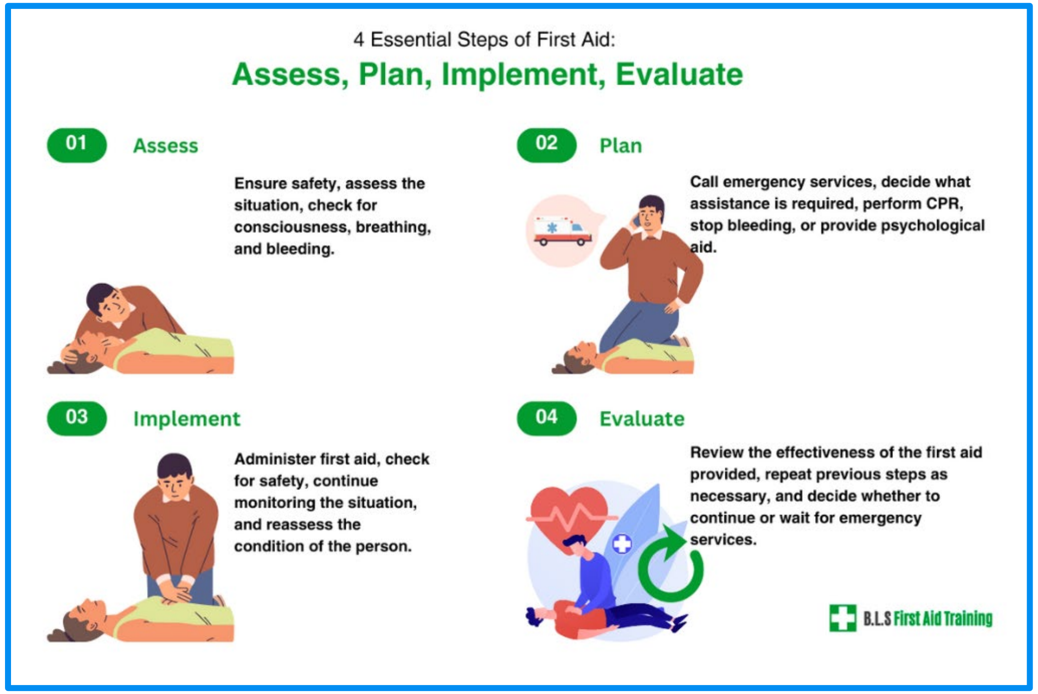
- *The Situation* – Is it safe? What happened? Who was involved in the incident? Who can help now?
- *Person's Condition* – Breathing? Bleeding? Conscious? Responsive? Injuries? Shock? Psychology?

Plan

- *Communications* – Identify communications channel. Can you do this on your own or do you need assistance (someone must be the point of contact for emergency services).
- *Bystanders* – Identify who will assist and in what capacity (who has first aid experience).
- *Decision* – Determine type of care, order of operations for care, and who will be the doer(s).
    - e.g., Effective CPR will take more than one person.

Implement First Aid

- *Follow the Plan* – Provide first aid for (1) life threatening emergencies and then (2) specific injuries.
- *Keep in Mind* – This is ***first aid***, not all the aid needed:
    - Medical professionals will immobilize broken bones,
    - If spinal injuries are suspected, do not move,
    - If person is responsive provide psychological support,
    - Make preparations for transport, and
    - Maintain your own safety if the situation requires it.



Evaluation & Monitor

- *Continuous Re-Assessment* – Breathing? Bleeding? Conscious? Responsive? Injuries? Shock? Psychology? … and Efficacy of Care.
- *Medical Professionals* – Ensure person is ready for transport and that vital information can be relayed to medical personnel when they arrive.

Four Life Saving Steps – Order of Operations for Care

(1) Stop the Bleeding … but,
(2) Start the Breathing,
(3) Protect the Wound, and
(4) Treat for Shock

Source: https://www.firstaidforfree.com/

Grant County PUBLIC UTILITY DISTRICT

Thank You!

Safety@Grant

Bond Financing Transaction Proposal

July 2024

Grant PUD

Powering our way of life.

Outline

I. Analysis

II. Transaction Summary

III. Notes on Refunding

IV. Calendar

Analysis

- The District has gone through evaluations with the Financial Advisor (PFM), Bond Counsel/Tax Counsel (Pacifica Law Group), and the primary bank (JPMorgan)
- Significant effort went into the evaluation of the best refunding opportunities in the current market environment for PRP
- Currently, tax-exempt bonds have greater savings than taxable issued debt
- The Federal Government has participated in sequestration, which reduces BABs issuance payment receipts to the District

Transaction Summary PRP

- Refunding for savings –
  - Utilization of existing refunding policy – 3% savings and 50% escrow efficiency
  - Resolutions written with parameters for delegated authority to District Representative able “call off” debt transaction if refunding policy is not met at time of pricing (August)
    - Allows for the District to determine if transaction should not continue if unfavorable market conditions (outside Commission approved parameters) at time of pricing
- Qualified/Eligible to be Refunded Tax-Exempt Tender:
  - ~$291,775,000 (par amount)
  - 100% PRP2020-Z: ~$111,175,000
  - 62% PRP2020Z-2: ~$111,972,000
- Unqualified/Ineligible to be Refunded Tax-Exempt until 1/1/2026:
  - 38% PRP2020Z-2: ~$68,628,000 (par amount)
- Pricing estimated on 8/21/2024

- BABs Series’ Par Outstanding: ~$150,540,000
  - Refunding would eliminate BABs sequestration risk
    - No guarantee Federal participation at specific levels
    - ~$9,838,327 in reserves would be released
    - ~$800,000 estimated annual Debt Service Savings
- Only advantageous due to extraordinary call provision of BABs series
  - Orrick, Herrington & Sutcliffe LLP (Orrick) issued an opinion on 5/24/2023, regarding BABs subsidy payments being sequestered (reduced), thus triggering redemption provisions

Tender Summary

- Qualified Tax-Exempt Refunding ~$291,775,000:
  - 100% PRP2020-Z: ~$111,175,000
  - 62% PRP2020Z-2: ~$111,972,000
- Unqualified Tax-Exempt Refunding until 1/1/2026:
  - 38% PRP2020Z-2: ~$68,628,000
- Refunding assumption at 20% participation
  - Market average 23%
- Costs:
  - Hire J.P. Morgan as Dealer/Manager ($2.50/bond fee)
  - J.P. Morgan initiates third-party contractor bidding for identifying all bondholders
  - Dealer/Manager and third-party contract identification estimated to be no greater than $100,000 sunk cost to the District

PRELIMINARY REFUNDING RESULTS

	Tender Refunding
Par Amount	$43,835,000
Premium	5,046,147
Accrued Interest	259,993
Reserve Fund Release	-
Total Sources of Funds	*$49,141,140*
Cash Deposit	48,746,764
Dealer Manager Fee	138,475
Cost of Issuance	91,520
Underwriters' Discount	164,381
Total Uses of Funds	*$49,141,140*
Refunded Par Amount	$55,390,000
Refunding All-In TIC	3.71%
Gross Cashflow Savings	4,772,462
Avg. Annual Cashflow Savings	238,623
PV Cashflow Savings ($)	3,402,448
PV Cashflow Savings (%)	6.14%

*Market conditions as of June 26, 2024

- Sequence
  - J.P. Morgan initiates contact with bondholders with tender offer
  - Usually market price plus premium
    - Savings when tender offer is accepted below debt service
    - Can be rejected 1 day after pricing if no savings realized
  - Bondholders may need the cashflow if bonds are actively trading

BABs Refunding

- Issued in 2010
- Original subsidy (direct payment) of 35% of the interest cost paid to the District
- Federal Budget Control Act of 2011 triggered sequestration (reduction) of the subsidy starting in 2013
- Extraordinary event provision in BABs 2010L Official Statement:
  - An "Extraordinary Event" will have occurred if (a) Section 54AA or 6431 of the Code (as such Sections were added by Section 1531 of the American Recovery and Reinvestment Act of 2009, pertaining to "Build America Bonds"…is modified or amended in a manner pursuant to which the District's applicable cash subsidy payments from the United States Treasury are reduced or eliminated…

- Sequestration for 2010L BABs (to date):
  - $2,389,236.25 in sequestration (subsidy reduction)
    - Subsidies the District would have received if sequestration was not in effect

Yearly Sequestration Rate Reduction

Fiscal Year (October 1 thru September 30)	Sequestration Rate Reduction
2021-2030	5.7%
2020	5.9%
2019	6.2%
2018	6.6%
2017	6.9%
2016	6.8%
2015	7.3%
2014	7.2%
2013	8.7%

BABs Savings Breakdown

- Any subsidy amount is considered gross revenue to the District
  - Include the subsidies received as a reduction in gross savings
- Allows for the reserve (amount set aside for the remainder of the bond, subject to restrictions) to be released and used for debt service
- Overall Debt Service Savings (market conditions as of 5/22/2024) indicated $12,082,057
  - Present Value Savings estimated at $9,296,328
- Including the reserve contribution allows the District to meet the 3% savings

Series 2010L BABs Refunding Savings

- A refunding of all the Series 2010L Bonds would allow for the release of $9.8 million in PRP Reserves

REFUNDING OF SERIES 2010L BABS USING ERP

	Refunded Debt Service				Refunding Debt Service and Savings			
Year	Refunded Principal	Refunded Interest	BAB Subsidy	Net Refunded Debt Service	Refunding Principal	Refunding Interest	Savings	PV Savings
1/1/2025	3,785,000	4,357,191	(1,438,091)	6,704,100	3,925,000	2,481,244	297,856	294,203
1/1/2026	3,920,000	8,509,577	(2,808,586)	9,620,991	2,465,000	6,371,750	784,241	744,448
1/1/2027	4,055,000	8,292,801	(2,737,039)	9,610,762	2,575,000	6,248,500	787,262	723,150
1/1/2028	8,470,000	8,064,504	(2,661,690)	13,872,814	6,970,000	6,119,750	783,064	695,972
1/1/2029	8,785,000	7,579,173	(2,501,506)	13,862,667	7,305,000	5,771,250	786,417	676,677
1/1/2030	9,115,000	7,075,793	(2,335,365)	13,855,427	7,665,000	5,406,000	784,427	653,455
1/1/2031	9,455,000	6,553,503	(2,162,984)	13,845,519	8,035,000	5,022,750	787,769	635,390
1/1/2032	9,810,000	6,002,277	(1,981,051)	13,831,225	8,425,000	4,621,000	785,225	613,181
1/1/2033	10,185,000	5,430,354	(1,792,288)	13,823,065	8,840,000	4,199,750	783,315	592,260
1/1/2034	10,575,000	4,836,568	(1,596,309)	13,815,259	9,270,000	3,757,750	787,509	576,581
1/1/2035	10,970,000	4,220,046	(1,392,826)	13,797,219	9,715,000	3,294,250	787,969	558,675
1/1/2036	11,385,000	3,580,495	(1,181,742)	13,783,752	10,190,000	2,808,500	785,252	539,171
1/1/2037	11,820,000	2,916,749	(962,673)	13,774,076	10,690,000	2,299,000	785,076	522,082
1/1/2038	12,265,000	2,227,643	(735,234)	13,757,409	11,205,000	1,764,500	787,909	507,521
1/1/2039	12,730,000	1,512,594	(499,231)	13,743,362	11,755,000	1,204,250	784,112	489,254
1/1/2040	13,215,000	770,435	(254,282)	13,731,153	12,330,000	616,500	784,653	474,308
	$150,540,000	**$81,929,699**	**($27,040,897)**	**$205,428,802**	**$131,360,000**	**$61,986,744**	**$12,082,057**	**$9,296,328**

Note: Market conditions as of May 22, 2024

Par Refunded	$150,540,000
PV Cashflow Savings	**9,296,328**
PV Cashflow Savings %	**6.18%**

Notes on Refunding

- District policy on refunding for savings:
    - Aggregate 3% savings with a 50% escrow efficiency
- Advantages of BABs refunding:
  - Tax-exempt benefits
    - Allows the District to capture benefit of tax-exemption for amounts associated with increase in public use of Priest Rapids Project
  - Eliminate the reserve for the 2010L BABs
  - Avoid further sequestration (reducing subsidy payments to the District)
  - Debt Service savings
- Advantages of tender offer:
  - Already going out to the market
  - PRP bonds are actively trading on the market at a discount (buying/selling lower than the par value)
    - Bondholders would be offered the going market rate with a premium (higher than selling on the current market)
      - The District can reject any or all tenders accepted (if the security does not generate savings)
      - Rejection can occur 1 day after pricing (set for 8/21/2024)
  - Only sunk cost up to $100,000 if full rejection

Calendar

- July 23 – Review Transaction Plan and Delegating Resolution with the Commission
- August 5
  - Post Preliminary Official Statement to the Market
  - Post Invitation to Tender
- August 13 – Commission Approval of Delegating Resolution
- August 21 – Pricing of PRP Refunding Bonds
- Week of August 26
  - Finalize and Post PRP OS
- September 4– Closing of Bond Transaction

Grant PUD

Powering our way of life.

Determining a new Rate Making Policy

Presented by:

Julio Aguirre, Rates and Pricing Program Manager

Depree Standley, Financial Analyst

July 23rd, 2024

Agenda

1. **Stakeholder Engagement Process**
    - Survey Results (To-date)

2. **Existing Rate Making Policy (Resolution No. 9039)**

3. **Key Proposed Amendments to Rate Making Policy**

4. **Next Steps**

01 Stakeholder Engagement Process

1. Stakeholder Engagement Process

Background

- As part of the public hearings in the 2023 Rate Review Process, the Commission expressed its intent to engage with customers who were willing to participate and provide feedback as part of a Stakeholder Process to be held in 2024.

This process had the following objectives:

- Educate customers about the rate making process followed at GCPUD
- Understand customers' positions, interests and concerns about the adoption of a revised Retail Rate Making Policy; and,
- Solicit customer input for the revision of retail rates effective in 2025

1. Stakeholder Engagement Process (cont.)

Anchor & Pillars

ANCHOR:

Focus on our core electric customers while still ensuring the success of all our customers

Prioritizing our resources around these **5 strategic pillars**:

1. Ensuring long-term affordable rates for our core electric customers
2. Sustaining our focus on engaged, empowered & enabled employees
3. Committing to accurate & responsive customer service
4. Developing an intentional power demand strategy
5. Caring for our communities through active engagement

1. Stakeholder Engagement Process (cont.)

In person (with a virtual option) meetings were scheduled to solicit stakeholder input and to share perspectives, concerns and ideas about the current and future state of retail rates at GCPUD, including proposed changes to its current Rate Making Policy.

<u>April 16th</u>

9:30 – 11:30 am	Agricultural Customers (RS2, RS3 & RS7)
6:00 – 8:00 pm	General & Large General Service Customers (Rates RS2 & RS7)

<u>May 21st</u>

8:30 – 10:30 am	Industrial Customers (RS14, RS15, RS16 & RS17)
6:00 – 8:00 pm	Residential Customers (RS1)

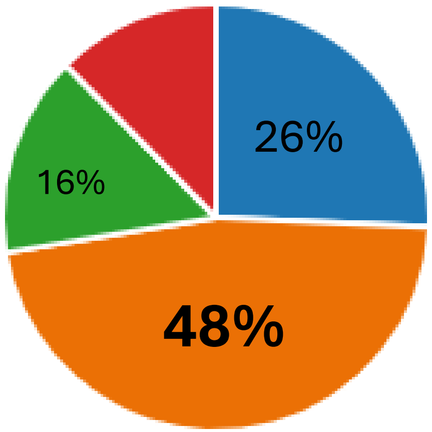
<u>June 4th</u>

6:00 – 8:00 pm	All Rates wrap up

1. Stakeholder Feedback Process (cont.)

As of 7/8/24 - 103 Responses received

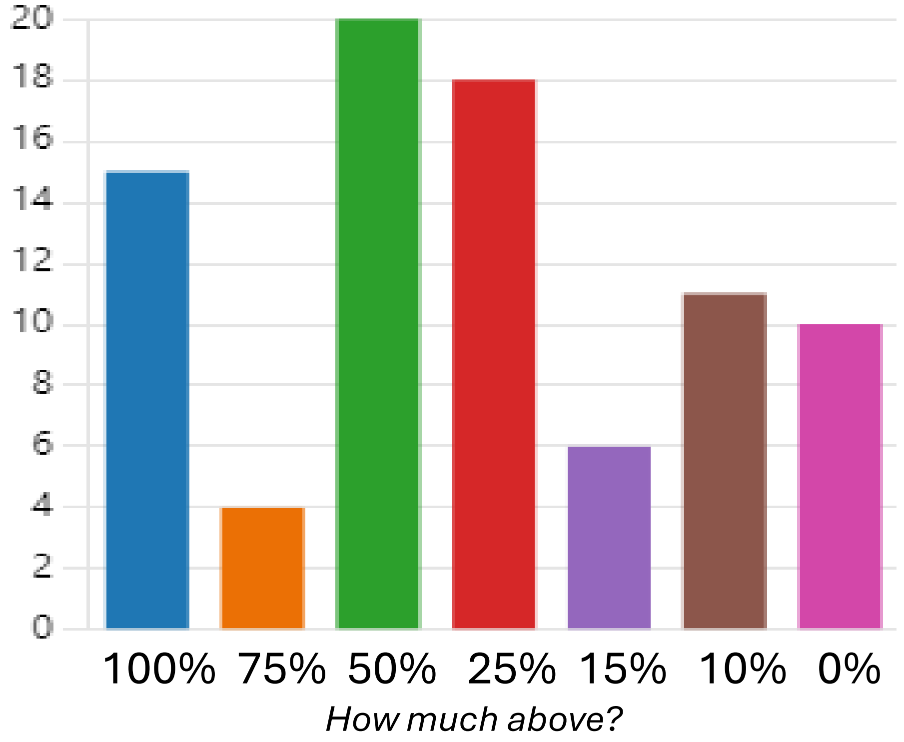
Question 1 – What is a “fair” way to allocate each rate classes’ costs?



- The concept of a "core" group of rate classes (Residential, Commercial and Irrigation/Ag) should exist. The other "non-core" rate classes (Industrial, Crypto, Food Processing) should pay above their cost of service so the "core" group can continue to pay below cost.
- The costs associated with the rate classes should be allocated 100% to that rate class.
- The concept of a "core" group of rate classes (Residential, Commercial and Irrigation/Ag) should exist. The "non-core" rate classes ((Industrial, Crypto, Food Processing) should have limits placed on how much they pay above their cost to reduce the "core" rates.

1. Stakeholder Feedback Process (cont.)

Question 2 – Based on Question 1, what do you think is an appropriate limit to the percentage above cost to charge "non-core" customers to reduce "core" customer rates?



1. Stakeholder Feedback Process (cont.)

Q3 – What should Grant PUD's top priority be?

75/103 – Low-cost power

16/103 – Greater reliability

14/103 – Other

Q4 - What should Grant PUD consider when it comes to expanding its power delivery (transmission and distribution) system?

60/103 – Non-core customers should pay for direct costs of their infrastructure

50/103 – Reduce impacts to existing customers

42/103 – Build for anticipated growth

Q5 – What should Grant PUD consider when it comes to building new generation?

55/103 – Explore Nuclear

49/103 – Explore Solar

25/103 – Explore Wind

Q6 – Would you be interested in the following rate incentive programs?

35/103 – Demand Response

26/103 – No

21/103 – Programs for customer power generation

1. Stakeholder Feedback Process (cont.)

- Staff will present a final recommendation to the Commission for the adoption of a Resolution addressing GCPUD's Rate Making Policy that will supersede the current Resolution No. 9039 (formerly No. 8768) in one of the November 2024 Commission Meetings

- Stakeholders will have another opportunity to express their views to the Commission in the corresponding public hearing process (November/December 2024)

- Expected Final Commission Approval: December 10, 2024 - Commission Meeting

- Effective Date: January 1, 2025

Final Product - Revised Retail Rate Making Policy Resolution

02 Existing Rate Making Policy

2. Existing Rate Making Policy

- Resolution #8768, passed on May 12, 2015
- Setting Rate Policy (superseding Resolution #8690 from October 7, 2013) uses the Cost-of-Service model and related trajectories as an input to rate setting
- Revised Resolution #9039 passed on December 12, 2023 to extend the expiration date of existing resolution

2. Existing Rate Making Policy (cont.)

Issues raised by Stakeholders:

1. Ensure continuation of existing or new mechanisms to protect our core load (i.e., primarily Residential and Agricultural customers)

2. Maintain stable and predictable rate adjustments. Rate trajectories are as important as targeted rate goals

3. Cost of service analysis needs to be assessed, validated and trusted as only one of multiple factors guiding the rate making process

4. The value of load growth needs to be approached from both a short and a long-term perspective

2. Existing Rate Making Policy (cont.)

Issues raised by Stakeholders:

5. Large customers' load growth needs to be financially viable and self-sustained and have no impact on core load customers, particularly for the development of new infrastructure

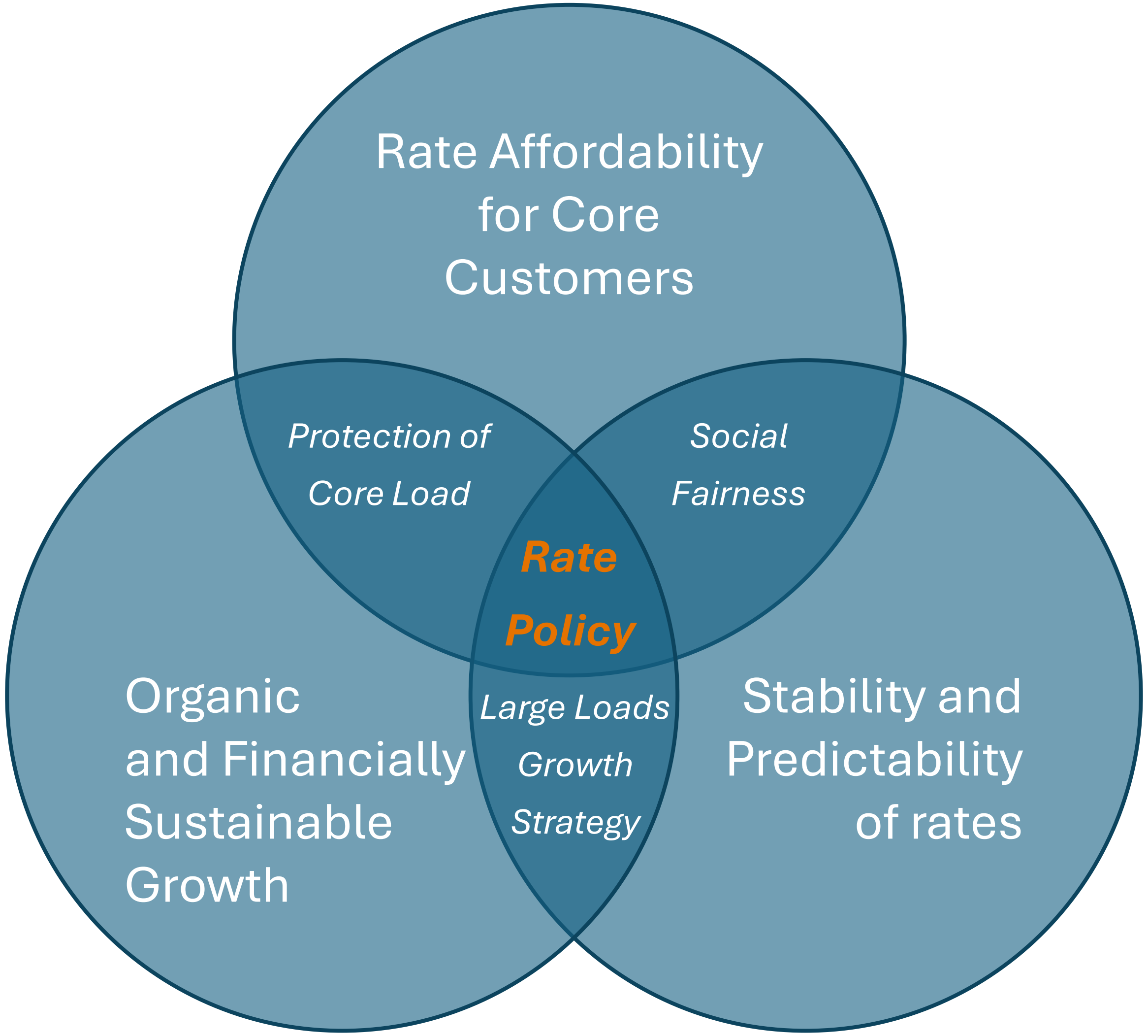
6. There is some consumer interest about new rates and product offerings, such as demand response and net metering

7. Customers are concerned about disruptive technologies and market trends and future power availability

8. We need to find a balance between rate attractiveness, county economic impact, and financial benefits for the utility and its owners

2. Existing Rate Making Policy (cont.)

- GCPUD Rate Making Pillars



Policy Guiding Directives:

1.- Protection of Core Load Customers

2.- Determination of social fairness in rate making process

3.- A rate making process aligned with the power growth strategy (particularly of large loads)

2. Existing Rate Making Policy (cont.)

NOW, THEREFORE, BE IT RESOLVED by the Commission of Public Utility District No. 2 of Grant County, Washington that Grant PUD's staff is hereby directed to prepare and present draft retail rate schedules for the Commission's consideration in accordance with the following principles and objectives:

Section 1. Rate schedules shall comply with all applicable laws and regulations.

Section 2. Rate schedules shall be straightforward and understandable by customers and staff.

Section 3. Combined total of all rate schedules shall capture all electric retail costs borne by Grant PUD.

Section 4. Grant PUD shall forecast its revenue requirements in advance and it shall plan to implement rate level changes in small, predictable increases.

Section 5. Rate schedules shall provide for Core Customer preferential access to the low cost embedded power supply resources in place as of the year 2013. Core Customers shall be defined as Residential, General Service (Small Commercial), Irrigation and Large General Service (Large Commercial) customers. Additionally, all customers' first 7,300,000 monthly kwh consumption (10 MW x 1,000 x 8,760/12) will be treated likewise; being considered as preferential access. Preferential access shall provide for "first in line" access to Priest Rapids Project power supply.

Section 6. Changes in rate schedules should be designed to limit impact to customers due to substantial structure change, aka "rate shock". Rate class specific limits set at not less than 0.25x the average total Revenue Requirement level increase and not more than 2.50x the average total Revenue Requirement level increase on an annual increase basis. In a year that no general retail rate increase is put into effect, no increase will be applied to any schedule.

2. Existing Rate Making Policy (cont.)

Section 7. Rate class Revenue Requirement shall be guided by cost-of-service analysis.

Section 8. Rate schedules shall be set by Commission directive and may take into consideration cost to serve as well as other factors. Commission has discretionary authority in setting rate components and meeting overall revenue requirements.

Section 9. By December 31, 2024, the rate schedules may be designed such that the differential between the estimated "cost to serve" and the "expected class revenue recovery" for each Rate Class may not exceed +15%/- 20.0%. Annually the long-term plan will be evaluated and, if appropriate, updated to stay on course to meet established targets / policy.

Section 10. Rate targets as established in Section 9 above shall be solved to allow the greatest economic benefit to the core customers as defined in Section 5 above and to first allocate the largest negative revenue to cost differential to those classes that represent the largest population of the rate base. Residential and Irrigation schedules shall receive the largest revenue-cost benefit at -20%. General Service (Small Commercial) and Large General Service (Large Commercial) shall be allocated any remaining economic benefit.

Section 11. Grant PUD shall explore alternative revenue recovery options such as rate contracts when potential for District benefit may exist.

Section 12. A separate rate design protocol document will be developed and serve as guidance on inter-class design goals and criteria.

PASSED AND APPROVED by the Commission of Public Utility District No. 2 of Grant County, Washington, this 12th day of December, 2023.

03 Key Proposed Amendments to Rate Making Policy

3. Key Proposed Amendments to Rate Making Policy

Section	Proposed Change	Rationale
Recitals	Preserve and protect the preferential access to PRP power for all core customers	Explicit recognition of Grant PUD rate policy philosophy.
Recitals	Prioritize the affordability of rates for core customers	Explicit recognition of Grant PUD rate policy philosophy.
Recitals	*"…at least every two years…"*	Rates will be assessed at least every other year. Does not require an automatic rate change.
Section 2	Most advantageous schedule	Grant will make its best efforts to place each retail customer in the most advantageous schedule they qualify for.
Section 3	*"…actual or projected…"*	Rate reviews can occur using historical or forecasted data as determined by the Commission.
Section 3	*"…unless recovered through an alternative or non-traditional rate mechanism…"*	Introduce the concept for the use of alternative or non-traditional rate mechanisms.

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section	Proposed Change	Rationale
Section 3	*"…Revenue Requirement level that will allow the utility to maintain acceptable financial metrics…"*	Recognize potential triggers/goals for rate increases.
Section 3	*"…sustain the current and future financial needs while minimizing the overall financing costs for all customers."*	Recognize potential triggers/goals for rate increases.
Section 3	*"The rate recovery of these revenue requirements shall be referred to as Standard Retail Service."*	Introduce the definition of Standard Retail Service, as opposed to alternative or non-traditional rate mechanisms.
Section 4	*"…may use historical or forecast data …"*	Rate reviews can occur using historical or forecasted data as recommended by Staff.
Section 4	*"…implement rate level changes in small, predictable increases in any given year, as directed by the Commission…"*	The Commission establishes the pace for rate increases in any given year.
Section 4	*"…staff shall consider the use of traditional ratemaking mechanisms…"*	Staff shall use an embedded class cost-of-service study and following industry accepted techniques, principles, and methodologies.

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section	Proposed Change	Rationale
Section 5	*"All standard rate schedules, or alternative rate recovery mechanisms shall be designed to provide Core Customer with preferential access to the low-cost embedded power supply resources from the Priest Rapids Project…"*	Preferential access to core customers shall be recognized for costs recovered through both "standard" mechanisms and "alternative" mechanisms, as determined by the Commission.
Section 5	Definition of Core Load customers	Rate Schedule 1-Residential, Rate Schedule 2-General Service (Small Commercial), Rate Schedule 3-Irrigation, Rate Schedule 3B-Agriculture and Rate Schedule 7-Large General Service .
Section 5	~~*Additionally, all customers' first 7,300,000 monthly kwh consumption (10 MW x 1,000 x 8,760/12) will be treated likewise; being considered as preferential access. Preferential access shall provide for "first in line" access to Priest Rapids Project power supply.*~~	Removal of Preferential Access for non-core customers. Non-core customers will continue benefiting from PRP with all the energy not used by core-customers.

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section	Proposed Change	Rationale
Section 6	*"...level increase approved for any rate class shall be no less than 0.5x of the average total system Revenue Requirement level increase and no more than 2.0x the average total Revenue Requirement level increase approved for that year..."*	Revised caps/bands will remain in place to provide customers with stable and predictable rates. Assuming an average of 2% increase per year, no rate class should experience a compound increase of more than ~22% or less than 5%, over a 5-year period.
Section 6	*"...when no general retail rate increase is put into effect, no increase will be applied to the core customer classes..."*	Non-core customers rates can be adjusted even when no overall rate increase may be approved in a given year.
Section 6	*"These revenue requirement increases used to assess the impact of a "rate shock" shall not consider any alternative or non-traditional cost recovery mechanism approved by the Commission for any non-core rate class or customer."*	Assessment of "rate shock" will not include the effects of any non-traditional or alternative rate mechanism applied to non-core customers and as approved by the Commission.
Section 7	*"...rates...shall be informed by cost-of-service analysis, but they may be adjusted during the approval process to accomplish any societal goals and policies as determined by the Commission."*	Cost-of-service analysis is only one factor taken into consideration when determining rates.

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section	Proposed Change	Rationale
Section 8	*"…may take into consideration load growth, business sustainability, cost to serve, potential fuel costs, new regulatory requirements, business risk …"*	Rate making process may take into account other factors when determining rates.
Section 9	*"At least every two years, staff will analyze and compare the existing rates and cost recovery levels and the estimated cost to serve each of the rate schedules…"*	Confirm frequency for the assessment of costs that may warrant a rate review process.
Section 9	~~*"By December 31, 2024, the rat schedules may be designed such that the differential between the estimated "cost to serve" and the "expected class recovery"… may not exceed +15%/-20%."*~~	The Commission will have latitude to determine any rate trajectories and/or changes to any longer-term goals as they see fit. Rate stability and predictability are still addressed in Section 6.

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section	Proposed Change	Rationale
Section 10	*"...the largest benefit to Rate Schedule 1- Residential, Rate Schedule 3-Irrigation and Rate Schedule 3B- Agriculture."*	Prioritization of specific electric end uses that will receive the largest revenue-cost benefit among the core customer classes
Section 11	*"...alternative or non-traditional revenue recovery options such as rate contracts or usage caps...for non-core customers where there is a significant risk of stranded costs to be borne by the core customers...*	Allowing for rate structures or cost recovery mechanisms to ensure that non-core customers pay for the cost of any new or incremental assets necessary to provide them with electric service.
Section 12	*"...establishing a cap or limit on the amount of power, measured in MVA, supplied to any large non-core customer through the standard retail service..."*	The Commission may establish a maximum power supply to any particular non-core customer that is served and recovered through the "standard" or traditional retail service (i.e., existing base tariff).

3. Key Proposed Amendments to Rate Making Policy (cont.)

A RESOLUTION SUPERSEDING RESOLUTION NO. ~~8768~~ 9039 AND
SETTING RATE POLICY

WHEREAS, Public Utility District No. 2 of Grant County, Washington (Grant PUD) is authorized to regulate and control the use, distribution, rates, service, charges, and price of electric energy pursuant to RCW 54.16.040.

WHEREAS, Grant PUD's Board of Commissioners have the sole authority and responsibility to set electric rates.

WHEREAS, the Priest Rapids Project (PRP) was built by Grant PUD to benefit the citizens of the county.

WHEREAS, Grant County PUD electric retail rates shall be designed to preserve and protect the preferential access to the PRP power for all core customers.

WHEREAS, as a customer-owned public power utility, Grant PUD shall prioritize the affordability of its rates for its core customers.

WHEREAS, the amount of PRP generation available for use in Grant County, Washington is limited.

WHEREAS, Resolution No. ~~8768~~ 9039 that was approved ~~May~~ December 12th, 20~~15~~23 previously had set components of rate policy.

NOW, THEREFORE, BE IT RESOLVED by the Commission of Public Utility District No. 2 of Grant County, Washington that Grant PUD's staff is hereby directed to prepare and present draft retail electric rate schedules for the Commission's consideration at least every two years in accordance with the following principles and objectives:

Section 1. Rate schedules shall comply with all applicable laws and regulations.

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section 2. Rate schedules shall be straightforward and understandable by customers and staff. Grant PUD staff will make their best efforts to place each retail customer in the most advantageous schedule they qualify for at the time retail service is established or at the customers' request.

Section 3. Combined total of all rate schedules shall capture all actual or projected electric retail costs borne by Grant PUD for each corresponding Test Period as reflected in the corresponding cost-of-service study and/or annual budget process, unless recovered through an alternative or non-traditional rate mechanism. The recovery of the electric retail costs shall target a Revenue Requirement level that will allow the utility to maintain acceptable financial metrics that can sustain the current and future financial needs while minimizing the overall financing costs for all ~~supportsupport.~~ customers. The rate recovery of these revenue requirements shall be referred to as Standard Retail Service.

Section 4. For the determination of the Standard Retail Service, Grant PUD may ~~shall~~ use historical or forecast data to determine its annual R~~r~~evenue R~~r~~equirements as recommended by staff ~~in advance~~ and it shall plan to implement rate level changes in small, predictable increases in any given year, as directed

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by the Commission. In determining the annual Revenue Requirements, staff shall consider the use of traditional ratemaking mechanisms, such as the use of an embedded class cost-of-service study and following industry accepted techniques, principles, and methodologies for the allocation of costs.

Section 5. All ~~Rate~~Standard Retail Service- schedules, or any alternative rate recovery mechanisms shall be designed to provide ~~for~~ Core Customers with preferential access to the low--cost embedded power supply resources from the Priest Rapids Project in place as of the year 2013. Core Customers shall be defined as all retail customers taking service under: Rate Schedule 1-Residential, Rate Schedule 2-General Service (Small Commercial), Rate Schedule 3--Irrigation, Rate Schedule 3B-Agriculture and Rate Schedule 7-Large General Service (Large Commercial) customers~~. Additionally, all customers' first 7,300,000 monthly kwh consumption (10 MW x 1,000 x 8,760/12) will be treated likewise; being considered as preferential access. Preferential access shall provide for "first in line" access to Priest Rapids Project power supply.~~

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section 6. Proposed ~~C~~changes ~~in~~ for any ~~rate schedules~~retail rates as described in Section 3 above should be designed to limit the impact to customers due to a substantial structure change, aka "rate shock". In any given year, ~~Rate class specific limits set at not less than 0.25x the~~ the ~~average~~ total Revenue Requirement level increase approved for any rate class shall be no less than 0.5x of the average total system Revenue Requirement level increase and no~~t~~ more than 2.~~5~~0x the average total Revenue Requirement level increase ~~on an annual increase basis~~ approved for that year. In a year ~~that~~ when no general retail rate increase is put into effect, no increase will be applied to ~~any schedule~~the core customer classes. The revenue requirement increases used to assess the impact of "rate shock" shall not consider any alternative or non-traditional cost recovery mechanism approved by the Commission for any non-core rate class or customer.

Section 7. The determination of each ~~R~~rate class Revenue Requirement and the resulting rates shall be ~~guided~~ informed by cost-of-service analysis, but they may be adjusted during the approval process to accomplish any societal goals and policies as determined by the Commission. The cost-of-service analysis shall be only one factor taken into consideration by the Commission when determining rates.

Section 8. Rate schedules shall be set by Commission directive and may take into consideration load growth, business sustainability, cost to serve, potential fuel costs, new regulatory requirements, business risk as well as other factors. The Commission has discretionary authority in setting rate components for all retail schedules and meeting the overall revenue requirements.

Section 9. At least every two years, staff will analyze and compare the existing rates and cost recovery levels and the estimated cost to serve each of the rate schedules and present this information to the Commission for their review as part of the annual budget approval process.~~By December 31, 2024, the rate schedules may be designed such that the differential between the estimated "cost to serve" and the "expected class revenue recovery" for each Rate Class may not exceed +15%/ 20.0%. Annually the long-term plan~~The Commission will ~~be~~ evaluate~~d~~ and, if appropriate, ~~updated to stay on~~ adjust the existing rates ~~course~~ to meet their established targets / polici~~y~~es.

3. Key Proposed Amendments to Rate Making Policy (cont.)

Section 10. Any ~~R~~rate ~~targets~~adjustments ~~as~~ established in Section 9 above to meet Commission's goals and policies shall be solved to allow the greatest economic benefit ~~to the~~ among core customers ~~as defined in Section 5 above and to first allocate the largest negative revenue to cost differential to those classes that represent the largest population of the rate base.~~ served under –Rate Schedule 1-Residential, ~~and~~ Rate Schedule 3-Irrigation and Rate Schedule 3B- Agriculture. These schedules shall receive the largest revenue-cost benefit among the core customer classes ~~at 20%~~. ~~General Service (Small Commercial) and Large General Service (Large Commercial) shall be allocated any remaining economic benefit.~~.

Section 11. Grant PUD shall ~~explore~~ utilize alternative or non-traditional revenue recovery options such as rate contracts or usage caps as discussed in Section 12 below, for non-core customers where there is a significant risk of stranded costs to be borne by the core customers, for new or incremental distribution, transmission or generation assets or expenses. ~~when potential for District benefit may exist.~~ Any rate structures or cost recovery mechanisms approved for this purpose will ensure that non-core customers pay their share of any new or incremental costs necessary to provide them with electric service including but not limited to upfront capital charges.

Section 12. Grant PUD may consider establishing a cap or limit on the amount of power, measured in MVA, supplied to any large non-core customer through the applicable Standard Retail Service schedule. Grant PUD shall establish the necessary non-traditional rates or mechanisms to recover the cost of providing electric service in excess of the maximum allowed capacity. The cost assigned and recovered through these alternative mechanisms will be excluded from the determination of rate increases described in Section 6 above.

~~Section 12. A separate rate design protocol document will be developed and serve as guidance on inter-class design goals and criteria.~~

PASSED AND APPROVED by the Commission of Public Utility District No. 2 of Grant County, Washington, this ~~12th~~ XXth day of December, 202~~3~~4.

04 Next Steps

4. Next Steps (Tentative Dates)

- 7/23 – Present initial proposal to Commission ✓
- 8/13 – 9/10 – Commission/Customer discussion/review. Additional Feedback
- 9/24 – Present revised policy draft in formal resolution format
- 11/12 – Commission review of resolution
- 12/10 – Commission anticipated approval of resolution


power
cost
rates
people
pay
grant
high
like
get
costs
county
thank
work
pud
keep
money
make
solar
low
farms
customers
rate
data
infrastructure
need
options
higher
crypto
reliable
group
also
save
can
use
help
residents
build
future
centers
opportunity
account
project
believe
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year
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employees
oxygen
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it's
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industry
study
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serve
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time
nuclear
wind
ideas
just
churchman
service
dams
bill
needs
damn
land
dave
running
building
willing
used
begin
happen
stop
long
big
reducing
able
lot
struggling
little
much
utility
smaller
away
based

Thank you!

Power Delivery

July 2024 Business Report

Grant County
PUBLIC UTILITY DISTRICT

Purpose and Goal

Purpose: Provide our customers a safe and reliable transmission and distribution electric system.

Goal: Achieve our purpose while championing a culture of safety and operational excellence with focus on our values of safety, innovation, service, teamwork, respect, integrity and heritage.

Structure and Personnel

Director
Power Delivery
Ron Alexander

Manager
Grid Optimization
Adam Schwab

Senior Manager
Construction
& Maintenance
Chris Heimbigner

- Line Department –
- Power System Electricians
- Meter/Relay
- Maintenance Engineering
- Standards

Manager
Dispatch
VACANT

- System Operations
- Operations Technical Assistants

Senior Manager
Power Delivery
Engineering
Jesus Lopez

- Systems Planning & Protection
- Transmission, Substation & Automation
- Customer & Distribution Engineering

Senior Manager
Control Systems
Engineering
Kevin Carley

- Control Systems
- Energy Accounting

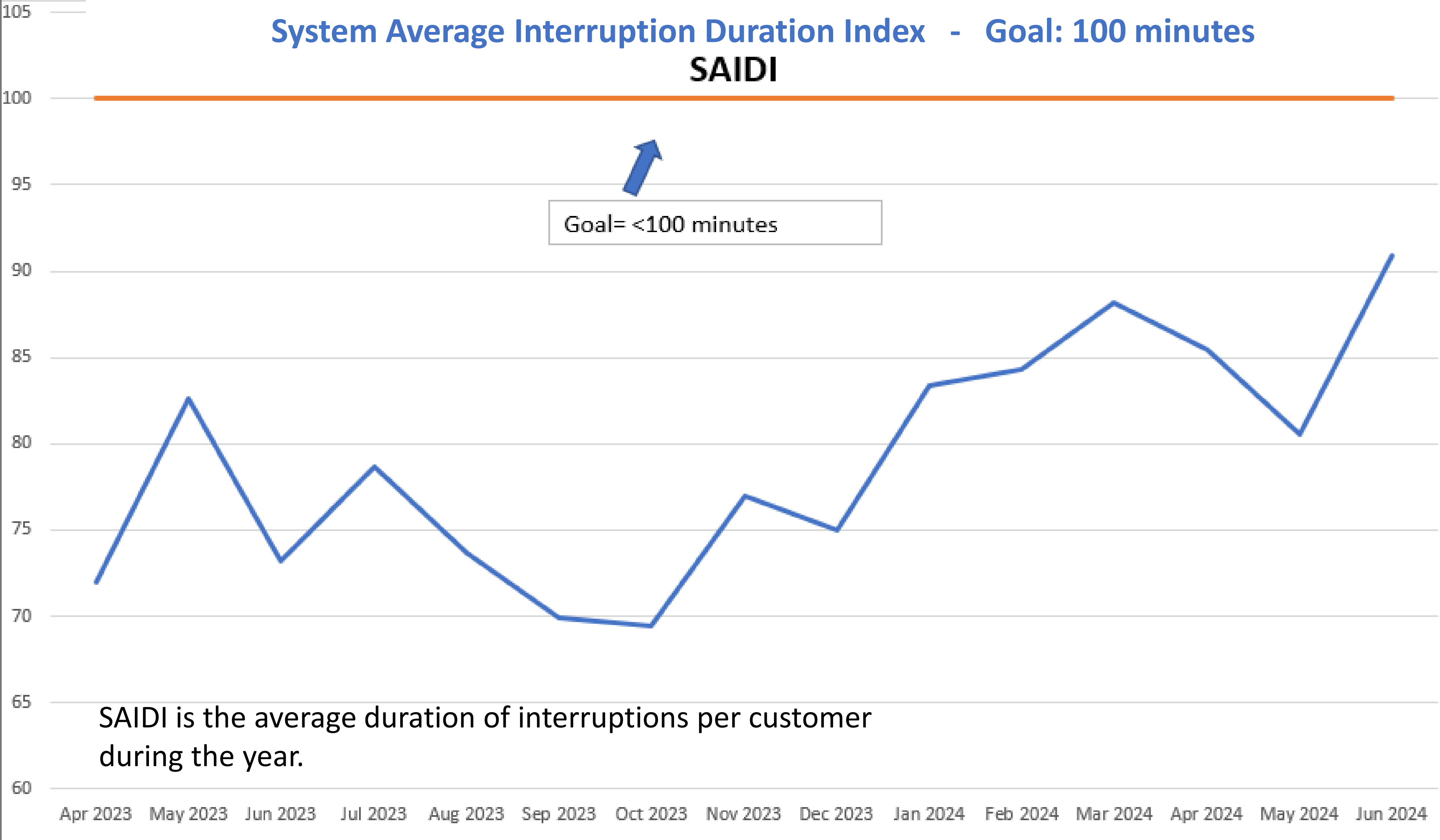
Administrative Assistant
Corissa Robbins

SAFETY

Month	By Cost Center	Safety Mtg. No Attended	Safety Mtg. No Potential	Safety Mtg % Attended	# JSRs	# Close Calls	# Vehicle Incidents	Non-Recordables
April	PD	2	2	100%	3			
May	PD	2	2	100%	3			
June	PD	1			3			
April	C&M	93	96	98%			1	1
May	C&M	98	100	100%		1		
June	C&M	99						
April	PD Dispatch	17	17	100%				
May	PD Dispatch	16	17	100%				
June	PD Dispatch	17						
April	PD Engineering	46	46	88%		1		
May	PD Engineering	40	40	100%				
June	PD Engineering	40						

Note: No data for June at time of this presentation – Safety Day

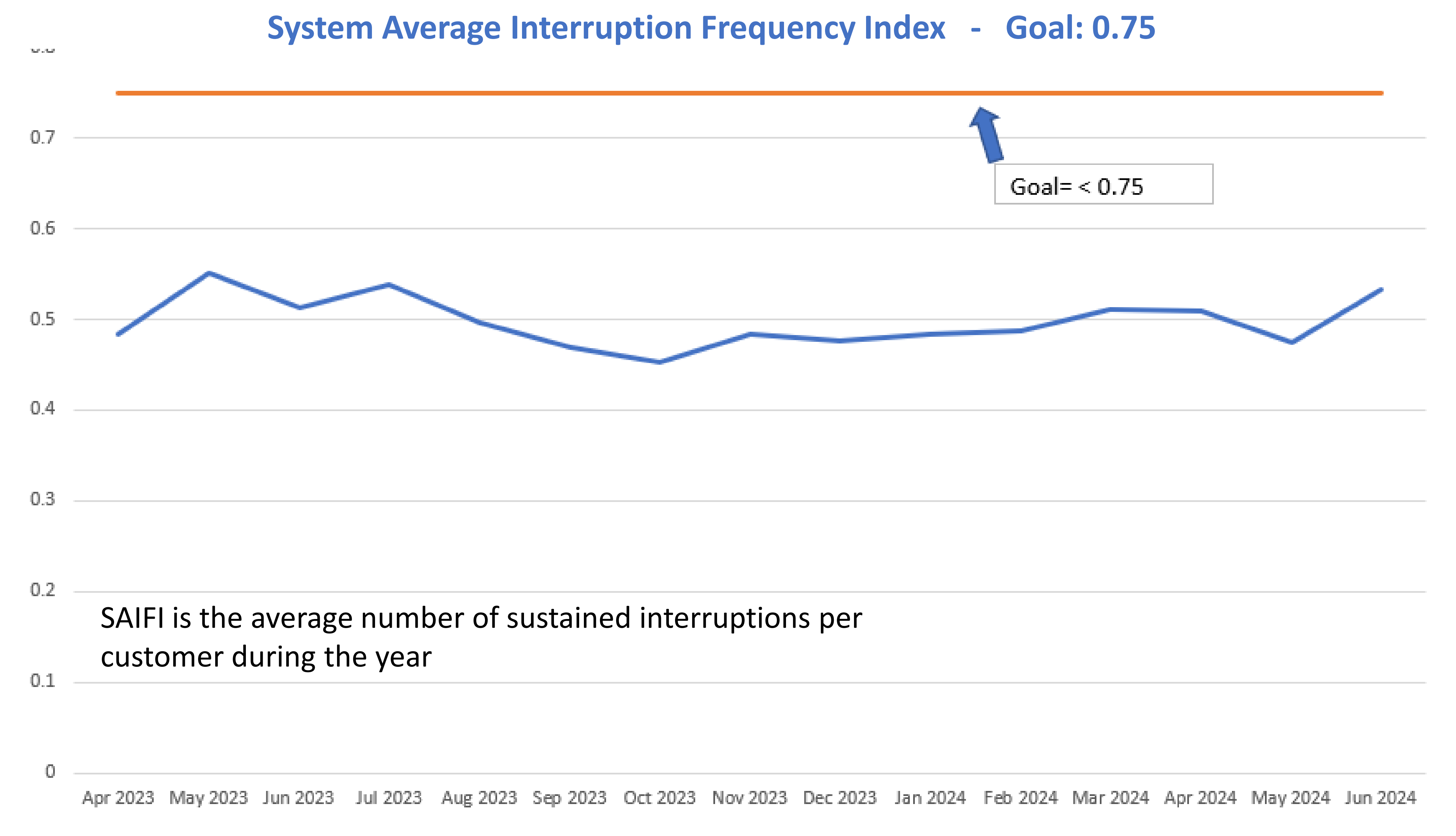
Operational Performance - SAIDI



SAIDI is the average duration of interruptions per customer during the year.

Month	SAIDI
Dec 2021	124.4
Jan 2022	122.36
Feb 2022	120.57
Mar 2022	122.32
Apr 2022	132.05
May 2022	129.5
Jun 2022	133.32
Jul 2022	110.56
Aug 2022	104.57
Sep 2022	78.307
Oct 2022	83.247
Nov 2022	67.597
Dec 2022	75.249
Jan 2023	77.667
Feb 2023	77.802
Mar 2023	77.376
Apr 2023	72.022
May 2023	82.617
Jun 2023	73.226
Jul 2023	78.645
Aug 2023	73.712
Sep 2023	69.935
Oct 2023	69.442
Nov 2023	77.018
Dec 2023	74.979
Jan 2024	83.34
Feb 2024	84.294
Mar 2024	88.174
Apr 2024	85.4
May 2024	80.523
Jun 2024	90.888

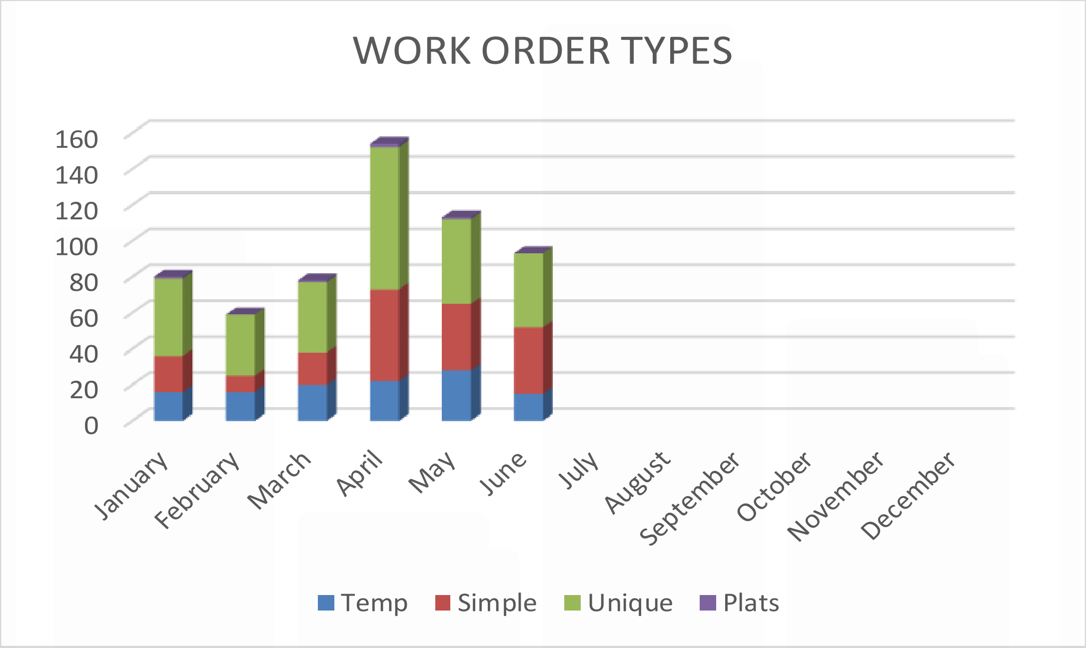
Operational Performance - SAIFI



Month	SAIFI
Dec 2021	0.75
Jan 2022	0.727
Feb 2022	0.708
Mar 2022	0.714
Apr 2022	0.77
May 2022	0.785
Jun 2022	0.826
Jul 2022	0.597
Aug 2022	0.567
Sep 2022	0.568
Oct 2022	0.583
Nov 2022	0.494
Dec 2022	0.498
Jan 2023	0.519
Feb 2023	0.517
Mar 2023	0.522
Apr 2023	0.483
May 2023	0.551
Jun 2023	0.512
Jul 2023	0.538
Aug 2023	0.497
Sep 2023	0.469
Oct 2023	0.452
Nov 2023	0.483
Dec 2023	0.476
Jan 2024	0.483
Feb 2024	0.488
Mar 2024	0.511
Apr 2024	0.51
May 2024	0.475
Jun 2024	0.533

Operational Performance – Work Orders Rec'd

CUSTOMER ENGINEERING WORK ORDERS



2023	Temp	Simple	Unique	Plats	Total	Total
January	16	20	43	1	80	
February	16	9	34	0	59	
March	20	18	39	1	78	**217**
April	22	51	79	2	154	
May	28	37	47	1	113	
June	15	37	41	0	93	**360**
July					0	
August					0	
September					0	**0**
October					0	
November					0	
December					0	**0**
	117	172	283	5		
					Yearly Total:	**577**

POWER DELIVERY – INVESTING IN OUR PEOPLE!

- 5 year strategy development work under way for Power Delivery
  - Asset Management
  - Work Management
  - Workforce Development
  - Grid of Tomorrow
- 5 year Resource Plan finalized to capture professional employee needs with changing market and demand
- PDE and C&M partnership on Soap Lake, COMPLETED!
- Working with OD to continue deployment of apprentice programs
- Continue work on Engineering step plans in coordination with PP and TE

Soap Lake Substation - Completed

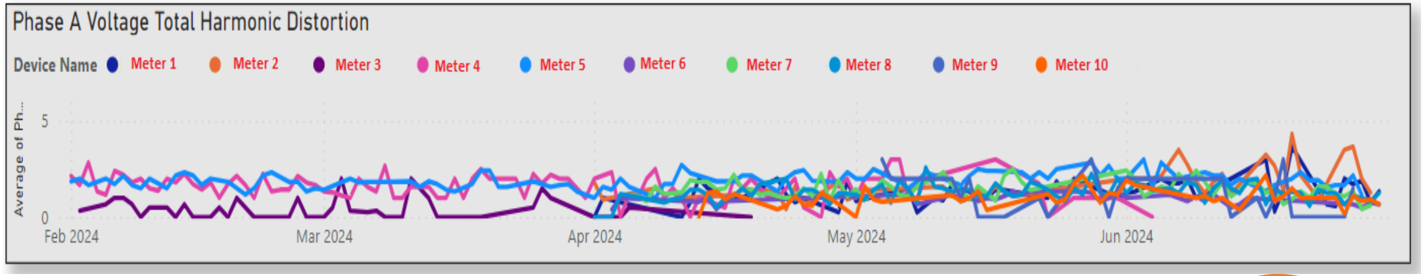
THANK YOU FOR THE SUPPORT TO COMPLETE THIS WITH INTERNAL STAFF

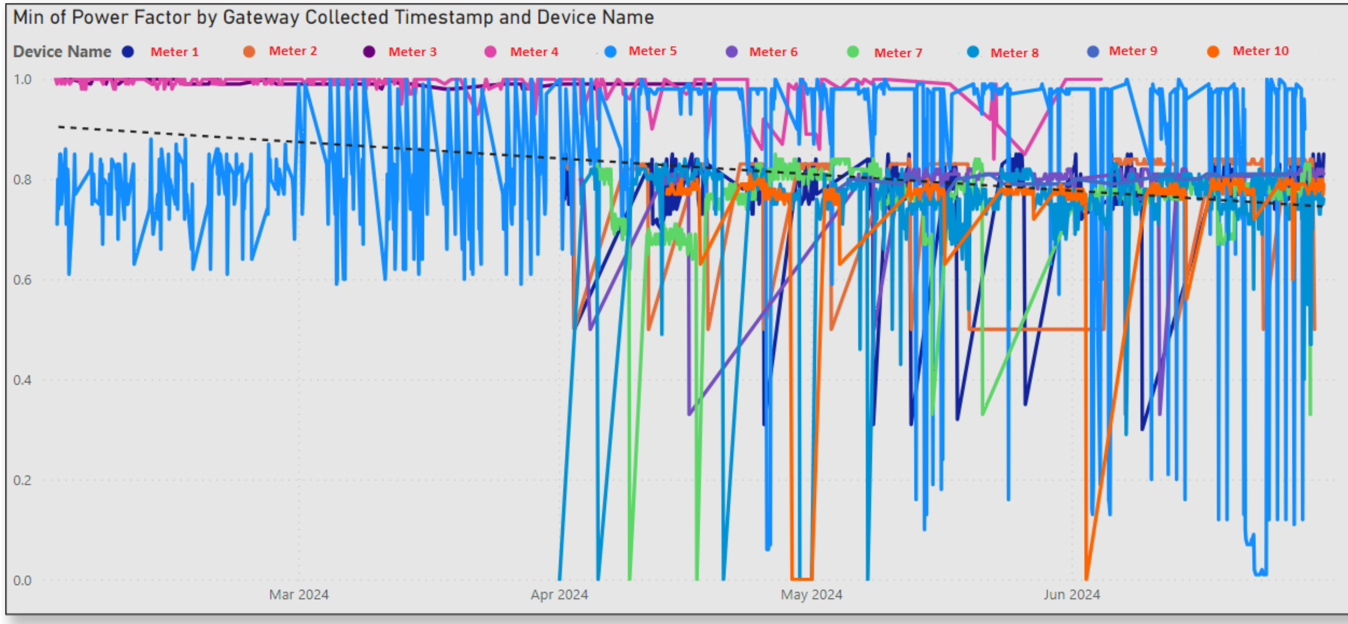
Grid Optimization

- Power Quality – temporarily paused, but for good reason – audit, engineering study, thoughtful design, implementation, audit again…

- Automated Metering Infrastructure (AMI) – a tool we already own that can be utilized to assist with Power Quality effort

- Distribution Smart Grid – Analysis of the 4 Soap Lake Feeders





Power Delivery Engineering

QTEP

- Leading team review of 60% design package for Mountain View – Monument Hill 230kV.
- Leading procurement of equipment and material for Quincy transmission segments (CBs, switches, & steel pole)

West Canal & Quincy Foothills Substations

- Transmission Line is complete
- Testing and commissioning of West Canal is complete and preparing for energization.
- Preparing for testing and commissioning of Quincy Foothills.

Soap Lake Substation

- Led testing, commissioning, and energization.
- Station successfully energized

Ruff Substation (ECBID)

- Soap Lake engineering refocusing on Ruff Substation incorporating lessons-learned from Soap Lake
- Substation design is substantially complete pending missing civil details.

Painted Hills Switchyard

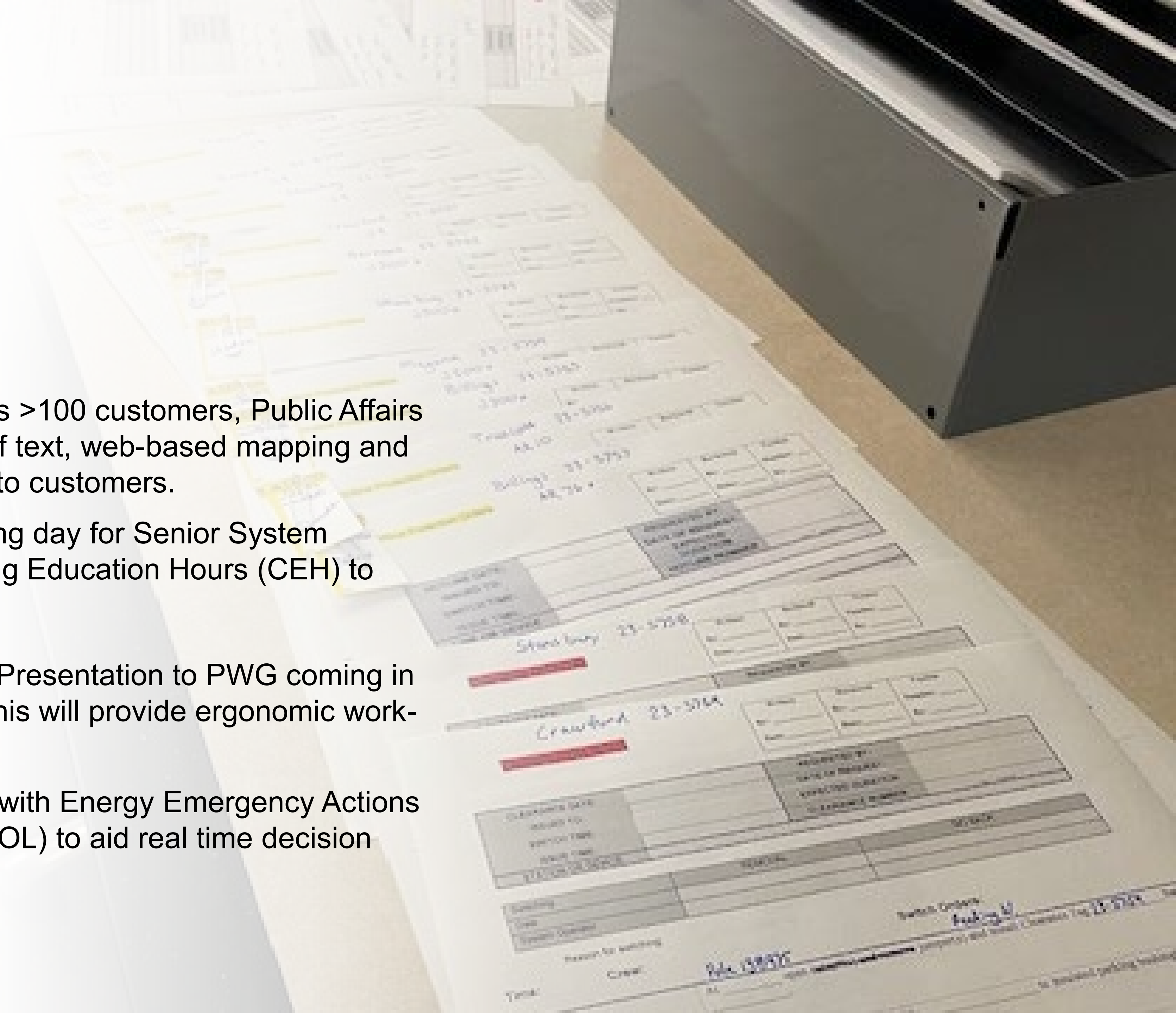
- Working on 60% design package.
- Working through procurement processes of long-lead items.

Big Bend Switchyard

- Project continues to stay on hold per customer request

System Operations (Dispatch)

- Outage Communication: When outages >100 customers, Public Affairs is notified and utilizing a combination of text, web-based mapping and social media tools makes notifications to customers.
- Training - Implemented a weekly training day for Senior System Operators providing required Continuing Education Hours (CEH) to NERC certified personnel.
- Control Center Modernization Project: Presentation to PWG coming in August with updated cost estimates. This will provide ergonomic work-stations and better system
- Real Time Tools: Guidance developed with Energy Emergency Actions (EEA) and System Operating Limits (SOL) to aid real time decision making during critical events
- New System peak load: 1084 MW



Control Systems Engineering

- Generation Management System (GMS) ongoing

New equipment improves accuracy utilizing a data link. Higher accuracy supports river operations and controls.

- Energy Management System (EMS) ongoing

Completed Compliance work for new Protocol Converter.

Task Authorization to work with SEL on upgrading legacy equipment in the Ephrata Data Center

EMS configuration complete for West Canal working with T&D, C&M and E-Tech's on testing and commissioning

- Operational Cyber Security/Infrastructure

Completed build out of new EACMS environment – Electronic Access Control or Monitoring System

- Energy Accounting System (EAS)

Migrated 4 of 8 databases to new SQL servers. Will work to move the final 4 in Q3.

Starting internal project to migrate all Legacy applications to run on modern virtualization infrastructure and upgraded operating systems

Working with ESM group on TSP planning and determining configuration for Web Trans/Oasis.

Power Delivery: Construction and Maintenance Update

Grant PUD

Powering our way of life.

Meter and Relay Shop

- Rocky Ford Relay testing and Relay upgrades completed.
- 12 Distribution Transformers tested.
- T&C Soap Lake and West Canal Substations.
- Continuing to remove old Xmeters to transition away from MV90 (legacy program) and consolidated into AMM.

Power System Electricians

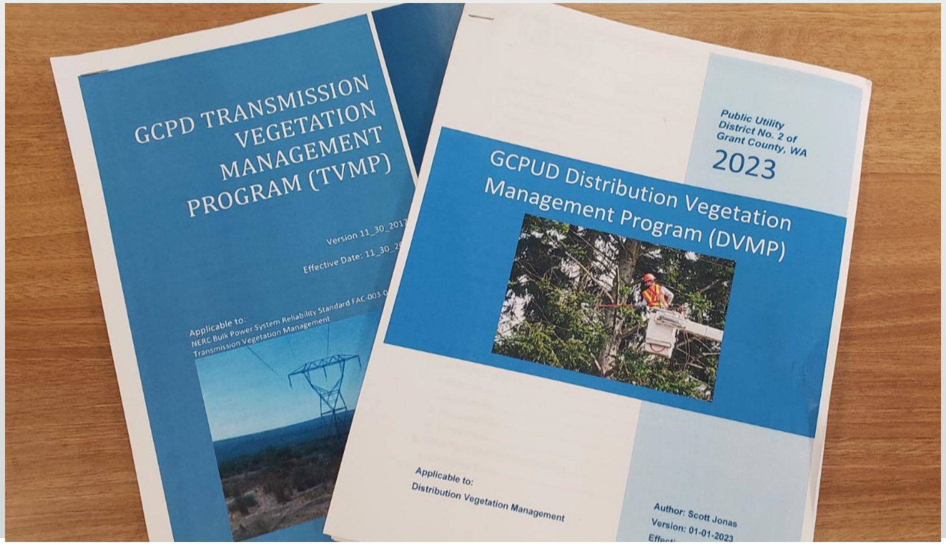
- Soap Lake Completion in 7 months
- Three Apprentices graduated to Journeyman Status: Blake Reeves, Dakota Delong, Shane Melseth
- Two Current apprentices progressing well: Craig Wood, Aaron Lindell

Line Crew

- New Lineman Mike Watkins has started with the PUD
- 2 new Apprentices have started. Omar Suarez and Noah Tate
- ESC, MLSC, RCLO are working on Customer Service jobs. Approx. 3 week back log
- Transmission crew is working on a clearance mitigation at Seep Lakes
- District Improvement crew has completed a fuse coordination project and is working on a small reconductor project
- Dock crews are working on 2 large customer line extensions and nearing completion of the Fiber build out.

PD Maintenance Engineering

- Progressing with Maintenance Standards for the Substation crews.
- Monitoring and evaluating North Quincy transformer gassing issues.
- Supporting Meter/Relay Transformer testing.
- DGA – Dissolved Gas Analysis.



Protection System Maintenance Program

Public Utility District #2 of Grant County

Version 2.3

2/17/2020

Thank You For Your Ongoing Support

Grant County
PUBLIC UTILITY DISTRICT

Power Production

Strong Performance……

Quarterly Commission Briefing 7/23/2024

Ben Pearson

Grant PUD

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Fulfilling Our Mission Champions of Safety … Guardians of Power

- Purpose: Provide **safe, secure, economical, reliable and compliant power generation** under the Priest Rapid Project Federal Energy Regulatory Commission (FERC) License Project No. 2114 while supporting the Wanapum relationship.

- Goal: Execute the aforementioned tasks while championing a **culture of safety and operational excellence** with continuous focus on the guiding values of safety, innovation, service, teamwork, respect, integrity, and heritage.

2024 Q2 Assessment

Key Operational Metrics

- Plant Performance

Updates

- Highlights from Q1
- Capital Projects

Team & Next Quarter

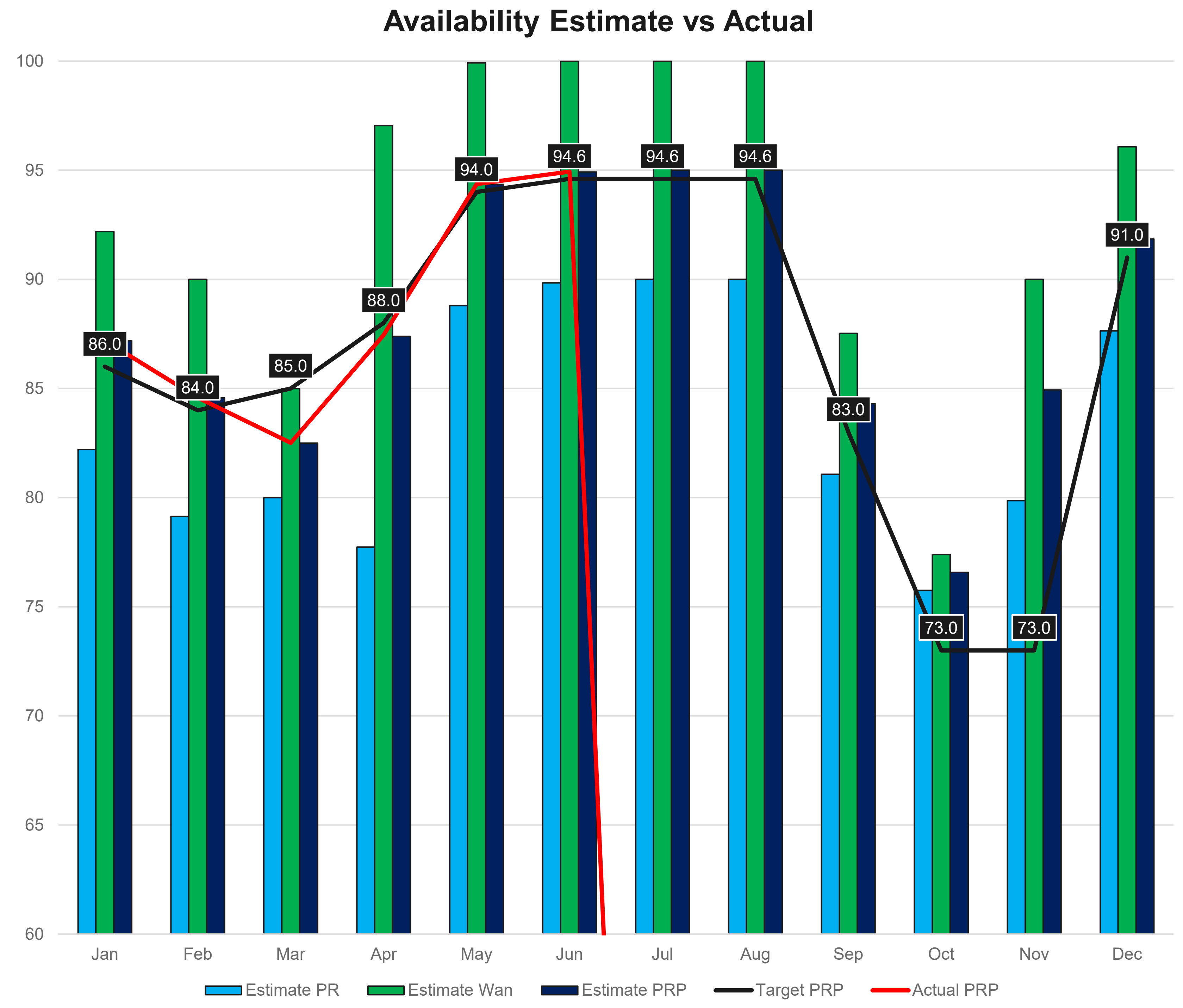
- Dam Safety Contributions
- Organization Chart Status Update
- Feedback

Plant Performance:

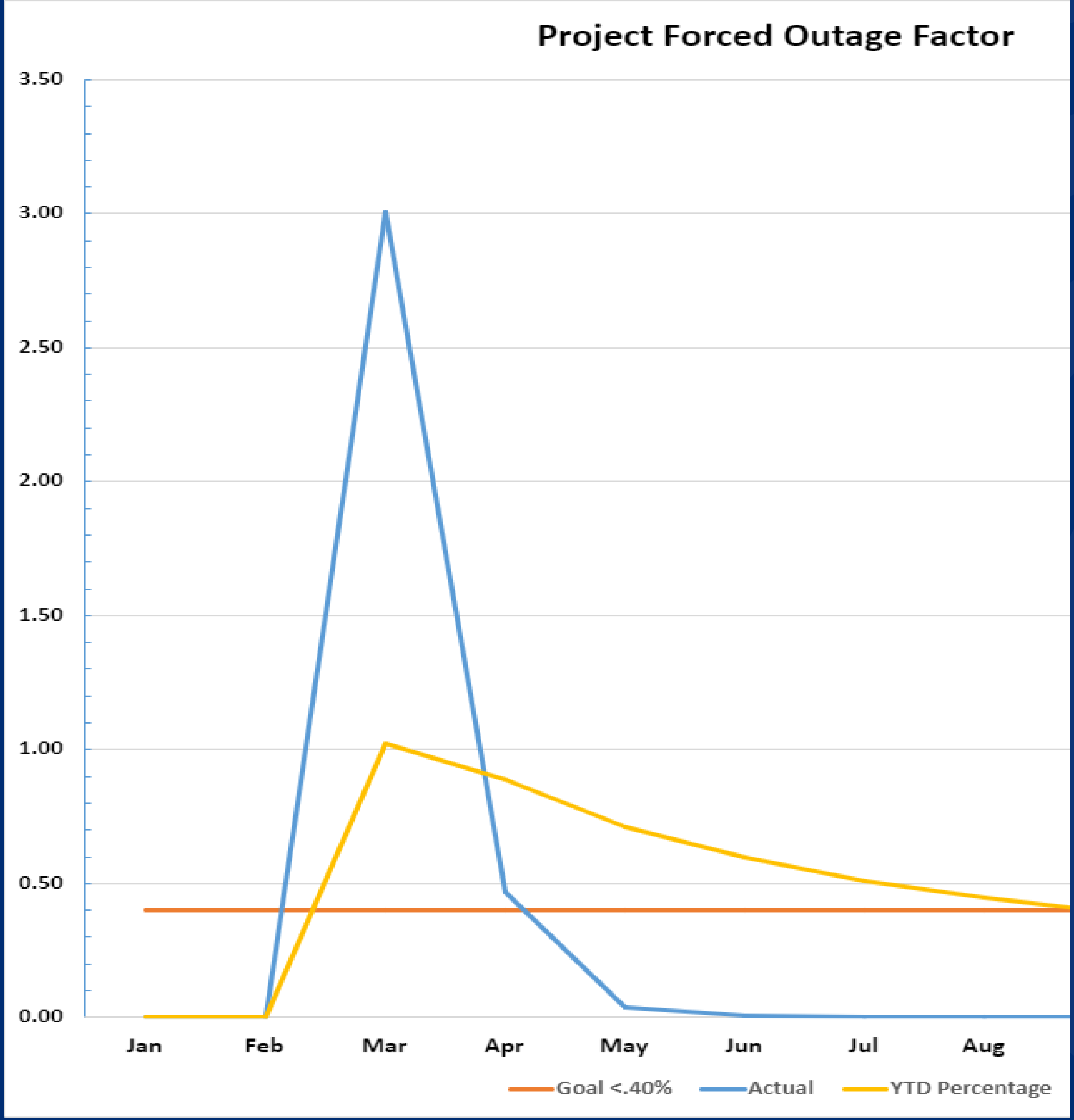
April did not meet target by .5%

May exceeded target by . 4%

June exceeded target by .3%



Plant Performance:



Highlights:

- PR transformer outage & line outages
- WAN, water in thrust oil pot

Annual Insurance Inspections (June 2024)

- Inspections of Wanapum and Priest Rapids Dam
- Insurance inspections are directly related to the District's insurance rates
- Coordinated by the District's Risk Department

Outcomes:

- Completed two recommendations from 2023
- No new formal recommendations in 2024
- High praise for staff and facilities from insurers/brokers

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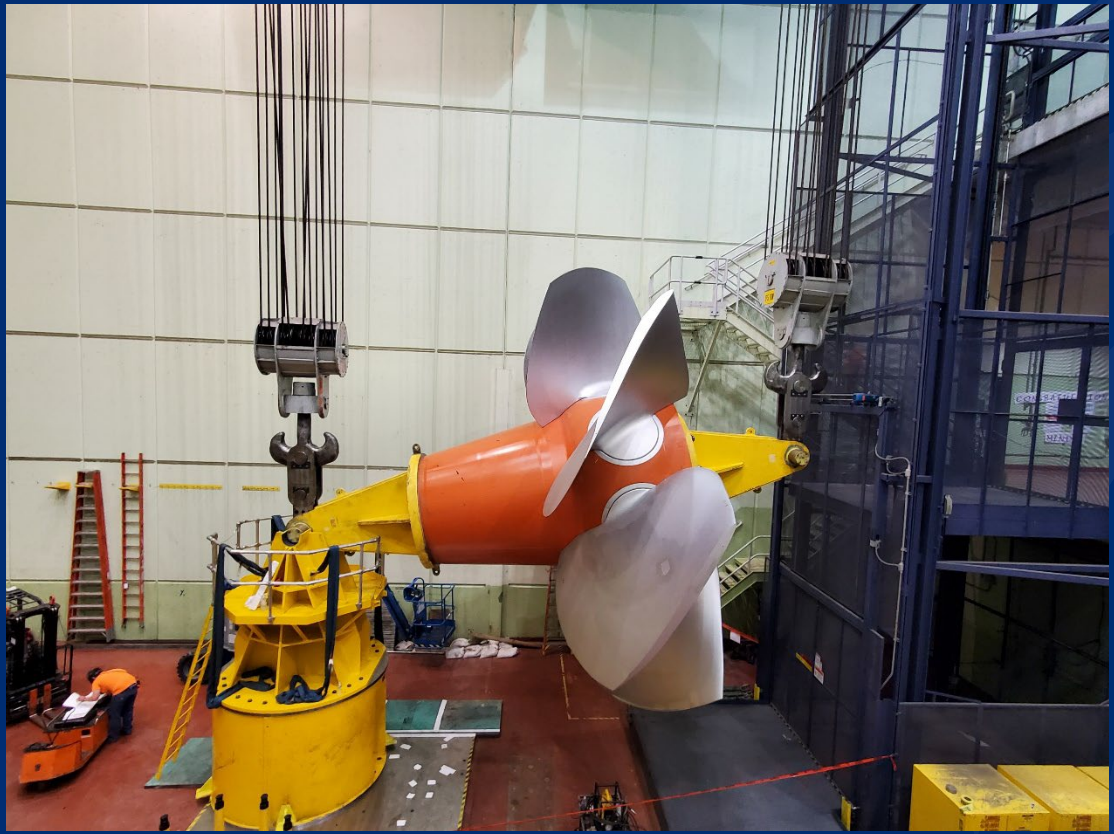
Wanapum Spillway Gate Gears

Capital Project Update



PR Unit Rehab (P1),
Turbine Flip.

Engineering Site Visit to PNNL Research Labs
in Richland, WA with US Army Corp.

Capital Project Update

Lock Out Tag Out (LOTO) : Phase 1 has been completed as of July 15th. Phase 2 has started and projected to be completed in Dec. 2024

House Environment & Energy Committee Tour

Dam Safety FERC Inspection

PR Part 12 Comprehensive Assessment – FERC, Independent Consultant (HDR), District Staff

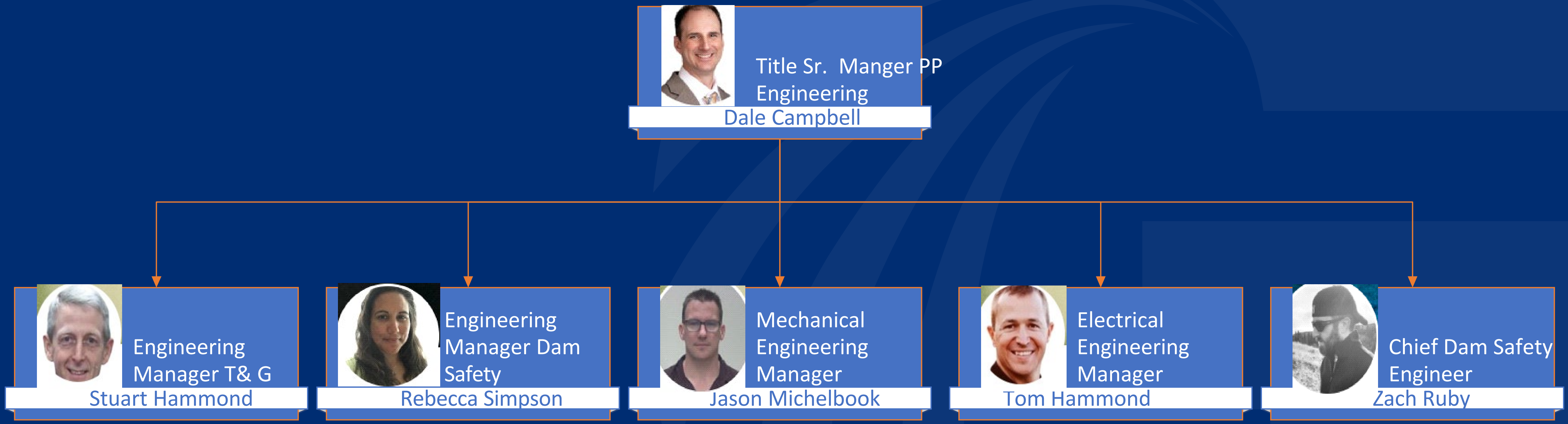
Dam Safety Industry Contributions

Zach Ruby and Becca Simpson Presenting at RCC Seminar in Denver on PRREIP (RCC site visit to Gross Dam in Denver)

Chris Steinmetz presenting at USSD on PRREIP

Org Update in Power Production

Engineering



Highlights:

- **Tom Hammond, Permanent Electrical Engineering Manager**

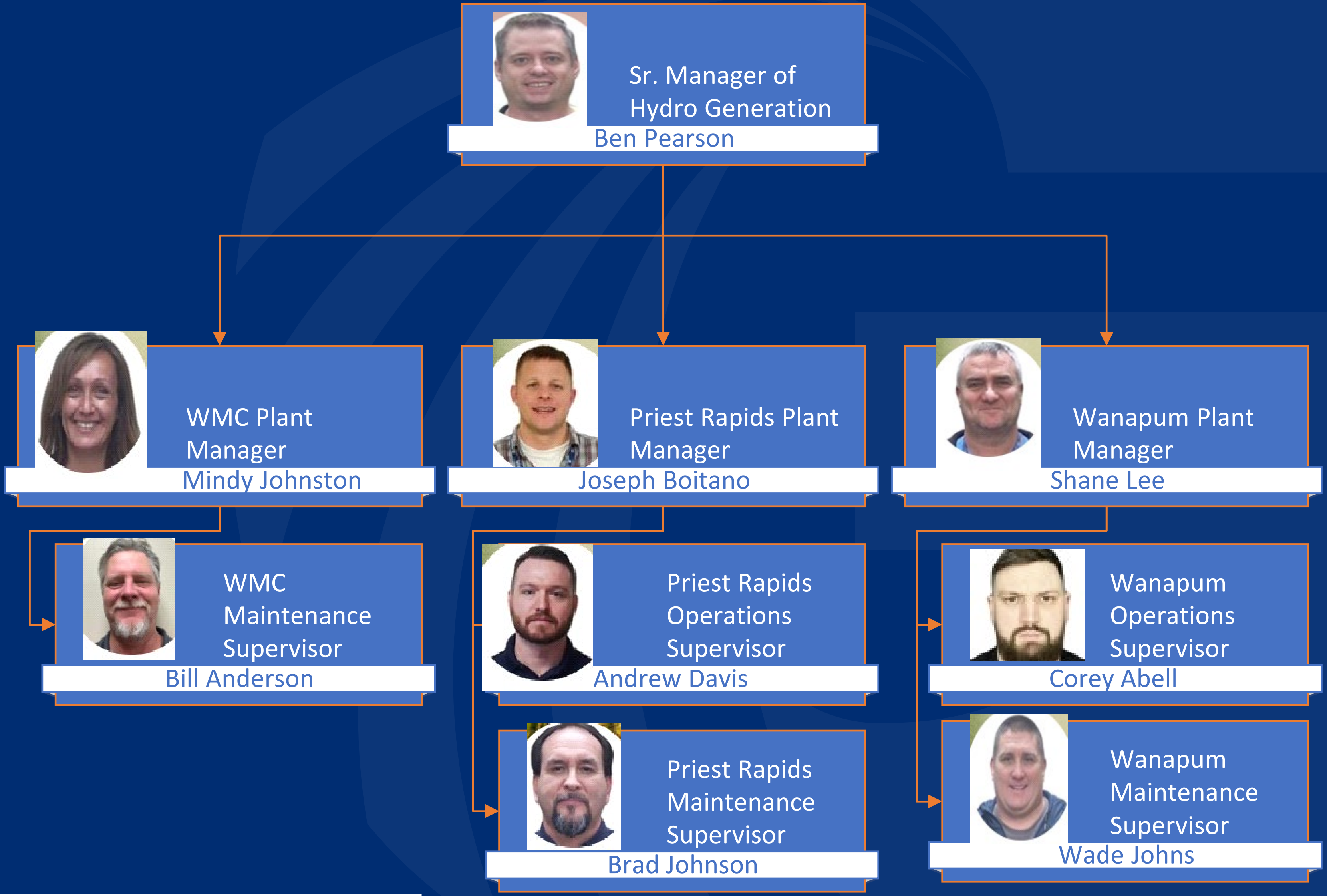
- **2 New Employees: Brennen Bazaldua – Mech Eng & Mark Beaulieu – Mech Eng**

Org Update in Power Production

Highlights:

- Mindy Johnston, New WMC Plant Manager
- Andrew Davis, Moved to Priest Rapids
- Corey Abell, New Wanapum Operations Supervisor

Hydro Generation



Vacancies in PP

Engineering

- One Dam Safety/ Civil Engineer
- Two Electrical Engineers
- One Engineering Technician

Hydro Generation

- One Hydro Mechanic
- Three Journeyman Operators

Questions ?

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Load Variance Report

Business Intelligence & Market Analytics
2024 Q2

Matt Birch
Senior Economist

Shaun Harrington
Senior Economist

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Overview

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Actual & Forecast Billed Sales

Grant PUD Actual & Forecast Billed Loads

	Actual Billed aMW Load	Forecast Billed aMW Load	aMW Difference	Percent Difference	Percent of Sum of Absolute Difference
Residential (1)	70.0	68.2	1.8	2.6%	2.0%
Commercial (2)	49.8	50.2	-0.4	-0.8%	0.4%
Irrigation (3)	66.2	79.3	-13.1	-16.5%	14.3%
Street Lights (6)	0.4	0.5	-0.1	-20.0%	0.1%
Large General (7)	42.9	38.9	4.0	10.3%	4.4%
Industrial (14)	43.1	36.9	6.2	16.8%	6.8%
Large Industrial (15)	307.1	346.5	-39.4	-11.4%	42.9%
Ag Food Processing (16)	29.8	35.5	-5.7	-16.1%	6.2%
Evolving Industry (17)	43.6	40.6	3.0	7.4%	3.3%
EV Charging (19)	0.2	0.1	0.1	100.0%	0.1%
New Large Load (94)	24.8	42.8	-18.0	-42.1%	19.6%
Total GCPUD	**677.9**	**739.5**	**-61.6**	**-8.3%**	**100.0%**

- 2024 Q2 total billed loads were 677.9 aMW.
  - This is 61.6 aMW (8.3%) below the projected 739.5 aMW.
- Large Industrial (15) accounted for the largest deviation from the forecast at 39.4 aMW above.

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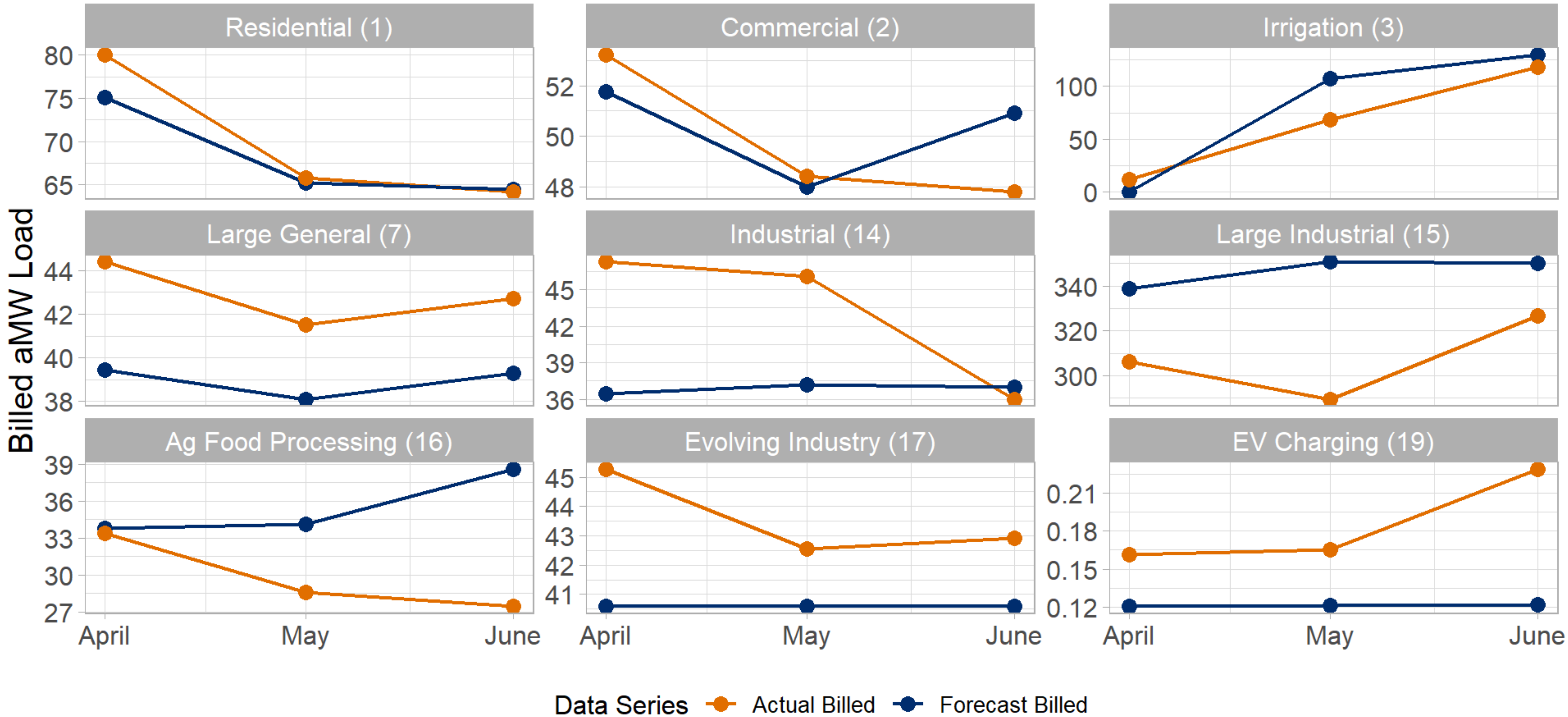
Billed Sales Comparison



Note varying scales

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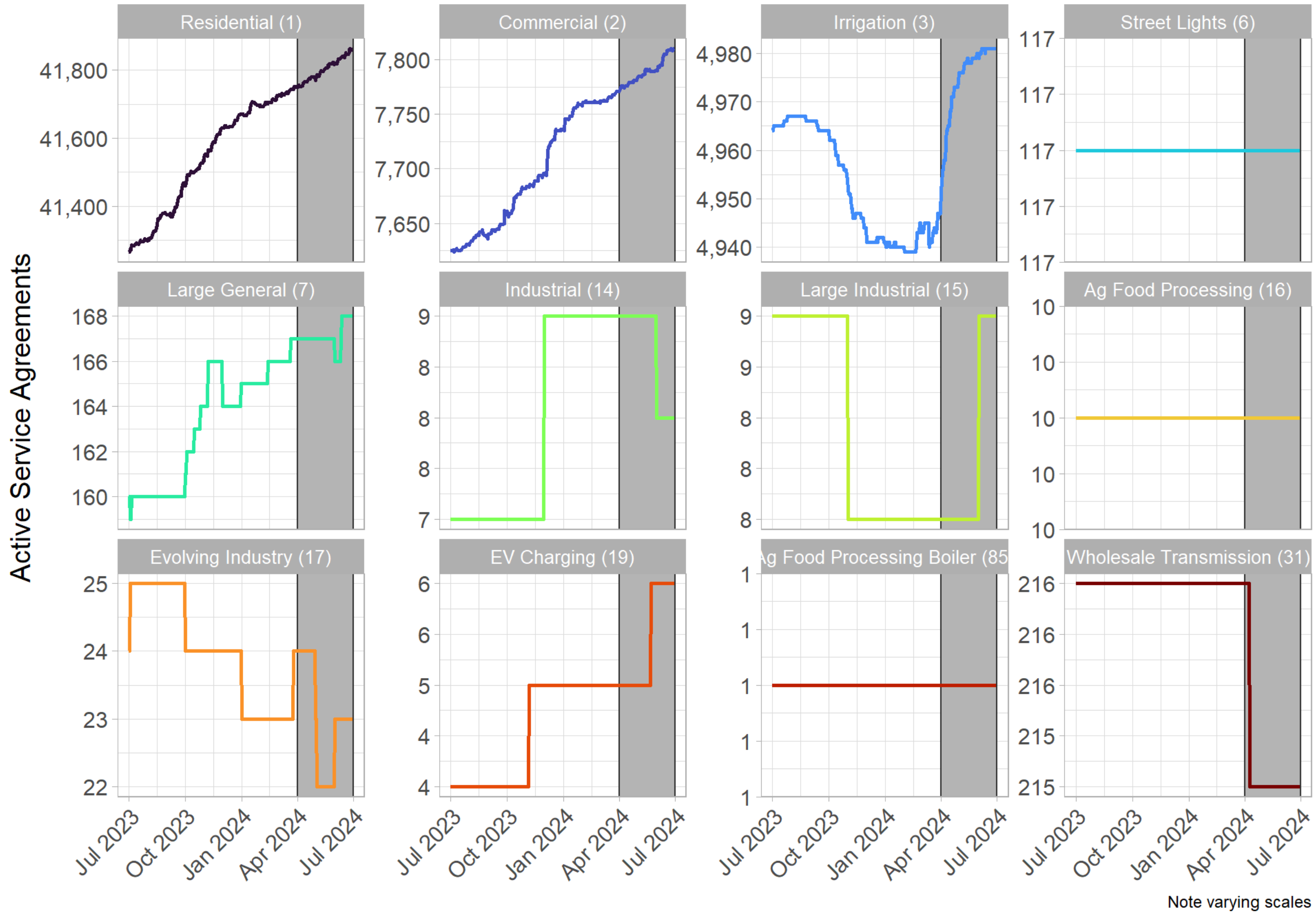
Customer Counts



- Customer counts are counts of active service agreements
- RS3 demonstrates seasonal fluctuation of irrigation customers

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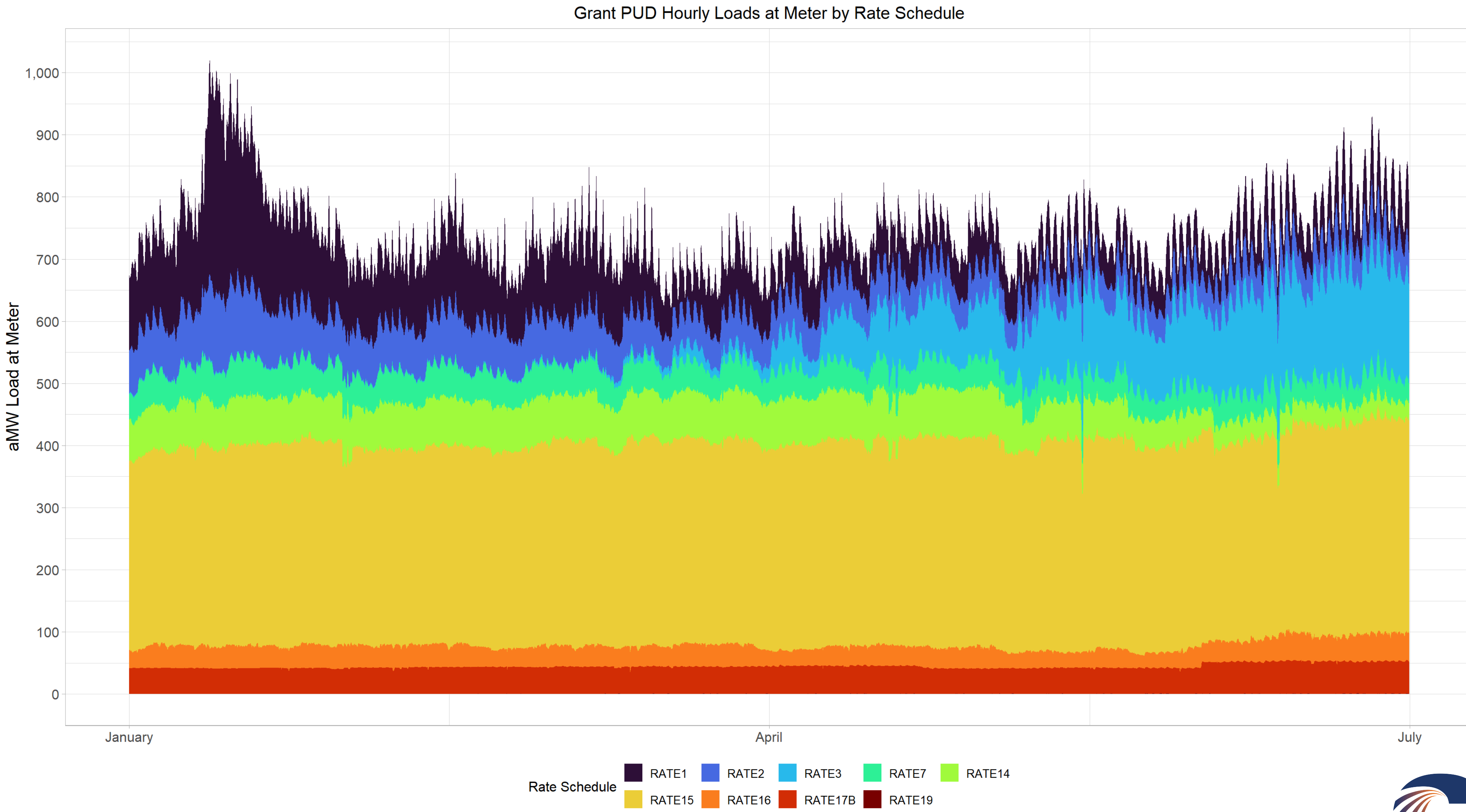
Hourly Loads at Meter



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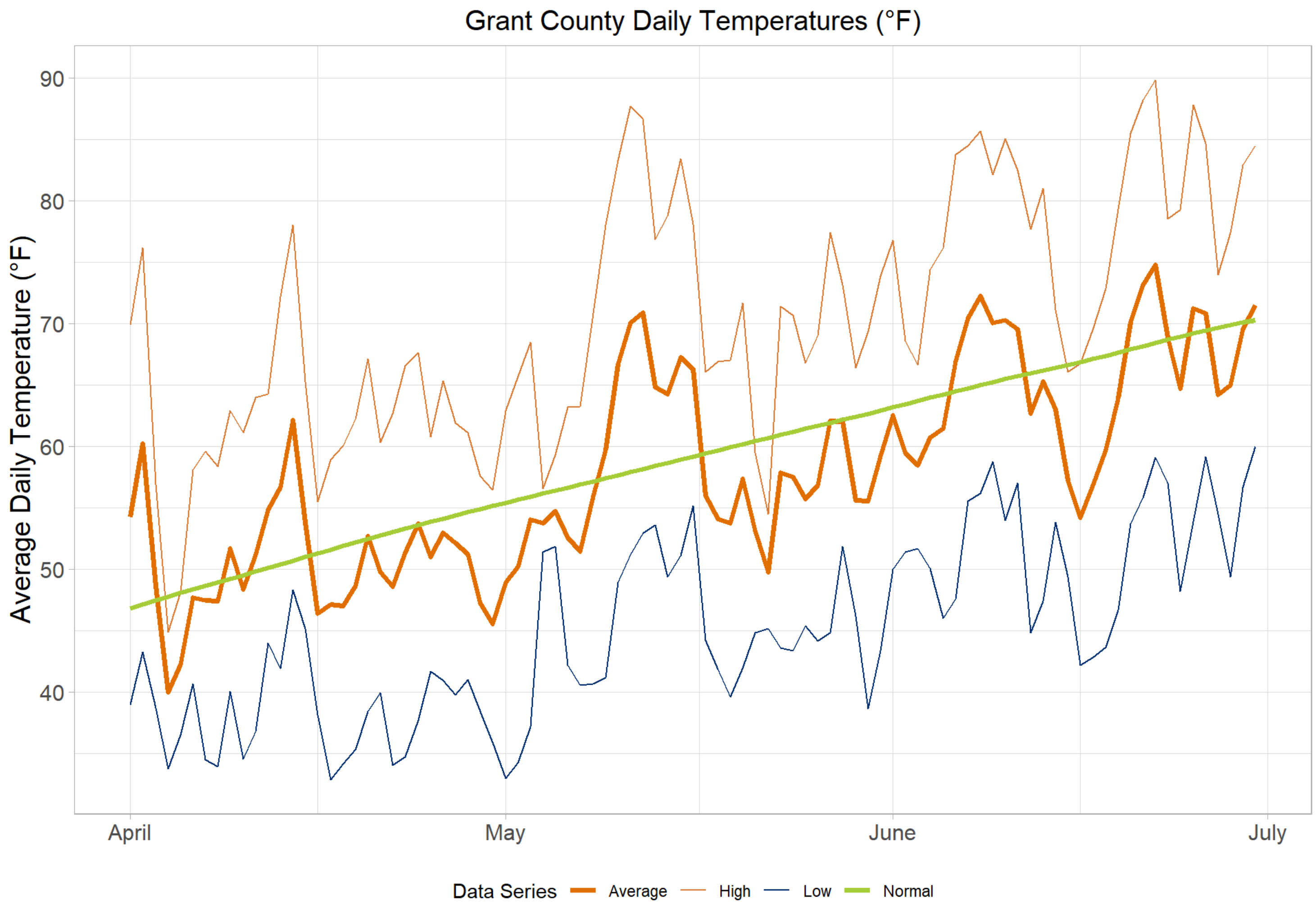
Weather

Daily Temperatures



- 33 days with an average temperature above normal.
- 58 days with an average temperature below normal.

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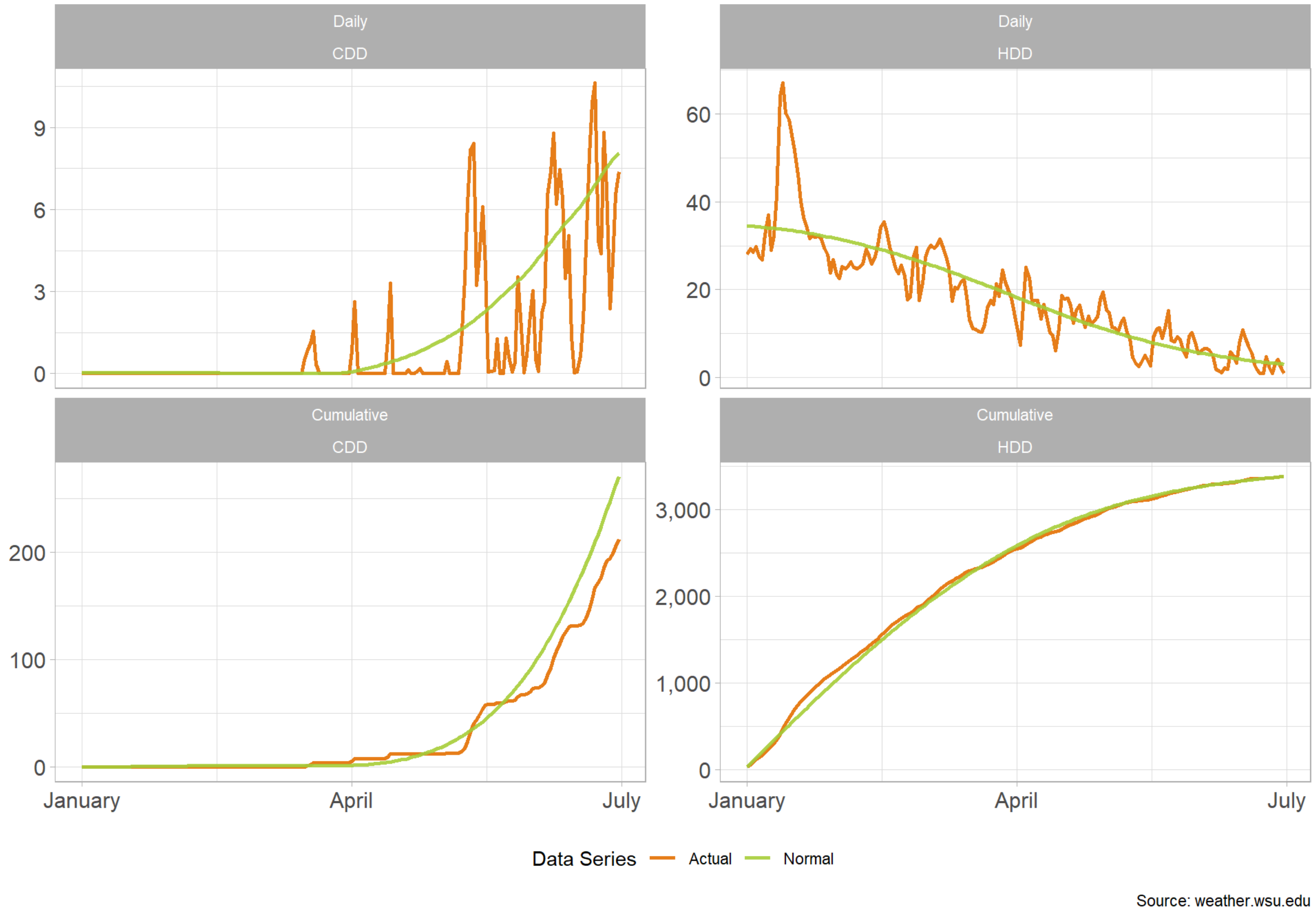
Heating & Cooling Degree Days



- Gap between normalized and actual daily values is much smaller for HDD than CDD
- 3.4% more HDD than normal.
- -22.6% less CDD than normal.

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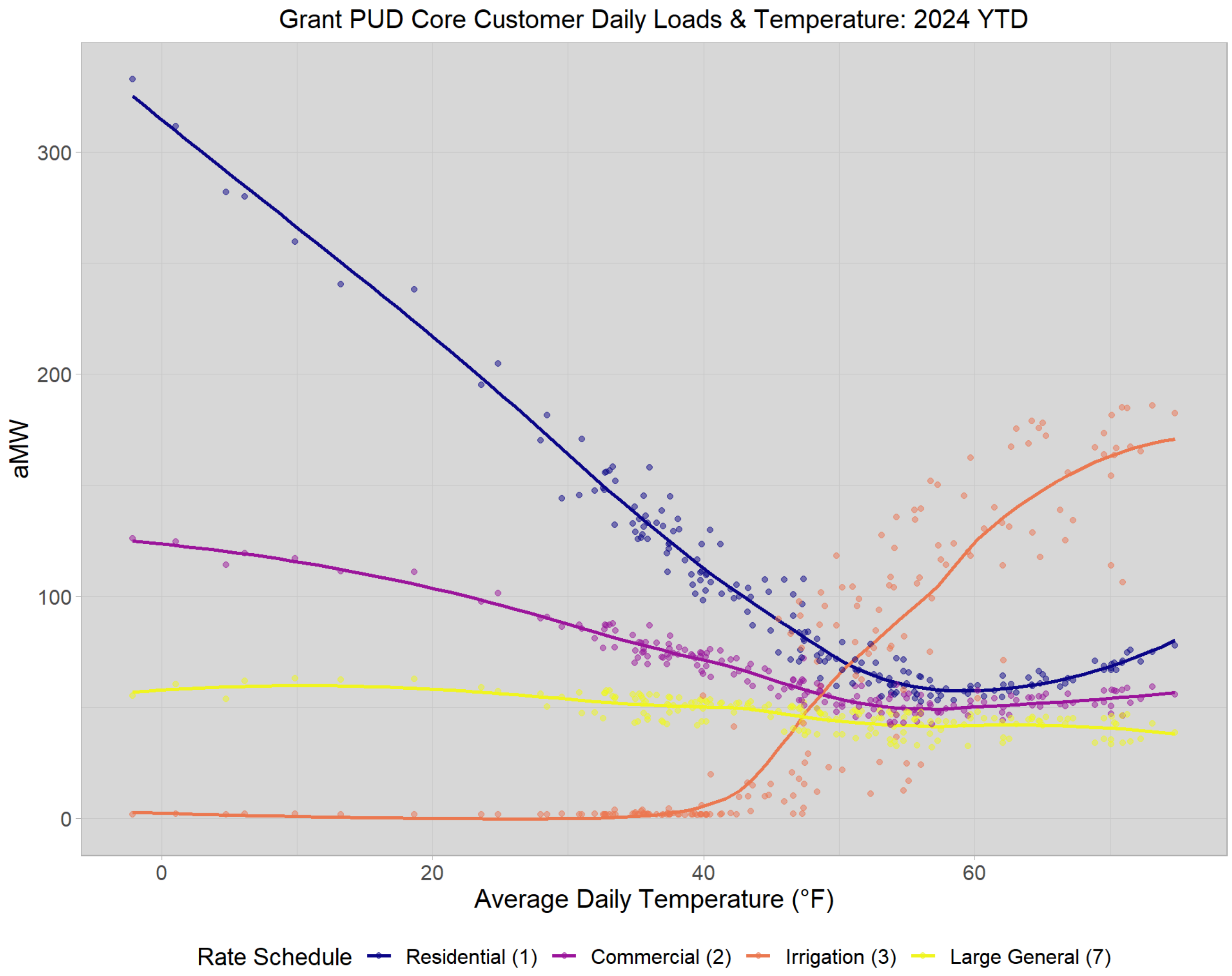
Load Sensitivity to Temperature



- Residential & commercial demand is minimized around 60°F.
- Irrigation demand picks up at 40°F.
  - Rather than Heating & Cooling Degree days to model irrigation demand, Growing Degree Days are used with a base of 40°F.

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aMW Sales Detail

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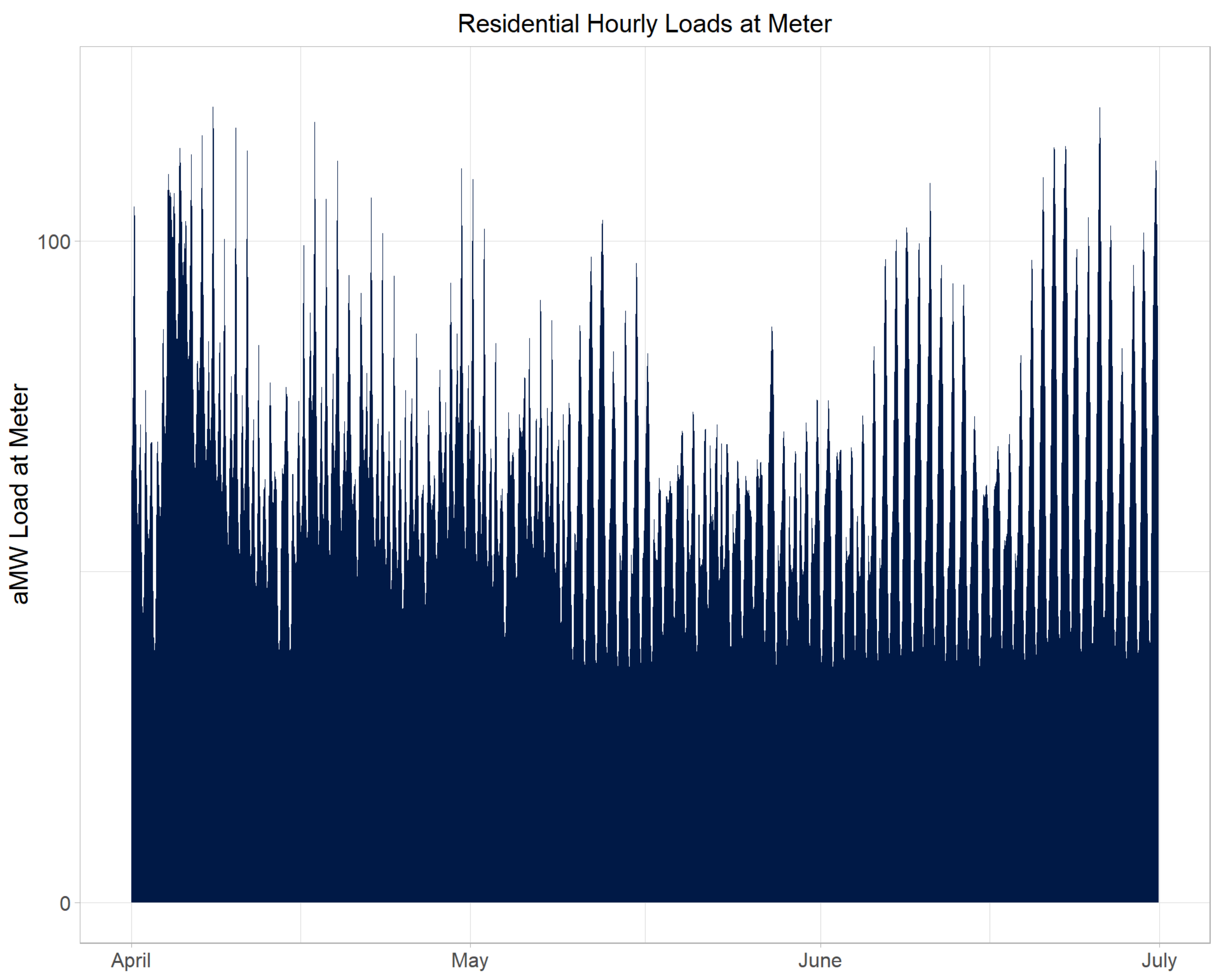
Residential: Rate Schedule 1



- Approximate weather-normalized load of 66.5 aMW compared to actual load of 65.
  - That is a 2.3% increase.
- 1.5% customer growth year-over-year.
  - 41,870 customers in 2024 Q2, compared to 41,266 a year ago.

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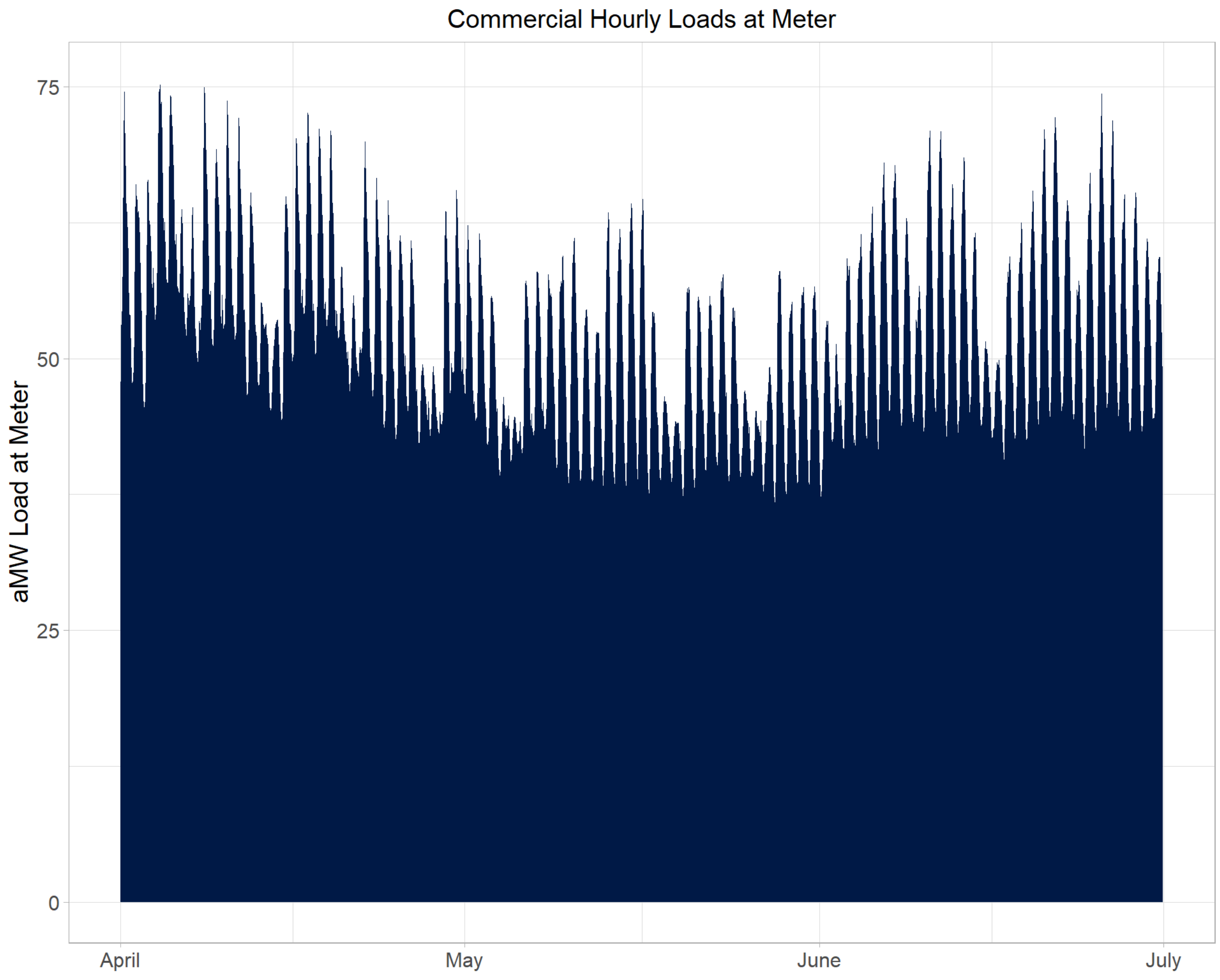
Commercial: Rate Schedule 2



- Approximate weather-normalized load of 52.9 aMW compared to actual load of 52.4.
  - That is a 1.01% increase.
- 2.4% customer growth year-over-year.
  - 7,809 customers in 2024 Q2, compared to 7,625 a year ago.

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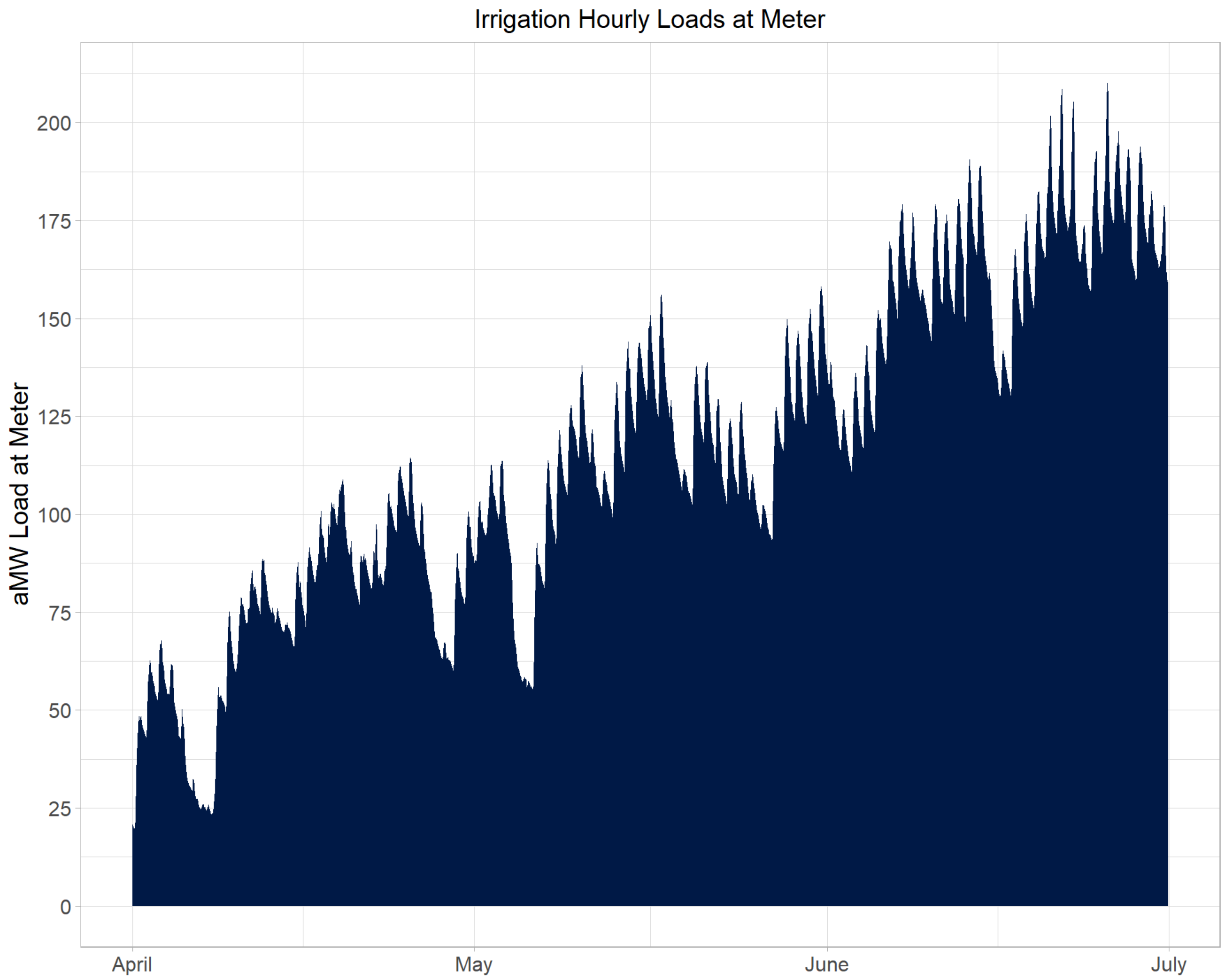
Irrigation: Rate Schedule 3



- Approximate weather-normalized load of 140.8 aMW compared to actual load of 116.4.
  - That is a 21% increase.
- 0.3% customer growth year-over-year.
- 4,981 customers in 2024 Q2, compared to 4,964 a year ago.

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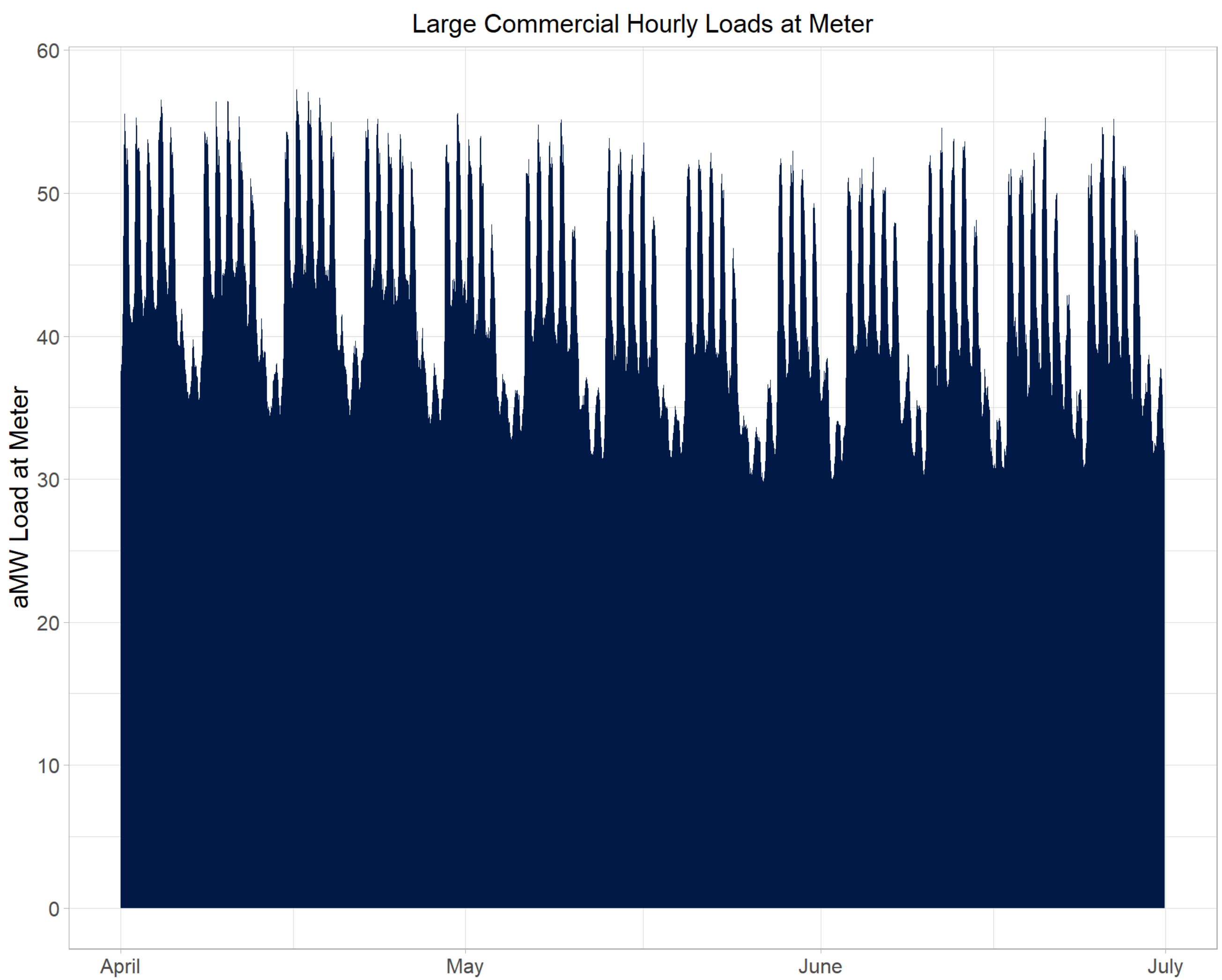
Large General: Rate Schedule 7



- Approximate weather-normalized load of 42.6 aMW compared to actual load of 42.4.
  - That is a 0.5% increase.
- 5.0% customer growth year-over-year.
- 168 customers in 2024 Q2, compared to 160 a year ago.

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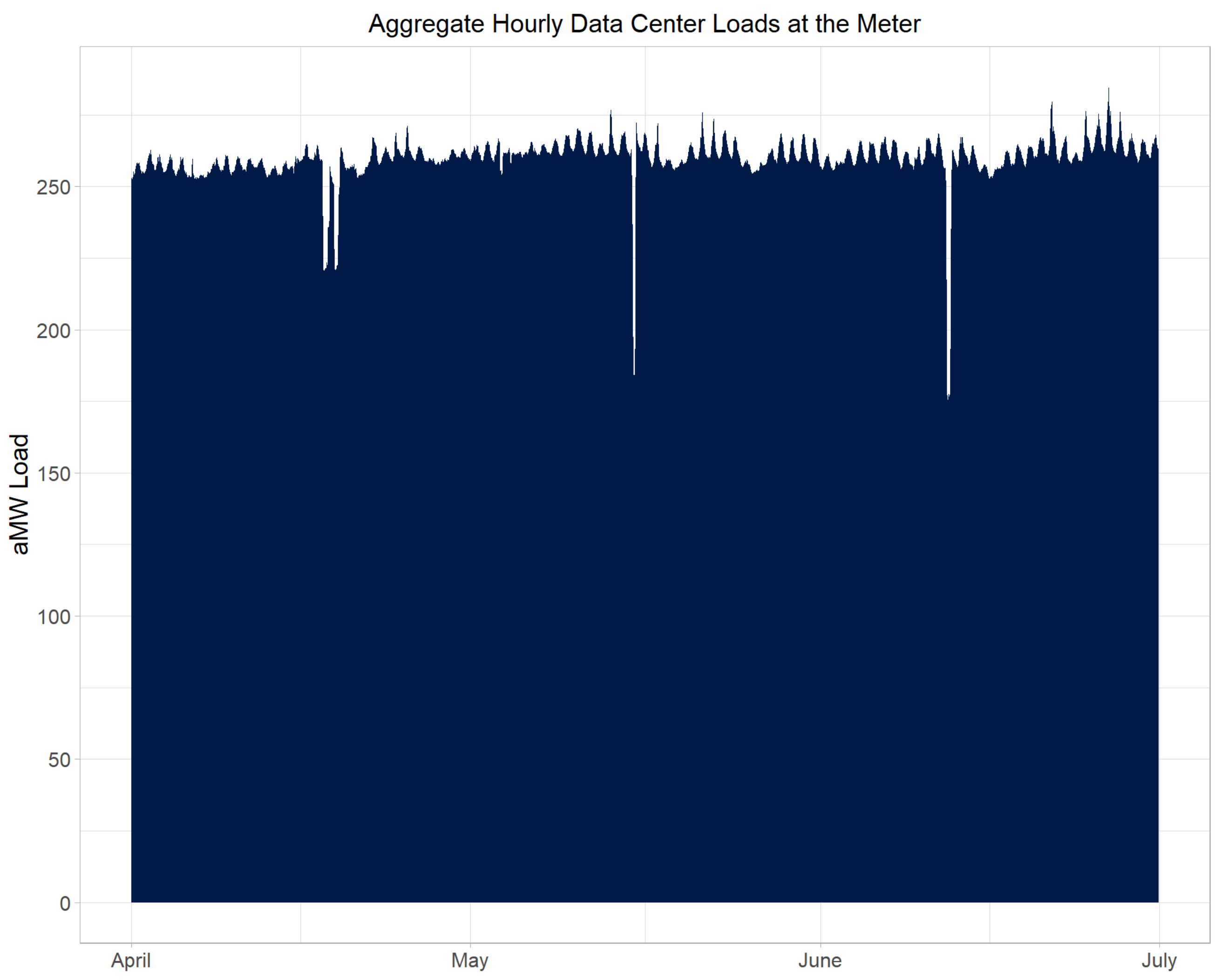
Industrial: Data Centers



- 7 customers
- Data centers were -7.4 aMW (2.8%) below forecast.
- 4 customers were above forecast, the rest were below.
- 1 was within 10% of their forecast.
- One data center missed its expectation by 18.12 aMW.

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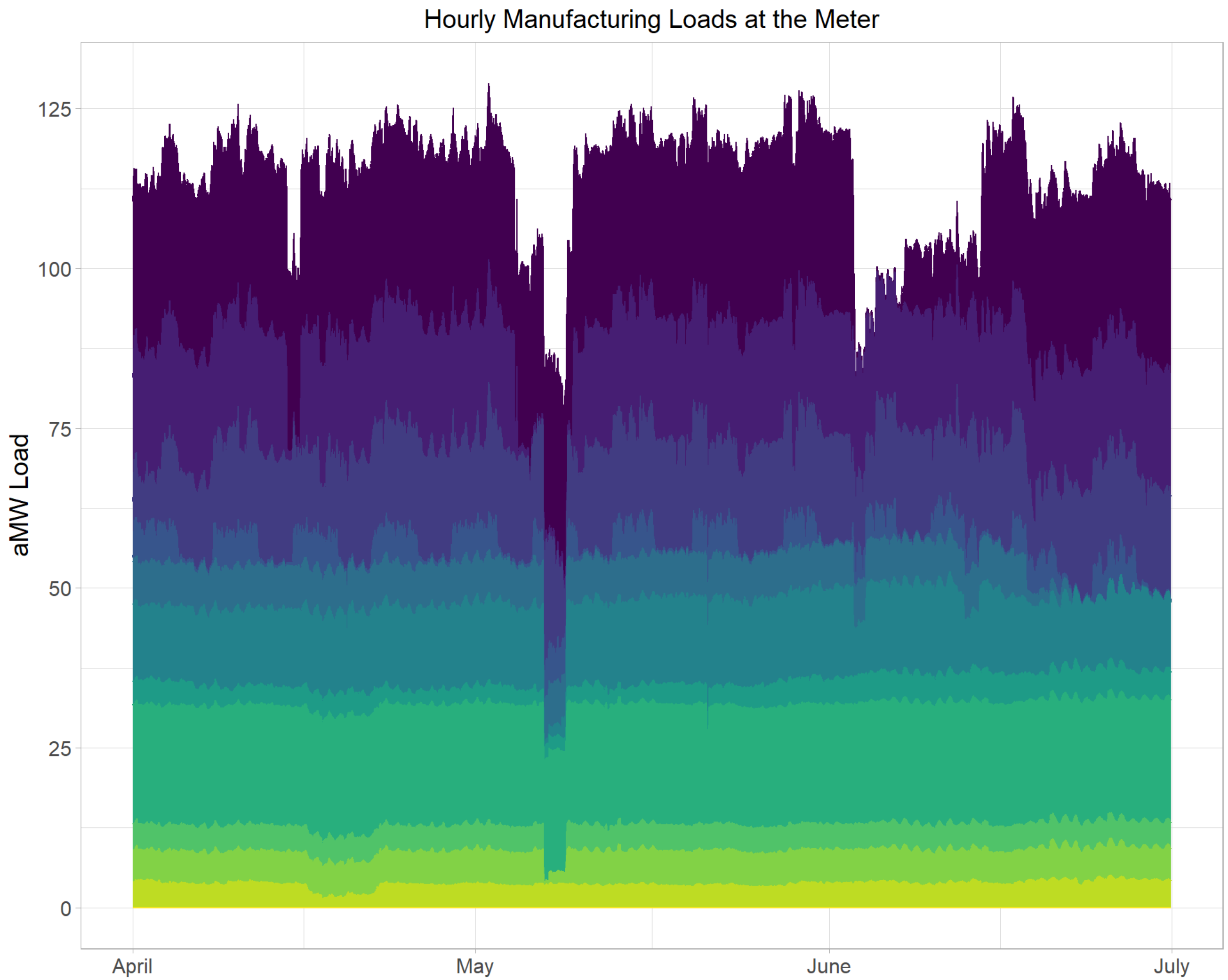
Industrial: Manufacturing



- This group represents 9 customers involved with differing manufacturing processes.
- Manufacturing loads were 18.2 aMW (15.6%) below forecast.
- One customer has not ramped up as quickly as anticipated and accounts for 68.1% of the difference.

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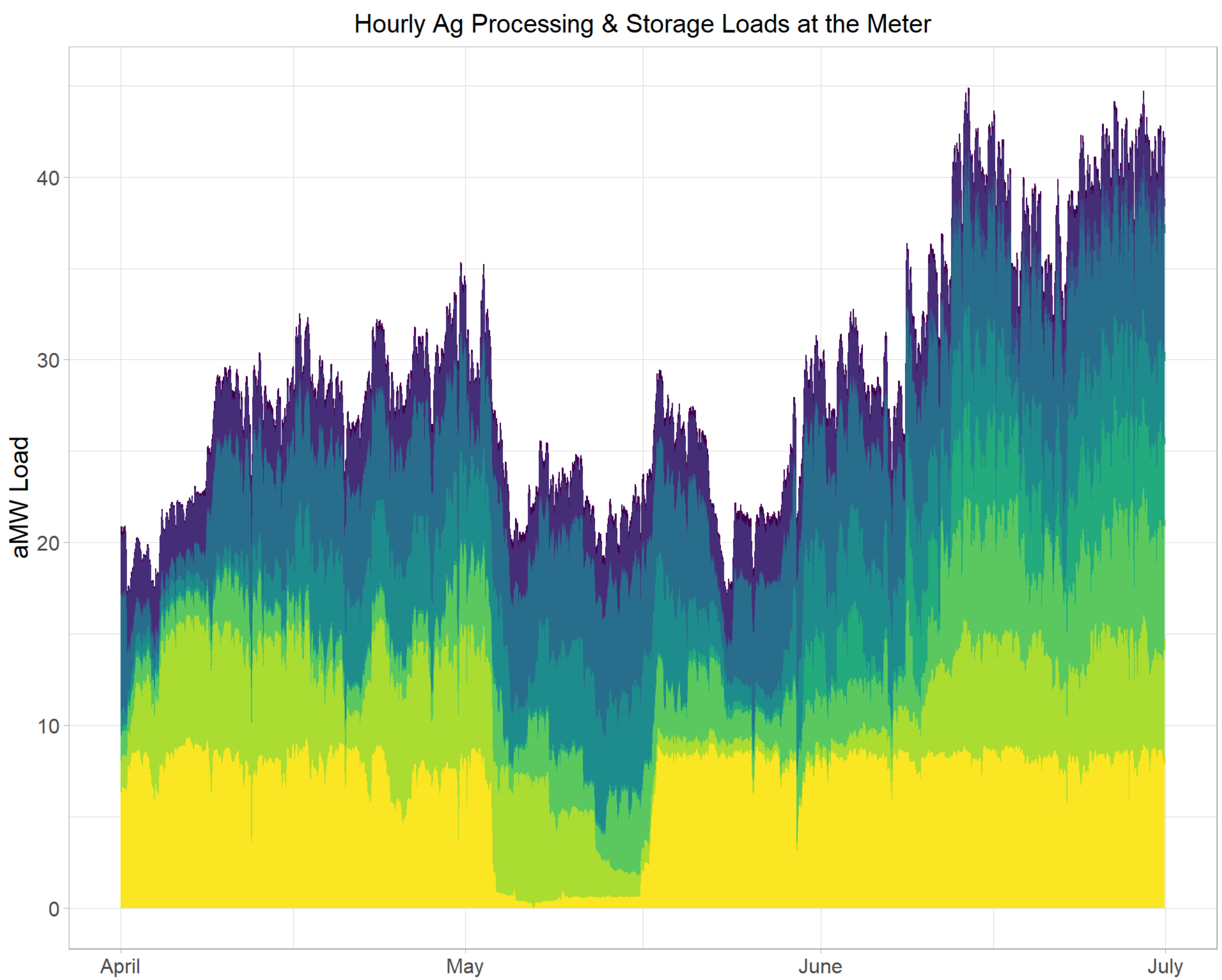
Industrial: Ag Food Processing



- 7 customers.
- Not completely synonymous with Rate Schedule 16.
- Ag Food Processing & Storage loads were 1.9 aMW (6.8%) below forecast.
- 1 customer missed expectations by 1 aMW or more, and the largest miss was 1.1 aMW below expectations.

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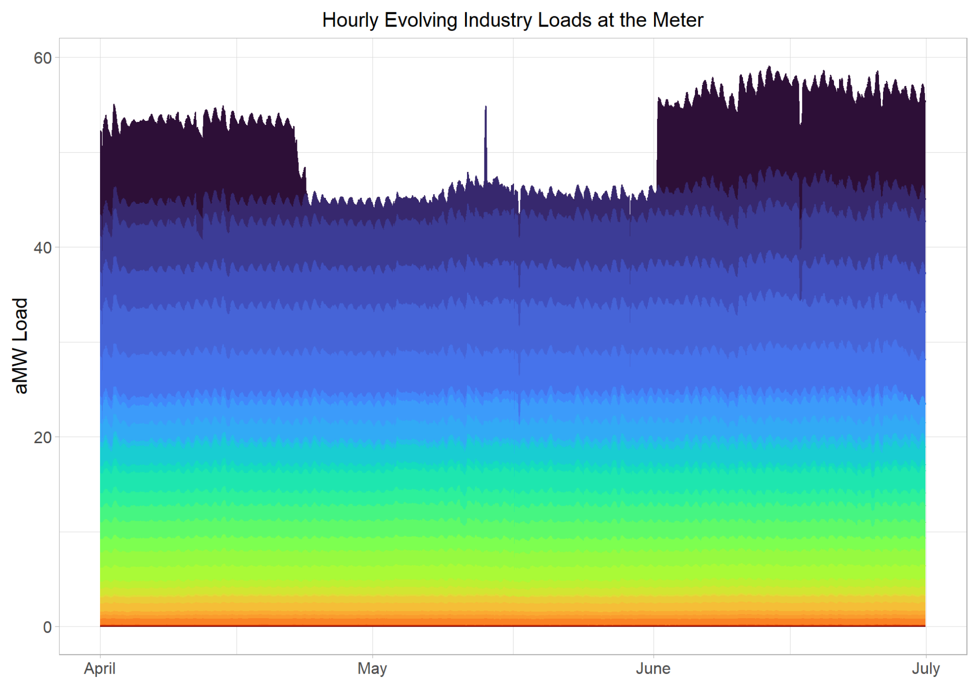
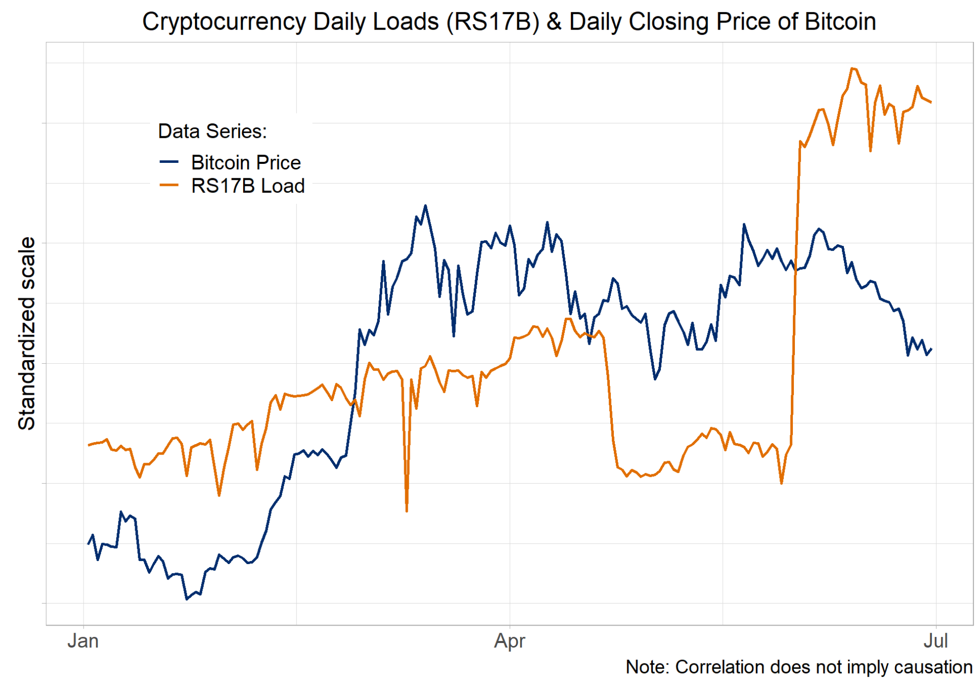
Cryptocurrency: Rate Schedule 17





- 22 customers
- Actual aMW was 43.6, and the forecast amount was 40.6 aMW.
  - That is a 7.3% increase over the forecast.

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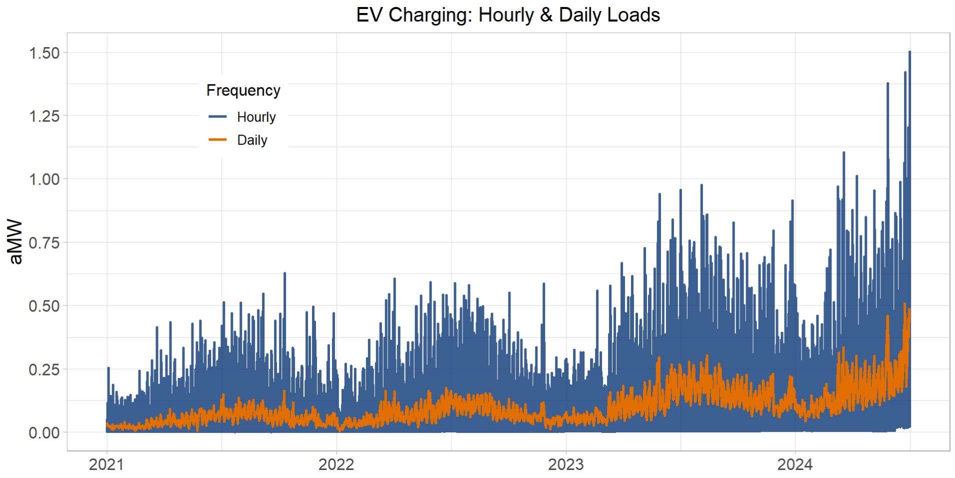
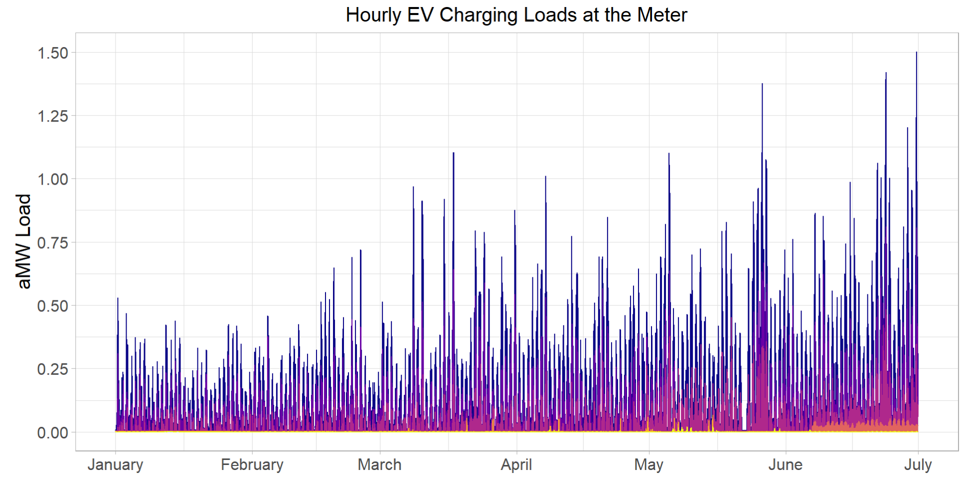
EV Fast Charging: Rate Schedule 19





- 3 customers within rate schedule.
- 22 hour-long periods surpassed 1 aMW this quarter.
- Limited energy required but capacity intensive.
- EV sales were 53% above forecast.

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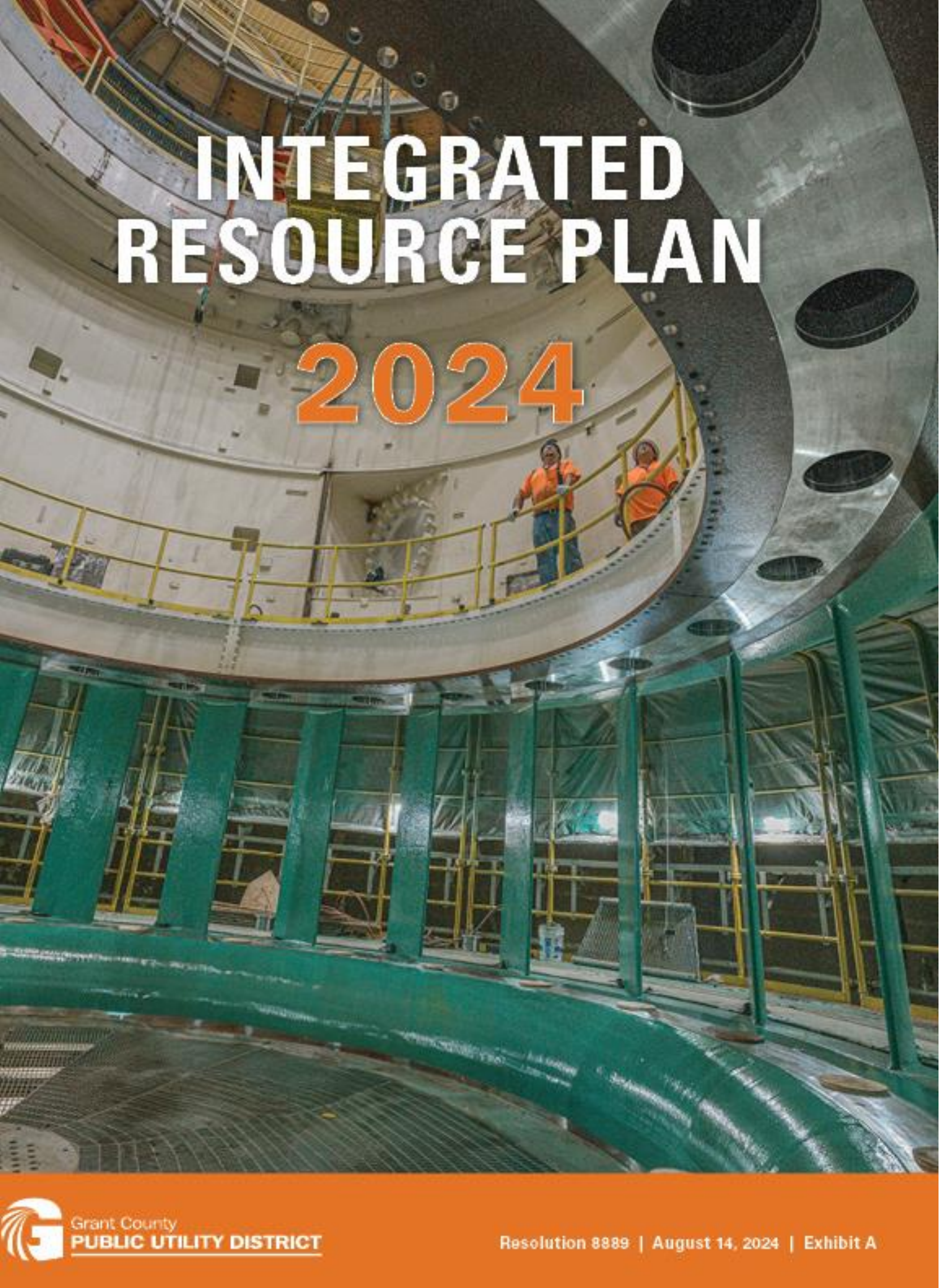
Key Takeaways

- Total system billed loads were 61.6 aMW (8.3%) below forecast.
- Large Industrial (15) accounts for the largest share of the forecast error at -39.4 aMW.
- 3.04% fewer degree days than a typical Q2.
- Agricultural customers most sensitive to high temperatures.
- EV Charging capacity needs growing quickly.
- Residential demand drive winter peak while irrigation demand drives summer peak.



Public Hearing
July 23, 2024

Today's Agenda

Hearing Purpose: To provide an overview of Grant PUD's 2024 Integrated Resource Plan and to seek feedback from stakeholders

- **Overview and Purpose of the Integrated Resource Plan (IRP)**
- **Key Considerations and Current Portfolio Position**
- **Evaluation Process**
- **Selected Portfolio**
- **Selected Portfolios under Varying Assumptions**
- **Questions and Feedback**

Integrate Resource Plan (IRP) Project Statement

- RCW 19.280 requires that on 4-year intervals, with updates every 2 years, Washington utilities develop comprehensive plans that explain the mix of resources they plan to use to meet their customers' electricity needs
- RCW 19.280.030 details the minimum requirements of what the plan must consider and include
- Grant PUD set out to produce a plan that aimed to minimize long-term net revenue requirement, while meeting constraints, for the period 2025 – 2045
- The resulting plan is actionable and is intended to direct contracting for or building of new resources and to outline specific alternate strategies for meeting projected future requirements

IRP Project Contributors

John Mertlich
Rich Flanigan
Amanpreet Singh
Andrew Munro
Baxter Gillette
Brett Lenz
Bryce Greenfield
Christopher Buchman
Chuck Allen

Dave Churchman
David Dempsey
Eva Stites
Jerrod Estell
Kevin Marshall
Lisa Stites
Louis Szablya
Michael Frantz

Michael Reimers
Paul Dietz
Peter Graf
Phillip Law
Raquel Urbina
Rod Noteboom
Shaun Harrington
Susan Manville

Key Considerations

Participation in BPA Provider of Choice Contract

IRP Assumption:

- Grant PUD will acquire approximately 200 aMW of BPA Priority Firm Tier 1 Provider of Choice energy
- This will be a Flat Block product, with equal amounts of energy delivered each hour
- This contract, or a contract with similar terms, will be available from October 2028 through the end of the planning period in 2045

Why BPA Power:

- Grant PUD is exercising its statutory rights to purchase cost effective power from the Federal Columbia River Power System

Participation in Western Resource Adequacy Program (WRAP)

IRP Assumption:

- Grant PUD will join the binding season of the Western Resource Adequacy Program in 2027
- For all binding WRAP seasons, IRP resource selection will provide sufficient capacity to meet WRAP obligations as understood today
- Current WRAP-based planning reserve margins and capacity valuation of supply resources are used in the development of our resource plan

Why WRAP in 2027:

- Grant PUD fully supports the WRAP's efforts to address the region's reliability needs
- Grant PUD's customers will benefit from participating in this program

Lowest Reasonable Cost Implementation of CETA Compliance

IRP Assumption:

- Grant PUD will meet all CETA requirements in 2030 and through the planning period in a manner resulting in the lowest reasonable cost to customers
- This may result in a plan in which future years having a similar carbon content until 2030 when Grant PUD is required to be 80% carbon free, and in the period from 2030 through 2045, at which time Grant PUD is required to be 100% carbon free
- When formulating a plan, we will remain cognizant of the strategic and policy implications of not showing steady progress toward clean energy goals

Why this CETA compliance path:

- Not prescribing a path prior to analysis allows us to devise a plan reflecting lowest cost

Slice Sales or Pooling Agreements

IRP Assumption:

- Grant PUD will continue to utilize slice sales and pooling agreements when they are beneficial
- To formulate this resource plan, we model Grant PUD retaining all Priest Rapids Project output at the conclusion of our existing contracts

Why no slice or pooling contract modeled:

- Potential future contract terms are not yet determined
- Future optimization will include a plan for monetizing the value of Priest Rapids Project assets and reducing water risk

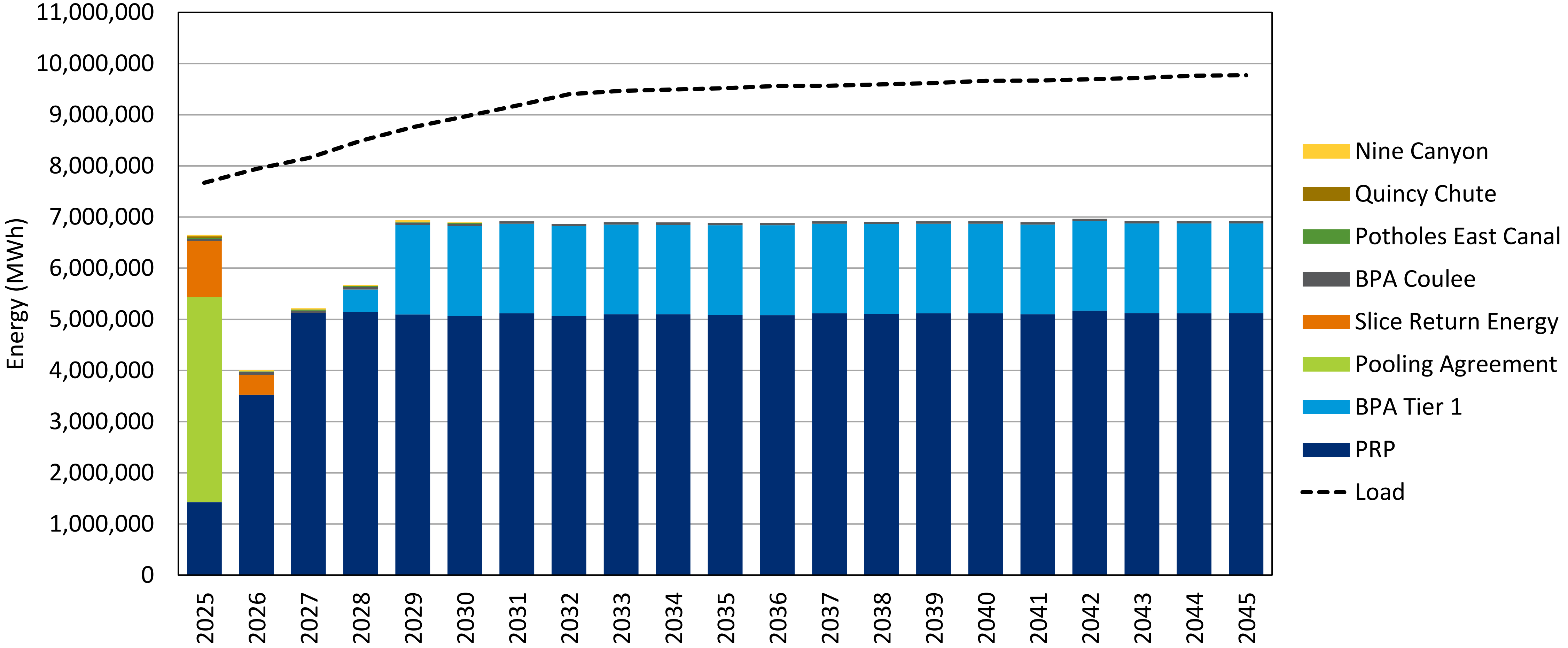
Top 3 Drivers of Resource Plan Selection

Energy: Need to serve growing and changing customer energy needs

Capacity: Want to join the Western Resource Adequacy Program (WRAP) in 2027 to be able to receive the reliability benefit of shared regional capacity

Clean Energy: Must comply with Clean Energy Transformation Act (CETA) requirement to serve our customers with 80% clean energy in 2030 - 2044 and 100% clean energy by 2045

Energy Position of Existing Portfolio



Evaluation Process

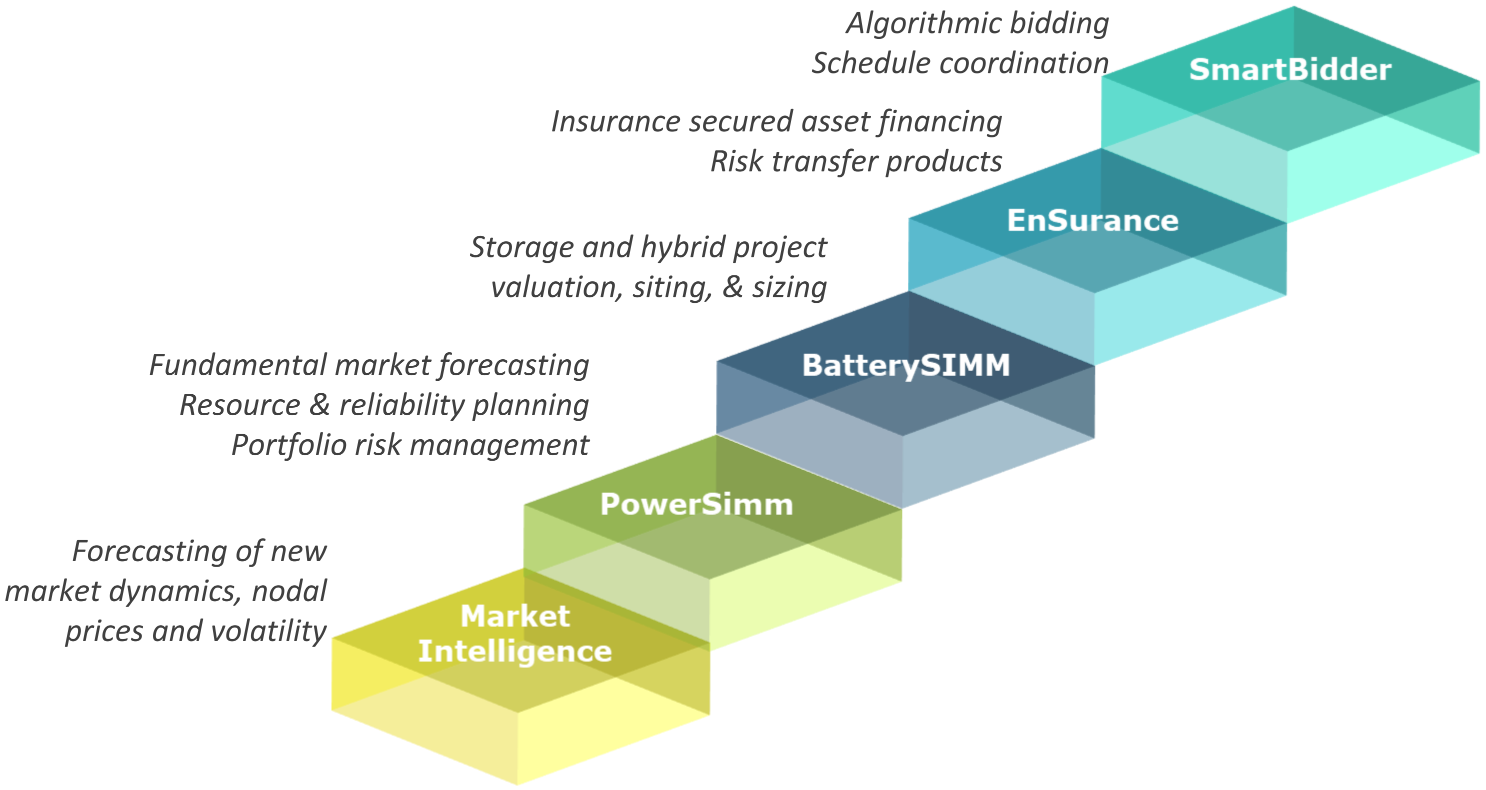
Resource Additions Considered

First Availability Date	Technology	Location(s)	Max Capacity Factor	ELCC (RA Capacity)
2026	**Demand Response**	Grant County	92%	92%
2026	**Solar**	Grant County, Oregon, Idaho, Montana, Nevada	19% - 26%	1% - 84%
2026	**Wind**	Oregon, Idaho, Montana	16% - 29%	6% - 47%
2026 other locations, 2031 Grant County	**Lithium-ion Battery – 4 hour**	Grant County, Oregon, Idaho, Montana, Nevada	17%	61% – 100%
2028 (October start)	**BPA Tier 2 Contract**	Pacific Northwest	100%	86%- 100%
2030	Pumped Storage	Washington	40%	77% - 100%
2031	Iron-Oxide Battery – 100 hour	Grant County	44%	77% - 100%
2031	Hydrogen Fuel Cell	Grant County	95%	95%
2031	Hydrogen Aeroderivative	Grant County	96% (48 hours of fuel)	96%
2031	Natural Gas Aeroderivative	Idaho	97%	97%
2031	Natural Gas Combined Cycle	Idaho	91%	91%
2034	Small Modular Reactor	Grant County	95%	95%

Our Modeling Consultant Ascend Analytics

- Ascend Analytics is an innovative software service company focused on energy analytics
- Founded in 2002 with 85 employees in Boulder, Oakland, and Bozeman
- Five integrated service lines for operations, portfolio analytics, and planning
- Custom analytical solutions and consulting

Proven & Broadly Adopted



Modeling Approach

Model Setup and Validation

- Collect input data and build reference case model
- Validate existing portfolio and potential resource pool
- Run initial dispatch cases

Automated Resource Selection Module (ARS)

- Run ARS for selection of optimized capacity plan for reference case and other scenarios
- Calibrate and adjust

PowerSIMM Dispatch Model

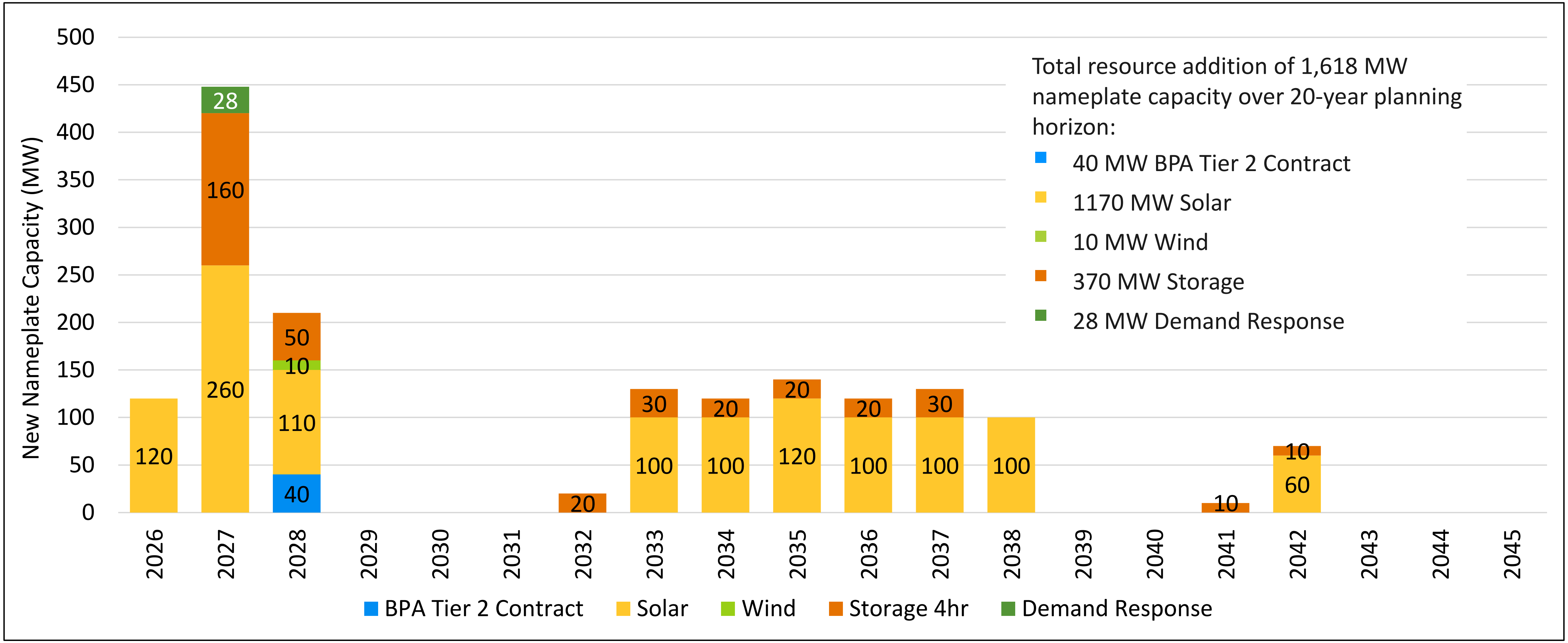
- Run hourly dispatch model to:
- quantify distribution of portfolio costs
- investigate sensitivities
- evaluate metrics of interest

PowerSIMM Loss of Load Evaluation Model

- Run hourly dispatch model to:
- evaluate frequency, duration, depth of unserved energy
- gauge reliability impact of capacity additions

Selected Portfolio

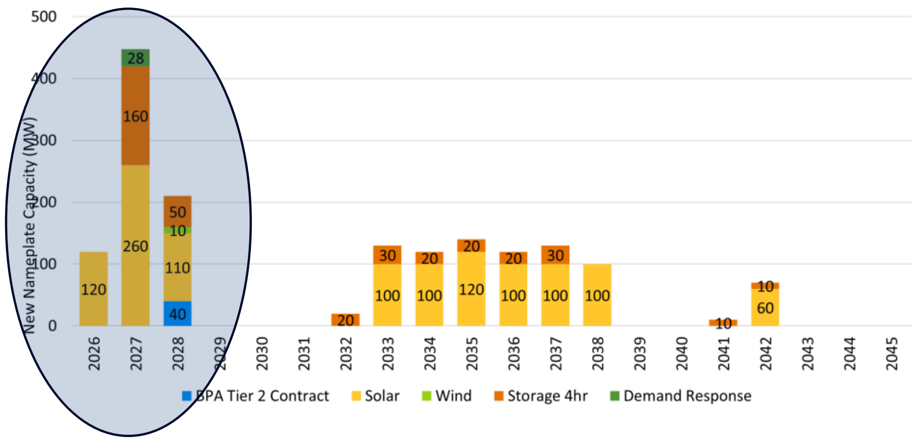
Selected Portfolio Additions – Reference Case



- Figure shows year of addition only ; All additions are retained over planning horizon

Near-Term Selections 2026 - 2028

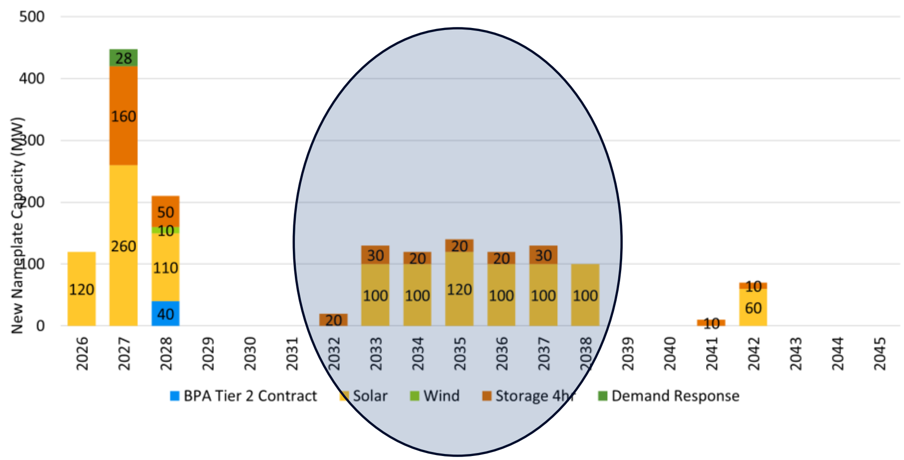
- **Additions driven by need to acquire capacity for WRAP participation**
- Near-term acquisitions are constrained to currently existing projects or those in latter phase of development
- Selections informed by knowledge of local development and transmission queue
- Demand response is least cost capacity choice
- Assumed ability to interconnect a max of 300 MW in Grant County 2026 – 2028, and no batteries until 2031



- 778 MW total near-term additions
- 300 MW of solar located in Grant County
- 190 MW of solar located in Oregon
- 210 MW of lithium-ion batteries in Oregon
- 10 MW of wind located in Oregon
- 40 MW of BPA Tier 2 contract
- 28 MW of demand response

Mid-Term Selections 2032 - 2038

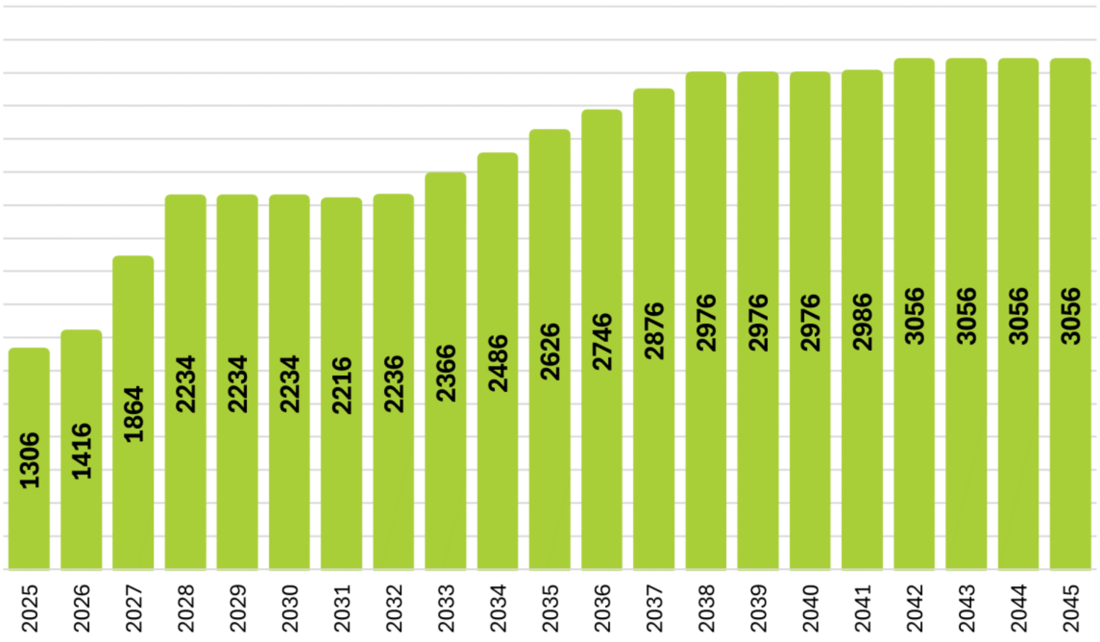
- **Additions selected to ramp Grant PUD into the clean energy resources required for CETA compliance**
- More technology and location choices in mid-term; still preference for solar and storage located in Grant County
- Given current forecasts of solar, battery and REC costs, acquiring clean energy prior to CETA's 100% clean target date is more economical than delaying

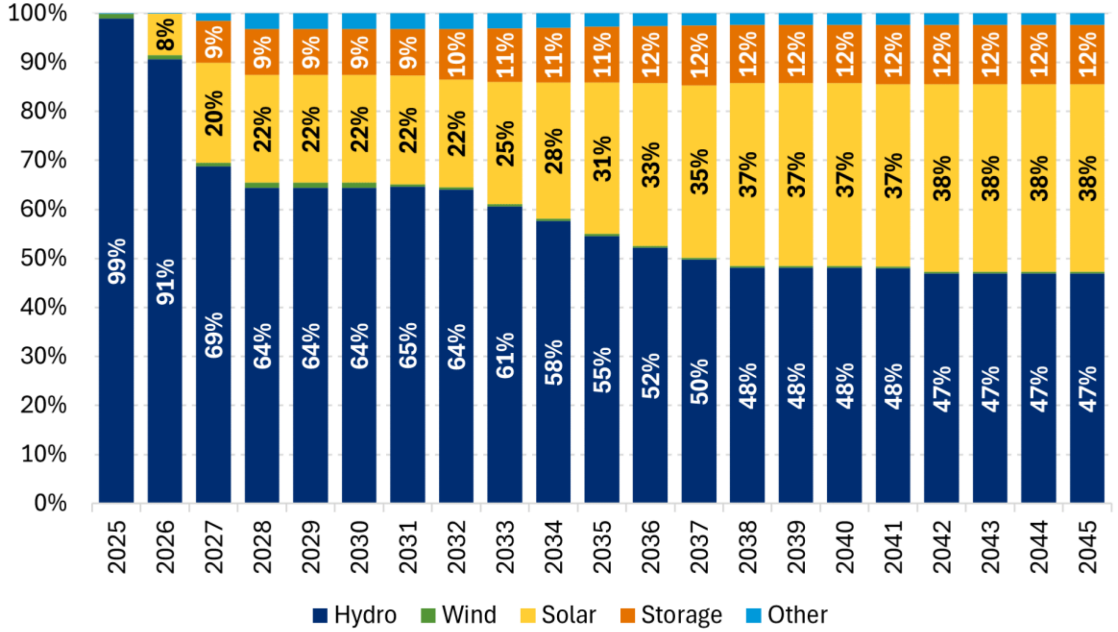


- 760 MW total mid-term additions
- 500 MW of solar located in Grant County
- 120 MW of solar located in Oregon
- 140 MW of lithium-ion batteries located in Grant County

- Going cleaner faster produces potentially marketable RECs and reduces risk of failing to bring enough resources online during a last-minute rush to meet CETA regulations

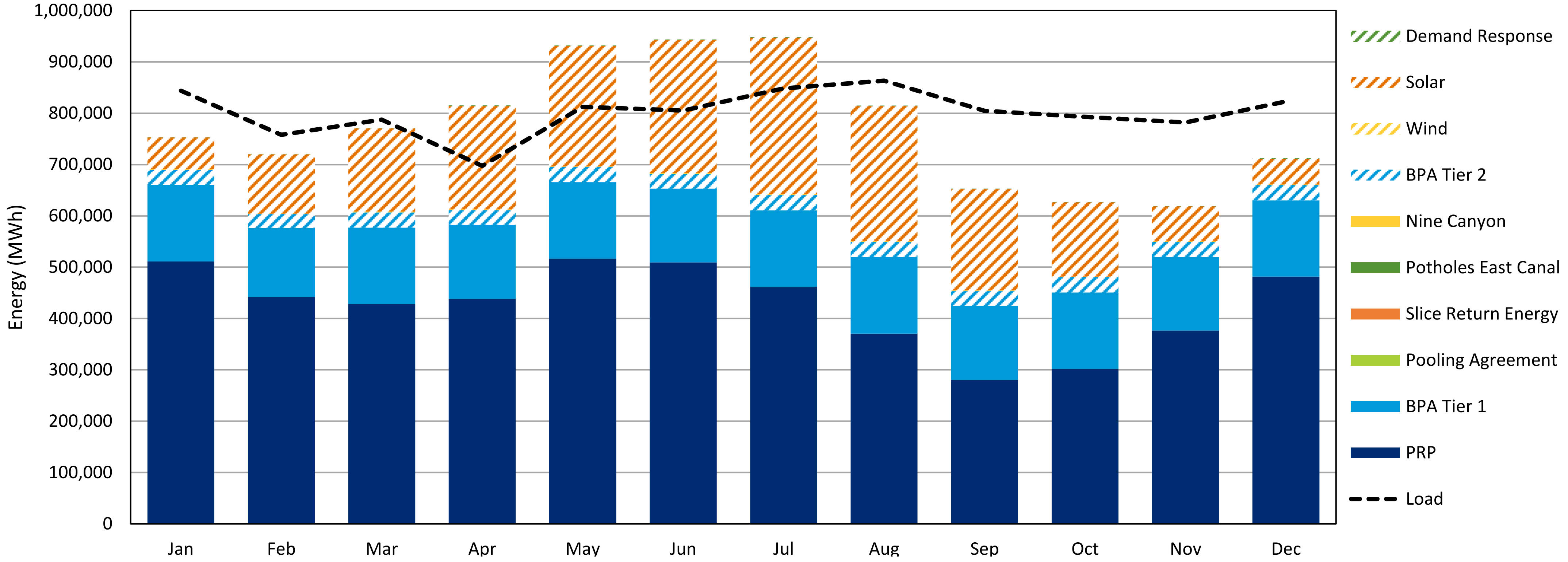
Nameplate Capacity and Mix by Fuel Type





- Meeting constraints in a least-cost manner significantly grows our portfolio's nameplate capacity over the planning horizon
- Portfolio shifts from virtually 100% hydro to a balanced mix of hydro, solar and storage

Monthly Energy Position – Selected Portfolio - 2039



- Increased solar presence begins to change the monthly position from the hydro shape
- Begin to see a long position in summer
- Still need to utilize wholesale market to fill position in fall and winter months

Reliability Analysis

- **Loss of Load describes the situation when the available generation capacity is less than system load**
- Loss of load metrics were investigated using probabilistic modeling considering variations in weather, load, water availability and risk from intermittent resources
- Due to the computational complexity involved, portfolios were examined for loss of load metrics for only the years 2029 and 2039
- These years were selected because they immediately followed the conclusion of the near-term and mid-term resource acquisition periods
- During the loss of load evaluation, portfolios were dispatched to serve load, in isolation from energy markets, with the aim of minimizing unserved energy
- These evaluations helps assess the reliability and adequacy of a system but don’t represent actual operation of the system

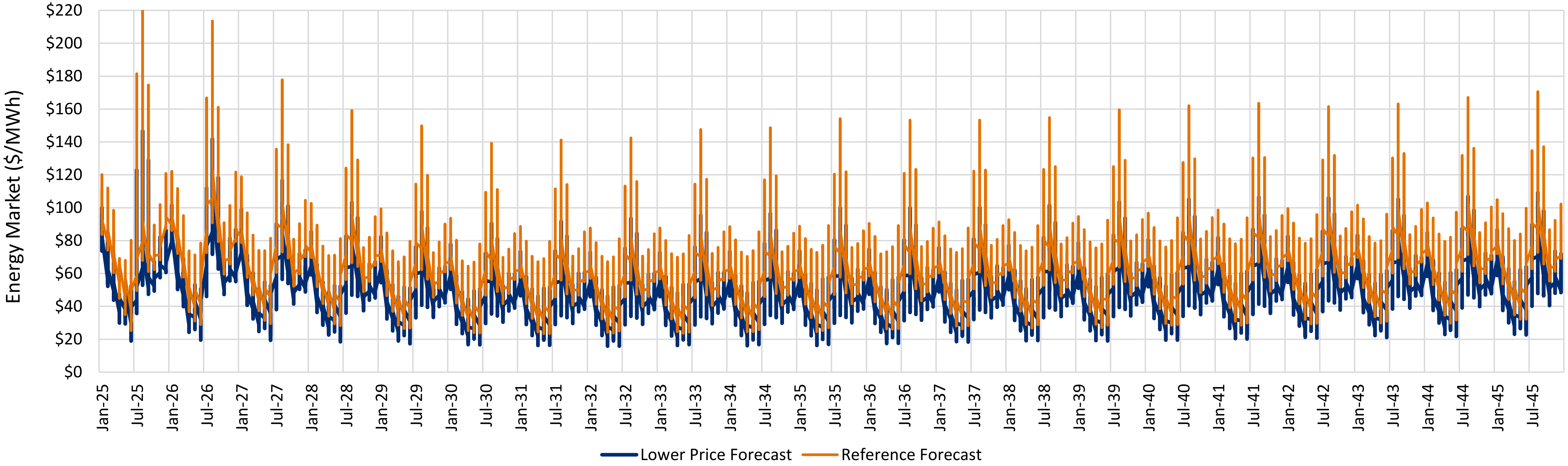
Hourly Reliability of Selected Portfolio

Loss of Load Hours - Selected Portfolio																								
Event Dates	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2029-01	7.9	7.9	8.0	8.5	9.2	10.3	11.7	12.8	14.0	11.9	10.0	8.6	8.2	7.5	6.8	6.4	7.7	11.3	12.4	12.3	12.2	11.8	11.2	10.5
2029-02	7.4	7.6	7.8	8.1	8.6	9.3	10.1	10.7	10.7	7.4	5.3	4.4	4.0	3.6	3.1	2.6	3.0	5.0	9.1	9.6	9.6	9.5	9.2	8.9
2029-03	6.1	6.3	6.5	6.9	7.5	8.1	8.9	8.9	7.5	4.9	3.5	2.8	2.7	2.5	2.0	1.8	2.1	3.0	5.8	7.8	7.8	7.7	7.5	7.4
2029-04	7.8	8.1	8.3	8.6	9.2	9.8	10.0	7.8	6.8	5.1	4.5	4.4	4.4	4.4	4.0	3.9	4.1	5.1	6.5	8.9	9.5	9.2	9.2	9.0
2029-05	5.9	5.9	5.9	6.0	6.4	6.7	5.6	4.0	4.1	3.7	3.5	3.8	4.1	4.0	4.1	4.0	4.0	4.6	5.4	6.1	7.2	7.2	6.8	6.6
2029-06	5.6	5.3	5.4	5.5	5.7	5.5	3.6	2.4	2.8	2.6	2.9	3.1	3.5	3.8	3.8	3.8	4.1	4.2	4.7	5.6	6.9	7.3	6.9	6.5
2029-07	17.4	17.2	17.3	17.3	17.6	17.7	15.0	11.4	11.9	11.7	12.2	12.8	13.7	14.0	14.0	14.0	14.0	14.3	14.9	16.2	18.2	18.4	18.3	18.1
2029-08	23.2	23.2	23.2	23.4	23.7	23.9	22.9	17.4	16.8	15.6	16.0	17.5	18.5	19.1	19.1	18.6	18.9	19.5	20.7	23.3	24.5	24.4	24.3	24.1
2029-09	22.0	22.1	22.3	22.8	23.2	23.7	24.0	19.4	16.5	14.0	13.9	15.1	16.5	16.7	16.4	16.2	17.5	19.5	22.7	24.5	24.4	24.1	23.8	23.6
2029-10	21.9	22.9	23.3	24.0	24.7	25.6	26.7	27.3	25.0	21.6	20.5	21.1	21.9	21.2	19.9	19.2	21.2	25.2	26.8	24.1	24.1	24.1	23.7	23.6
2029-11	16.2	17.0	17.6	18.7	19.7	20.7	23.0	25.2	25.5	23.2	21.9	21.5	21.3	20.5	19.1	19.0	21.4	24.8	24.2	18.8	19.0	19.1	19.0	18.9
2029-12	13.5	14.3	14.4	15.2	16.2	17.6	19.2	20.4	22.0	19.7	16.9	16.1	15.8	14.9	13.5	12.5	15.8	19.9	20.1	19.8	19.5	19.1	18.5	17.4

Loss of Load Hours - Selected Portfolio																								
Event Dates	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2039-01	13.2	13.0	13.1	13.7	14.5	15.6	16.9	18.0	19.1	14.0	10.2	8.2	7.3	6.8	6.4	5.9	8.0	15.6	17.4	17.3	17.3	17.0	16.5	15.8
2039-02	9.0	9.2	9.4	9.9	10.3	10.7	11.3	11.7	10.8	4.7	2.6	1.7	1.5	1.3	1.4	1.2	1.6	3.3	9.2	9.9	9.9	10.1	10.0	10.0
2039-03	6.7	7.0	7.2	7.6	8.1	8.8	9.3	8.8	5.0	2.0	1.0	0.6	0.4	0.4	0.6	0.5	0.7	1.3	3.6	6.9	6.9	7.0	7.2	7.2
2039-04	8.2	8.8	9.3	9.6	10.5	11.3	11.0	4.7	2.2	1.0	0.5	0.5	0.4	0.4	0.4	0.5	0.7	1.2	2.7	8.2	9.9	9.2	9.5	9.2
2039-05	6.0	6.2	6.5	6.6	7.1	7.5	4.3	1.7	1.1	0.8	0.6	0.7	0.7	0.8	0.8	0.8	1.0	1.5	2.6	4.5	7.8	7.6	7.2	6.9
2039-06	5.8	5.8	6.0	6.0	6.2	5.8	2.5	1.3	1.0	0.6	0.7	0.6	0.8	1.0	1.0	0.9	1.2	1.4	1.8	3.5	6.6	7.8	7.2	6.8
2039-07	14.1	14.0	13.9	14.2	14.5	14.5	8.3	3.4	2.4	1.8	2.0	2.3	2.9	3.1	3.1	3.0	3.2	4.0	5.4	8.4	14.7	15.9	15.5	15.1
2039-08	18.9	19.1	19.3	19.5	19.7	19.9	17.7	7.1	4.4	2.5	2.6	3.2	4.1	4.7	4.8	4.0	4.7	6.3	9.2	16.6	20.1	19.9	19.8	19.7
2039-09	19.5	19.4	19.5	19.8	20.3	20.7	21.0	11.5	6.0	3.3	2.8	3.3	4.0	4.4	4.3	4.0	6.0	9.0	15.5	20.3	20.3	20.4	20.2	20.3
2039-10	22.1	22.7	23.2	23.7	24.2	24.8	25.2	25.4	15.0	7.6	5.7	6.7	7.8	7.2	6.7	6.8	9.9	17.8	24.8	23.8	23.8	23.7	23.6	23.5
2039-11	21.2	21.6	22.2	23.1	23.9	24.8	25.8	27.1	26.7	20.1	16.4	16.4	16.9	15.4	14.0	14.1	18.3	26.5	26.7	23.2	23.4	23.5	23.4	23.1
2039-12	21.3	21.8	22.2	22.8	23.5	24.5	25.5	26.2	27.2	21.9	16.1	15.7	16.4	15.8	13.8	12.6	18.3	25.7	25.9	25.7	25.6	25.4	25.0	24.5

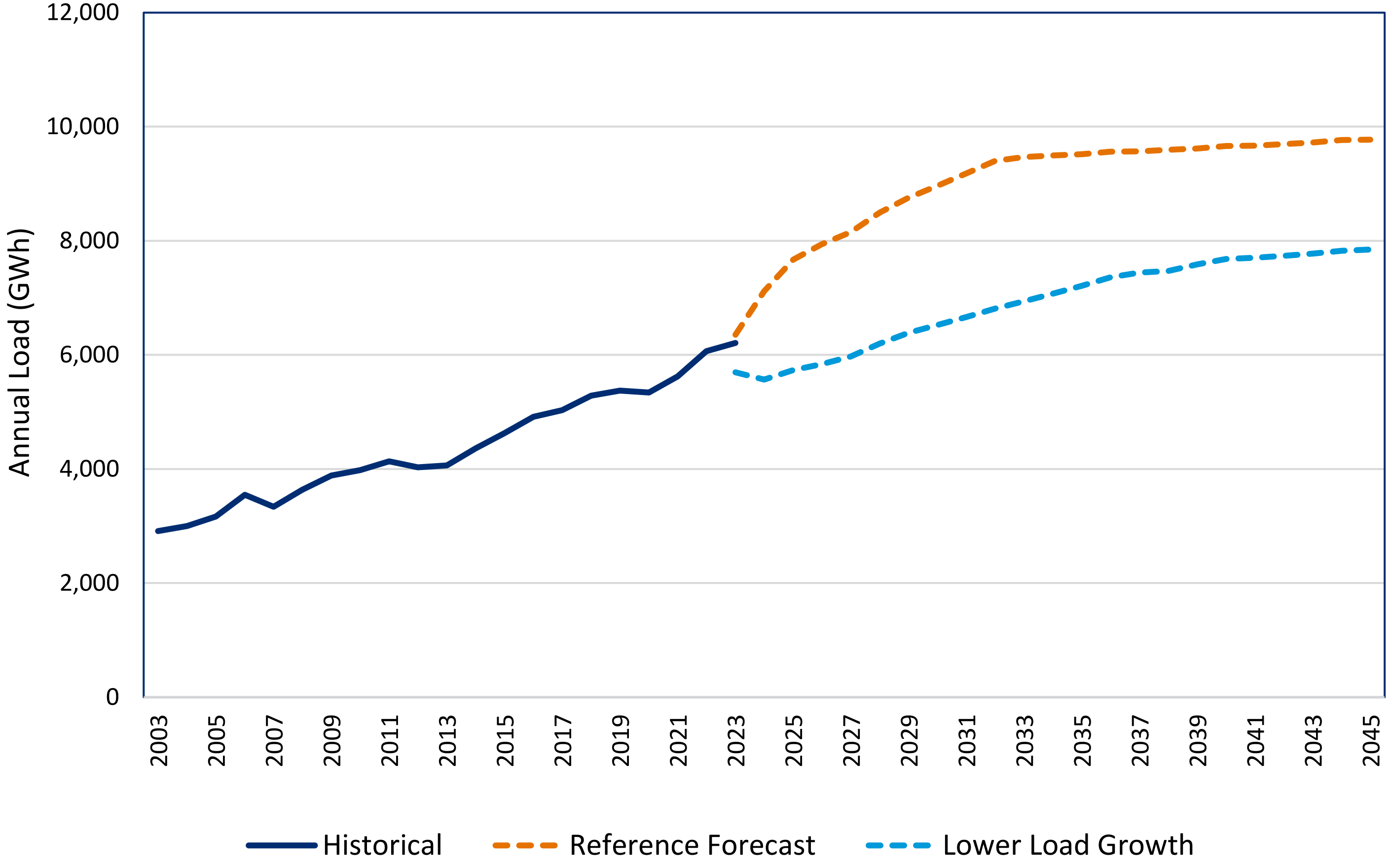
Portfolios Selected Under Varying Assumptions

Impact of Lower Energy Market Price Forecast



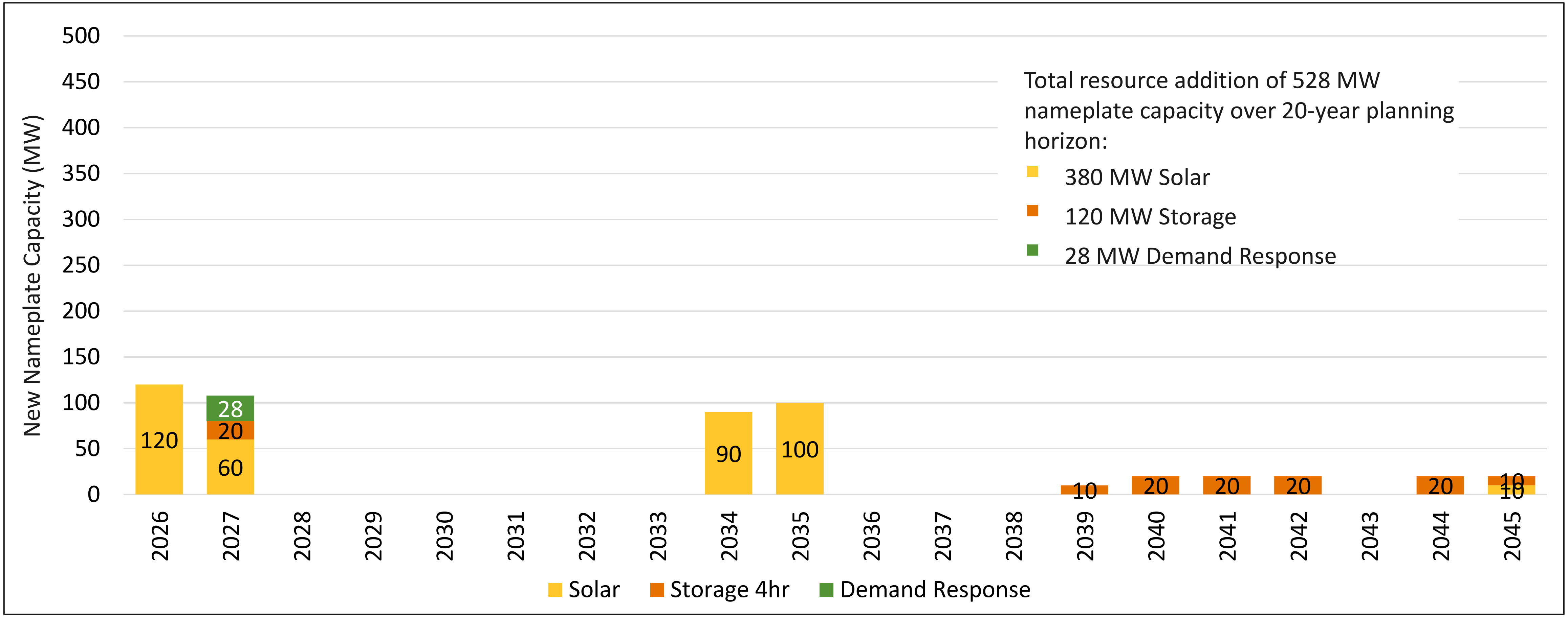
- Resources selected under lower price conditions are the same as those selected in the reference case, but clean energy acquisition is delayed until later in the planning horizon
- Lower energy market price forecast represents scenario in which new regional energy markets capture more efficiency than expectations represented in the reference case

Lower Load Growth Forecast



Compound Annual Growth Rate		
Period	Reference	Lower Load Growth
2023 – 2026	8%	1%
2026 – 2033	3%	2%
2033 - 2045	1%	1%
Compound Annual Growth Rate of Historic Period 2003 – 2023 was 4%		

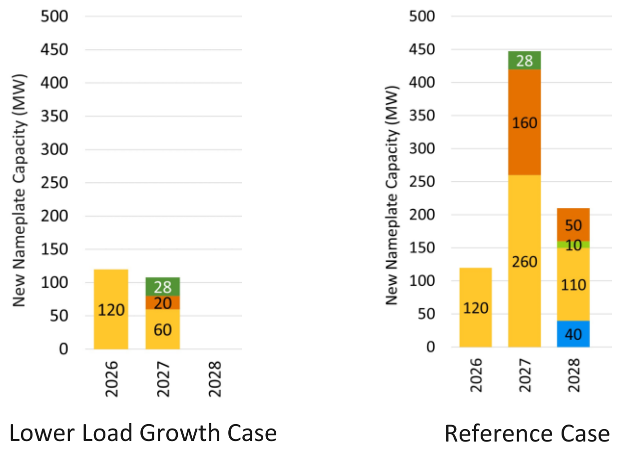
Selected Portfolio Additions – Lower Load Growth



- Selection reduced from reference case selection by 1,090 MW nameplate capacity

Lower Load Growth Near-Term Selections

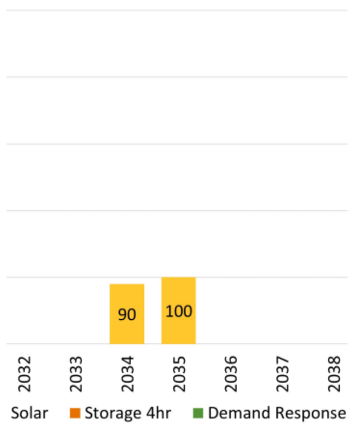
- **Many near-term additions in reference case driven by anticipated strong load growth**
- Lower load growth expectations in near-term reduces selected acquisitions by 550 MW as compared to reference case by :
  - 120 MW less solar located in Grant County
  - 190 MW less solar located in Oregon
  - 190 MW less lithium-ion batteries in Oregon
  - 10 MW less wind located in Oregon
  - 40 MW less BPA Tier 2 contract



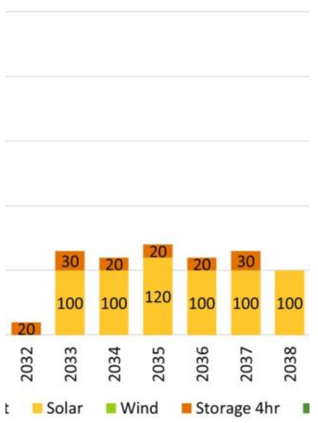
- 228 MW total near-term additions
- 180 MW of solar located in Grant County
- 20 MW of lithium-ion batteries in Oregon
- 28 MW of demand response

Lower Load Growth Mid-Term Selections

- **Many mid-term additions in reference case driven by anticipated strong load growth**
- Lower load growth expectations in near-term reduces selected acquisitions by 570 MW as compared to reference case by :
  - 310 MW less solar located in Grant County
  - 120 MW less solar located in Oregon
  - 140 MW less lithium-ion batteries located in Grant County



Lower Load Growth Case



Reference Case

- 190 MW of solar located in Grant County

Hourly Reliability of Lower Load Growth Portfolio

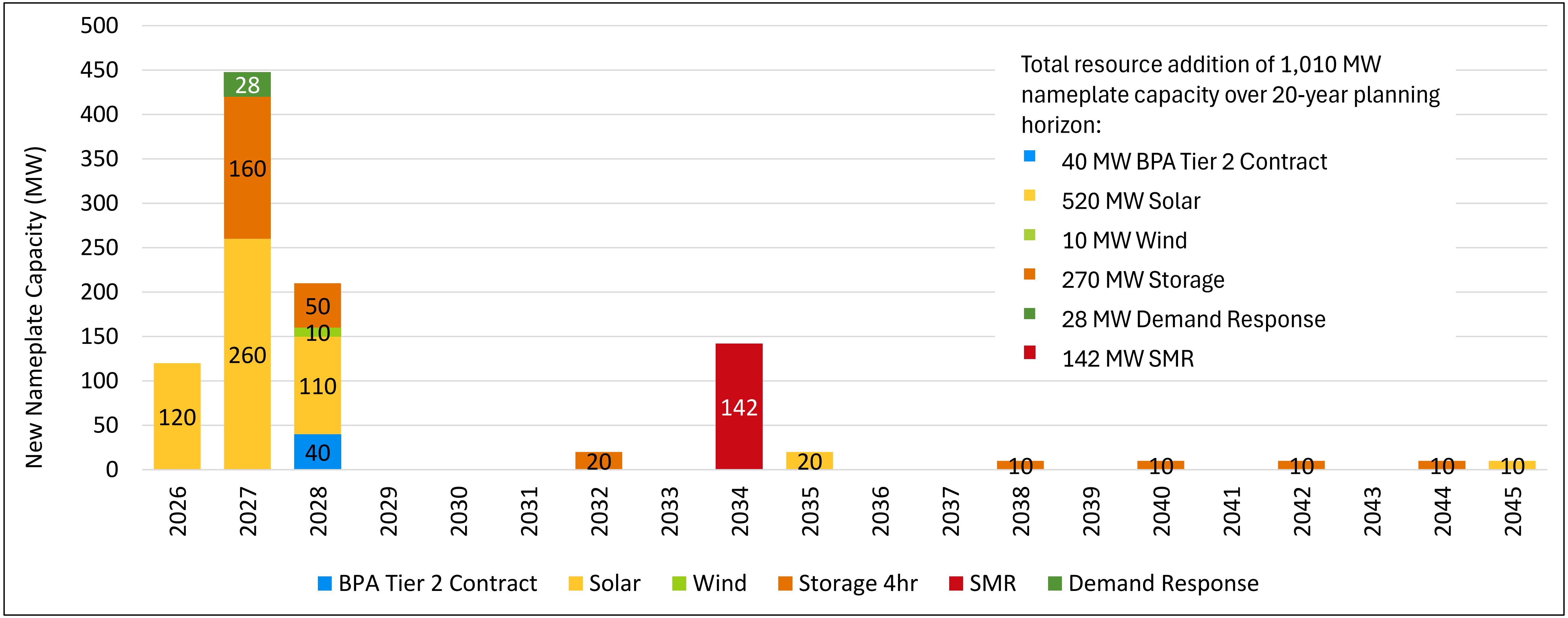
Loss of Load Hours - Lower Load Growth Portfolio																								
	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2029-01	0.3	0.3	0.3	0.4	0.5	0.6	0.7	0.9	1.1	1.0	0.9	0.8	0.7	0.7	0.6	0.6	0.6	0.8	0.9	0.9	0.9	0.8	0.7	0.6
2029-02	0.4	0.3	0.3	0.5	0.5	0.6	0.7	0.8	0.9	0.7	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.3	0.6	0.7	0.7	0.7	0.6	0.6
2029-03	0.4	0.4	0.4	0.5	0.7	1.0	1.4	1.5	1.5	0.9	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.4	0.8	1.3	1.3	1.3	1.0	1.0
2029-04	2.4	2.6	2.6	2.8	3.2	3.7	4.1	3.0	3.6	3.0	2.7	2.6	2.6	2.6	2.4	2.4	2.5	2.8	3.2	3.9	4.2	4.1	3.8	3.7
2029-05	2.1	2.1	2.2	2.3	2.5	2.8	2.5	1.9	2.7	2.4	2.4	2.4	2.5	2.5	2.5	2.4	2.4	2.5	2.8	3.0	3.4	3.3	3.1	3.0
2029-06	1.2	0.9	0.9	0.9	1.0	1.0	0.8	0.6	1.0	1.1	1.2	1.2	1.3	1.4	1.4	1.3	1.3	1.4	1.5	1.6	1.7	1.8	1.7	1.6
2029-07	9.3	8.9	8.8	8.9	9.0	9.0	7.5	6.7	8.5	8.7	9.1	9.6	10.0	10.1	10.2	10.2	10.2	10.2	10.4	10.6	11.2	11.2	11.0	10.7
2029-08	11.3	11.3	11.2	11.4	11.8	12.2	11.6	9.6	11.4	11.4	11.9	12.4	12.9	13.2	13.3	13.2	13.2	13.4	13.4	14.1	14.5	14.3	13.8	13.5
2029-09	8.3	8.3	8.2	8.6	9.1	10.1	10.9	9.2	10.2	9.6	9.9	10.5	11.1	11.4	11.3	11.3	11.7	12.2	13.0	13.7	13.4	12.8	12.0	11.2
2029-10	6.4	6.8	7.1	7.7	8.5	9.8	11.4	14.1	14.0	12.4	11.7	12.0	12.0	11.5	10.9	10.7	11.6	13.4	13.7	10.7	10.5	10.2	9.6	9.2
2029-11	1.2	1.2	1.4	1.6	1.9	2.3	3.1	5.6	6.4	5.6	5.1	4.8	4.5	4.1	3.7	3.7	4.1	5.4	4.7	2.3	2.3	2.3	2.3	2.2
2029-12	0.6	0.7	0.7	0.8	0.9	1.0	1.4	1.6	2.0	1.8	1.6	1.4	1.2	1.2	1.1	1.0	1.2	1.5	1.5	1.5	1.4	1.4	1.3	1.1

Loss of Load Hours - Lower Load Growth Portfolio																								
Event Dates	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2039-01	3.1	2.9	3.1	3.4	3.8	4.3	5.1	5.8	6.6	5.8	5.0	4.3	3.9	3.5	3.2	3.0	3.6	5.3	5.7	5.8	5.6	5.4	5.0	4.6
2039-02	3.9	4.0	4.2	4.4	4.7	5.3	5.8	6.4	6.6	4.7	3.6	3.0	2.7	2.4	1.9	1.7	1.9	3.0	5.3	5.6	5.7	5.5	5.4	5.1
2039-03	3.7	3.7	3.9	4.3	4.8	5.7	6.9	6.8	5.7	3.7	2.6	2.1	2.0	1.9	1.7	1.4	1.5	2.3	4.5	6.3	6.3	6.1	5.7	5.5
2039-04	5.0	5.2	5.3	5.9	6.7	8.3	8.7	5.5	5.3	3.7	3.2	3.0	3.1	3.0	2.8	2.9	3.0	3.9	5.4	8.3	9.3	8.9	7.9	7.6
2039-05	4.4	4.4	4.5	4.6	4.9	5.4	4.4	3.0	3.5	3.0	3.1	3.4	3.5	3.6	3.5	3.5	3.5	3.8	4.7	5.5	6.7	6.6	6.2	5.8
2039-06	5.1	4.8	4.8	4.8	4.9	4.7	3.6	2.8	3.3	3.0	3.3	3.5	3.7	3.9	3.9	3.9	4.1	4.2	4.6	5.4	6.6	7.0	6.4	6.1
2039-07	15.2	14.9	15.0	15.1	15.2	15.2	13.0	10.8	11.7	11.5	11.9	12.5	13.1	13.3	13.3	13.3	13.3	13.5	13.9	14.7	16.0	16.3	16.1	15.9
2039-08	19.3	19.5	19.6	19.7	20.0	20.3	19.2	15.2	15.8	15.0	15.7	16.6	17.4	17.9	18.0	17.7	17.8	18.2	18.9	20.6	21.3	21.2	21.0	20.7
2039-09	19.1	19.0	19.3	19.6	20.1	20.8	21.2	17.4	16.0	14.1	14.4	15.5	16.5	16.8	16.7	16.4	17.2	18.7	20.7	21.9	21.8	21.5	21.1	20.9
2039-10	17.1	18.0	18.5	19.2	19.9	21.1	22.9	24.3	22.5	19.7	18.6	19.1	19.5	18.8	17.7	17.6	19.4	22.4	23.2	19.8	19.8	19.7	19.3	19.2
2039-11	9.4	9.7	10.4	11.3	12.5	13.7	16.5	20.6	21.2	18.9	17.5	17.2	16.6	15.7	14.7	14.6	16.4	20.1	17.4	11.9	12.2	12.3	12.2	12.1
2039-12	6.3	6.7	6.8	7.3	8.1	9.0	10.2	11.2	12.7	11.2	9.7	9.3	8.8	8.4	7.5	7.0	8.6	10.8	10.9	10.8	10.7	10.4	9.8	9.1

SMR Exploration

- SMR are advanced nuclear reactors designed to deliver safe, scalable, demand-following, and carbon-free electricity
- **Though this IRP evaluation did not select SMR for addition to the portfolio, Grant PUD continues to contemplate and explore the addition of Small Modular Reactors (SMR) for mid-term portfolio selection**
- To study the effects that addition of SMR might have on the portfolio, scenarios including the addition of two 71 MW SMR modules in 2034 were modeled

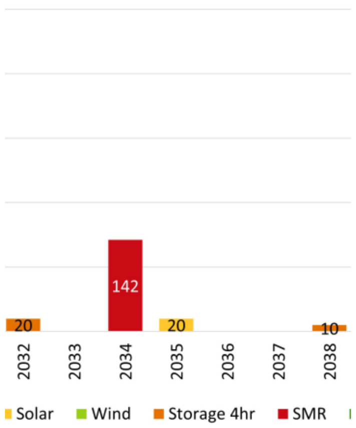
Selected Portfolio Additions – 2 SMR Modules

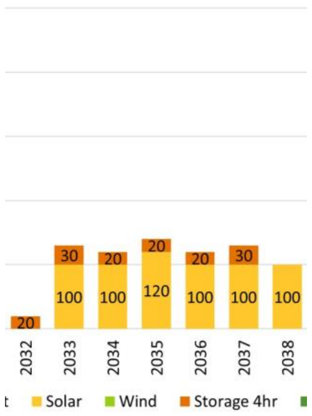


- Selection reduced from reference case selection by 608 MW nameplate capacity

2 SMR Modules Mid-Term Selections

- **Near-term selection is identical to reference case selection**
- **2 SMR reduce quantity of mid-term additions**
- Addition of 142 MW of SMR capacity in mid-term would reduce selected acquisitions by 568 MW as compared to reference case :
  - 480 MW less solar located in Grant County
  - 120 MW less solar located in Oregon
  - 110 MW less lithium-ion batteries located in Grant County





Reference Case for Comparison

- 20 MW of solar located in Grant County
- 30 MW of lithium-ion batteries located in Grant County
- 142 MW of SMR located in Grant County

Hourly Reliability of 2 SMR Modules Portfolio

Loss of Load Hours - 2 SMR Module Portfolio																								
Event Dates	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2029-01	7.7	7.7	7.9	8.3	9.1	10.1	11.4	12.7	14.0	11.9	9.9	8.6	8.1	7.3	6.8	6.4	7.6	11.4	12.4	12.3	12.1	11.8	11.3	10.3
2029-02	7.6	7.8	8.0	8.3	8.9	9.5	10.2	10.9	10.8	7.6	5.5	4.6	4.2	3.8	3.3	2.9	3.2	5.2	9.3	9.7	9.8	9.7	9.4	9.1
2029-03	6.1	6.3	6.6	7.0	7.5	8.2	8.9	8.9	7.4	4.9	3.5	2.9	2.7	2.5	2.0	1.8	2.1	3.1	6.0	8.0	8.0	8.0	7.8	7.6
2029-04	7.8	8.2	8.3	8.5	9.1	9.9	10.0	7.9	6.7	5.1	4.5	4.4	4.6	4.5	4.0	4.0	4.2	5.2	6.9	9.3	9.8	9.4	9.3	9.1
2029-05	5.9	5.9	6.0	6.0	6.3	6.7	5.6	4.0	4.2	3.7	3.6	3.9	4.1	4.1	4.2	4.0	4.1	4.7	5.4	6.3	7.4	7.3	6.9	6.7
2029-06	5.5	5.4	5.3	5.4	5.7	5.5	3.7	2.4	2.8	2.6	2.9	3.2	3.5	4.0	3.9	3.9	4.1	4.2	4.8	5.6	7.0	7.3	6.9	6.6
2029-07	17.4	17.2	17.4	17.5	17.6	17.7	14.9	11.7	12.1	11.8	12.3	13.0	13.8	14.1	14.1	14.1	14.0	14.4	15.0	16.4	18.4	18.7	18.4	18.2
2029-08	23.0	23.0	23.2	23.4	23.6	24.0	22.8	17.4	16.9	15.6	16.1	17.4	18.7	19.3	19.2	18.9	19.1	19.7	21.1	23.4	24.5	24.4	24.2	24.1
2029-09	22.1	22.0	22.3	22.5	22.9	23.4	23.8	19.3	16.7	14.2	14.1	15.2	16.6	17.0	16.7	16.6	17.6	19.8	22.8	24.5	24.4	24.1	23.7	23.5
2029-10	21.9	22.8	23.4	24.1	24.8	25.7	26.7	27.3	25.0	21.9	20.7	21.4	22.0	21.4	20.3	19.7	21.5	25.3	26.8	24.1	24.1	24.0	23.7	23.6
2029-11	16.5	17.0	17.7	18.6	19.7	21.0	23.2	25.2	25.5	23.2	22.0	21.7	21.5	20.6	19.2	19.2	21.5	24.8	24.1	18.7	18.9	19.1	19.0	18.9
2029-12	13.6	14.3	14.5	15.3	16.6	17.8	19.3	20.6	22.1	19.9	17.2	16.4	16.1	15.5	13.9	13.0	16.1	19.9	20.1	19.8	19.5	19.2	18.5	17.4

Loss of Load Hours - 2 SMR Module Portfolio																								
Event Dates	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2039-01	5.0	4.8	5.0	5.4	6.0	6.8	7.8	8.7	9.8	8.3	6.7	5.8	5.3	4.8	4.2	3.9	4.8	7.7	8.5	8.4	8.4	8.1	7.6	7.0
2039-02	5.3	5.4	5.6	6.0	6.4	7.0	7.7	8.2	8.2	5.4	4.0	3.1	2.8	2.5	2.2	1.8	2.2	3.7	6.9	7.3	7.4	7.3	7.0	6.6
2039-03	4.0	4.0	4.2	4.5	4.9	5.6	6.0	6.0	5.0	3.3	2.3	1.9	1.8	1.6	1.3	1.1	1.3	2.0	3.9	5.3	5.4	5.3	5.1	4.9
2039-04	5.6	5.7	5.9	6.1	6.5	7.5	7.5	5.5	4.7	3.5	3.0	2.9	3.0	3.0	2.7	2.7	2.9	3.7	5.0	6.8	7.5	7.3	6.9	6.7
2039-05	4.6	4.7	4.7	4.8	5.1	5.4	4.4	3.0	3.0	2.7	2.6	2.9	3.1	3.1	3.1	3.0	3.1	3.6	4.3	5.1	5.8	5.8	5.5	5.3
2039-06	5.7	5.5	5.5	5.5	5.7	5.6	4.0	2.9	3.1	3.0	3.2	3.4	3.7	4.1	4.0	4.0	4.2	4.4	4.9	5.6	6.8	7.0	6.8	6.4
2039-07	16.2	16.0	16.1	16.2	16.3	16.3	13.6	10.3	10.8	10.5	11.2	11.7	12.7	13.0	13.1	13.1	13.2	13.6	14.1	15.3	17.4	17.7	17.4	17.1
2039-08	20.6	20.7	20.8	21.0	21.2	21.5	20.4	15.1	14.5	13.2	13.9	15.2	16.6	17.2	17.4	17.0	17.2	17.8	19.1	21.5	22.5	22.4	22.2	21.8
2039-09	18.4	18.3	18.5	18.7	19.1	19.9	20.5	15.6	13.1	10.9	11.0	11.9	13.2	13.8	13.7	13.6	14.7	16.6	19.4	21.1	21.1	20.8	20.4	20.0
2039-10	17.3	18.0	18.5	19.3	20.1	21.4	22.5	23.4	20.1	16.1	14.9	15.4	16.1	15.3	14.5	14.0	16.0	20.4	23.1	20.4	20.3	20.1	19.7	19.3
2039-11	12.2	12.4	13.0	14.1	15.5	16.9	19.2	21.7	22.0	19.4	17.7	17.3	16.8	15.8	14.6	14.5	16.8	21.0	20.5	15.3	15.5	15.4	15.1	14.8
2039-12	9.9	10.4	10.7	11.3	12.2	13.3	14.8	16.1	17.5	15.5	12.9	12.2	11.8	11.1	9.9	9.2	11.9	15.4	15.5	15.2	15.1	14.6	14.0	13.2

Selected Portfolio and 2 SMR Modules Portfolio

Loss of Load Hours - Selected Portfolio

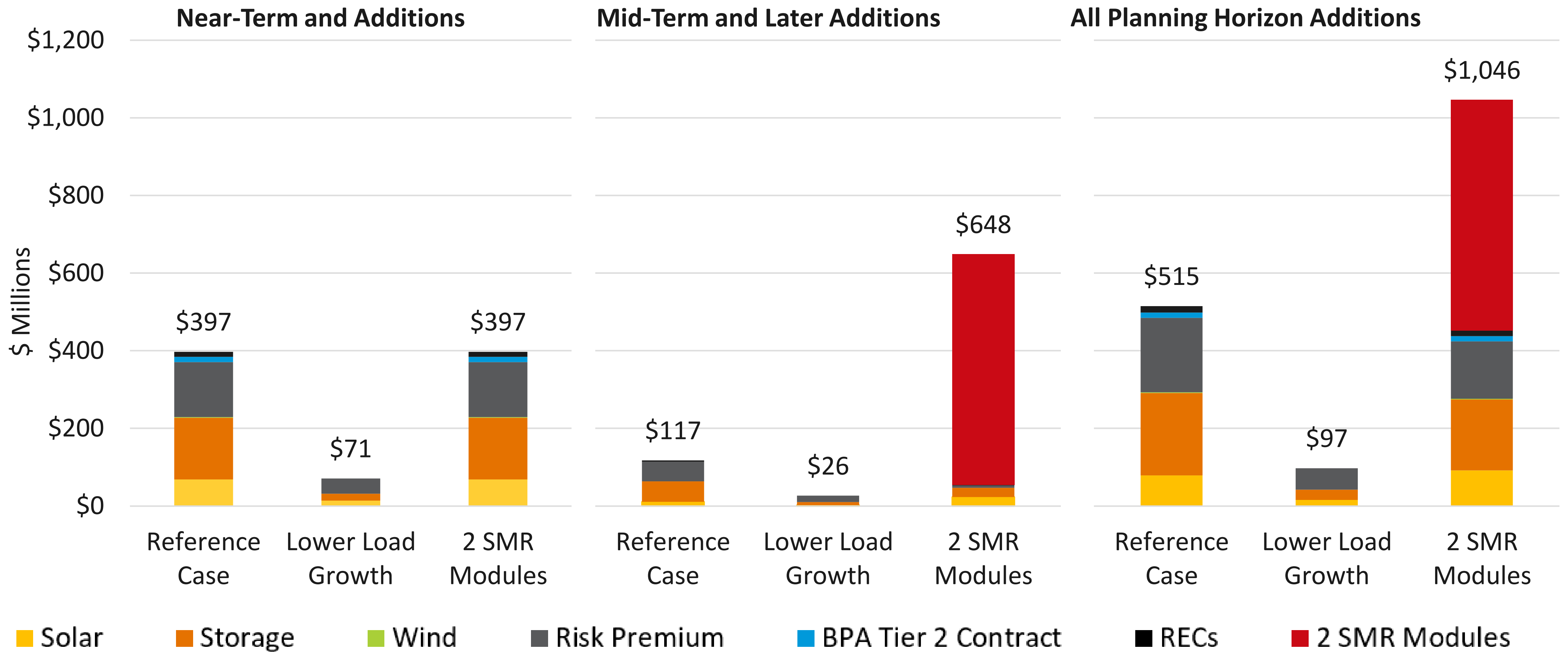
Event Dates	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2039-01	13.2	13.0	13.1	13.7	14.5	15.6	16.9	18.0	19.1	14.0	10.2	8.2	7.3	6.8	6.4	5.9	8.0	15.6	17.4	17.3	17.3	17.0	16.5	15.8
2039-02	9.0	9.2	9.4	9.9	10.3	10.7	11.3	11.7	10.8	4.7	2.6	1.7	1.5	1.3	1.4	1.2	1.6	3.3	9.2	9.9	9.9	10.1	10.0	10.0
2039-03	6.7	7.0	7.2	7.6	8.1	8.8	9.3	8.8	5.0	2.0	1.0	0.6	0.4	0.4	0.6	0.5	0.7	1.3	3.6	6.9	6.9	7.0	7.2	7.2
2039-04	8.2	8.8	9.3	9.6	10.5	11.3	11.0	4.7	2.2	1.0	0.5	0.5	0.4	0.4	0.4	0.5	0.7	1.2	2.7	8.2	9.9	9.2	9.5	9.2
2039-05	6.0	6.2	6.5	6.6	7.1	7.5	4.3	1.7	1.1	0.8	0.6	0.7	0.7	0.8	0.8	0.8	1.0	1.5	2.6	4.5	7.8	7.6	7.2	6.9
2039-06	5.8	5.8	6.0	6.0	6.2	5.8	2.5	1.3	1.0	0.6	0.7	0.6	0.8	1.0	1.0	0.9	1.2	1.4	1.8	3.5	6.6	7.8	7.2	6.8
2039-07	14.1	14.0	13.9	14.2	14.5	14.5	8.3	3.4	2.4	1.8	2.0	2.3	2.9	3.1	3.1	3.0	3.2	4.0	5.4	8.4	14.7	15.9	15.5	15.1
2039-08	18.9	19.1	19.3	19.5	19.7	19.9	17.7	7.1	4.4	2.5	2.6	3.2	4.1	4.7	4.8	4.0	4.7	6.3	9.2	16.6	20.1	19.9	19.8	19.7
2039-09	19.5	19.4	19.5	19.8	20.3	20.7	21.0	11.5	6.0	3.3	2.8	3.3	4.0	4.4	4.3	4.0	6.0	9.0	15.5	20.3	20.3	20.4	20.2	20.3
2039-10	22.1	22.7	23.2	23.7	24.2	24.8	25.2	25.4	15.0	7.6	5.7	6.7	7.8	7.2	6.7	6.8	9.9	17.8	24.8	23.8	23.8	23.7	23.6	23.5
2039-11	21.2	21.6	22.2	23.1	23.9	24.8	25.8	27.1	26.7	20.1	16.4	16.4	16.9	15.4	14.0	14.1	18.3	26.5	26.7	23.2	23.4	23.5	23.4	23.1
2039-12	21.3	21.8	22.2	22.8	23.5	24.5	25.5	26.2	27.2	21.9	16.1	15.7	16.4	15.8	13.8	12.6	18.3	25.7	25.9	25.7	25.6	25.4	25.0	24.5

Loss of Load Hours - 2 SMR Module Portfolio

Event Dates	HE00	HE01	HE02	HE03	HE04	HE05	HE06	HE07	HE08	HE09	HE10	HE11	HE12	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23
2039-01	5.0	4.8	5.0	5.4	6.0	6.8	7.8	8.7	9.8	8.3	6.7	5.8	5.3	4.8	4.2	3.9	4.8	7.7	8.5	8.4	8.4	8.1	7.6	7.0
2039-02	5.3	5.4	5.6	6.0	6.4	7.0	7.7	8.2	8.2	5.4	4.0	3.1	2.8	2.5	2.2	1.8	2.2	3.7	6.9	7.3	7.4	7.3	7.0	6.6
2039-03	4.0	4.0	4.2	4.5	4.9	5.6	6.0	6.0	5.0	3.3	2.3	1.9	1.8	1.6	1.3	1.1	1.3	2.0	3.9	5.3	5.4	5.3	5.1	4.9
2039-04	5.6	5.7	5.9	6.1	6.5	7.5	7.5	5.5	4.7	3.5	3.0	2.9	3.0	3.0	2.7	2.7	2.9	3.7	5.0	6.8	7.5	7.3	6.9	6.7
2039-05	4.6	4.7	4.7	4.8	5.1	5.4	4.4	3.0	3.0	2.7	2.6	2.9	3.1	3.1	3.1	3.0	3.1	3.6	4.3	5.1	5.8	5.8	5.5	5.3
2039-06	5.7	5.5	5.5	5.5	5.7	5.6	4.0	2.9	3.1	3.0	3.2	3.4	3.7	4.1	4.0	4.0	4.2	4.4	4.9	5.6	6.8	7.0	6.8	6.4
2039-07	16.2	16.0	16.1	16.2	16.3	16.3	13.6	10.3	10.8	10.5	11.2	11.7	12.7	13.0	13.1	13.1	13.2	13.6	14.1	15.3	17.4	17.7	17.4	17.1
2039-08	20.6	20.7	20.8	21.0	21.2	21.5	20.4	15.1	14.5	13.2	13.9	15.2	16.6	17.2	17.4	17.0	17.2	17.8	19.1	21.5	22.5	22.4	22.2	21.8
2039-09	18.4	18.3	18.5	18.7	19.1	19.9	20.5	15.6	13.1	10.9	11.0	11.9	13.2	13.8	13.7	13.6	14.7	16.6	19.4	21.1	21.1	20.8	20.4	20.0
2039-10	17.3	18.0	18.5	19.3	20.1	21.4	22.5	23.4	20.1	16.1	14.9	15.4	16.1	15.3	14.5	14.0	16.0	20.4	23.1	20.4	20.3	20.1	19.7	19.3
2039-11	12.2	12.4	13.0	14.1	15.5	16.9	19.2	21.7	22.0	19.4	17.7	17.3	16.8	15.8	14.6	14.5	16.8	21.0	20.5	15.3	15.5	15.4	15.1	14.8
2039-12	9.9	10.4	10.7	11.3	12.2	13.3	14.8	16.1	17.5	15.5	12.9	12.2	11.8	11.1	9.9	9.2	11.9	15.4	15.5	15.2	15.1	14.6	14.0	13.2

- Reference case solar capacity concentrated mid-day; capacity decreases in winter
- SMR provides capacity consistently over all hours, all seasons; 3% reduction in loss of load hours, 19% reduction in unserved energy as compared to reference case

Net Portfolio Cost Increase Due to Additions



- Values shown are net present value over life of investment, net of wholesale revenue

Questions and Feedback

More info including a link to our 2022 IRP: www.grantpud.org/powering-our-future

IRP Comments: IRP@gcpud.org

Presentation Materials: www.grantpud.org/commission-meetings

Appendix

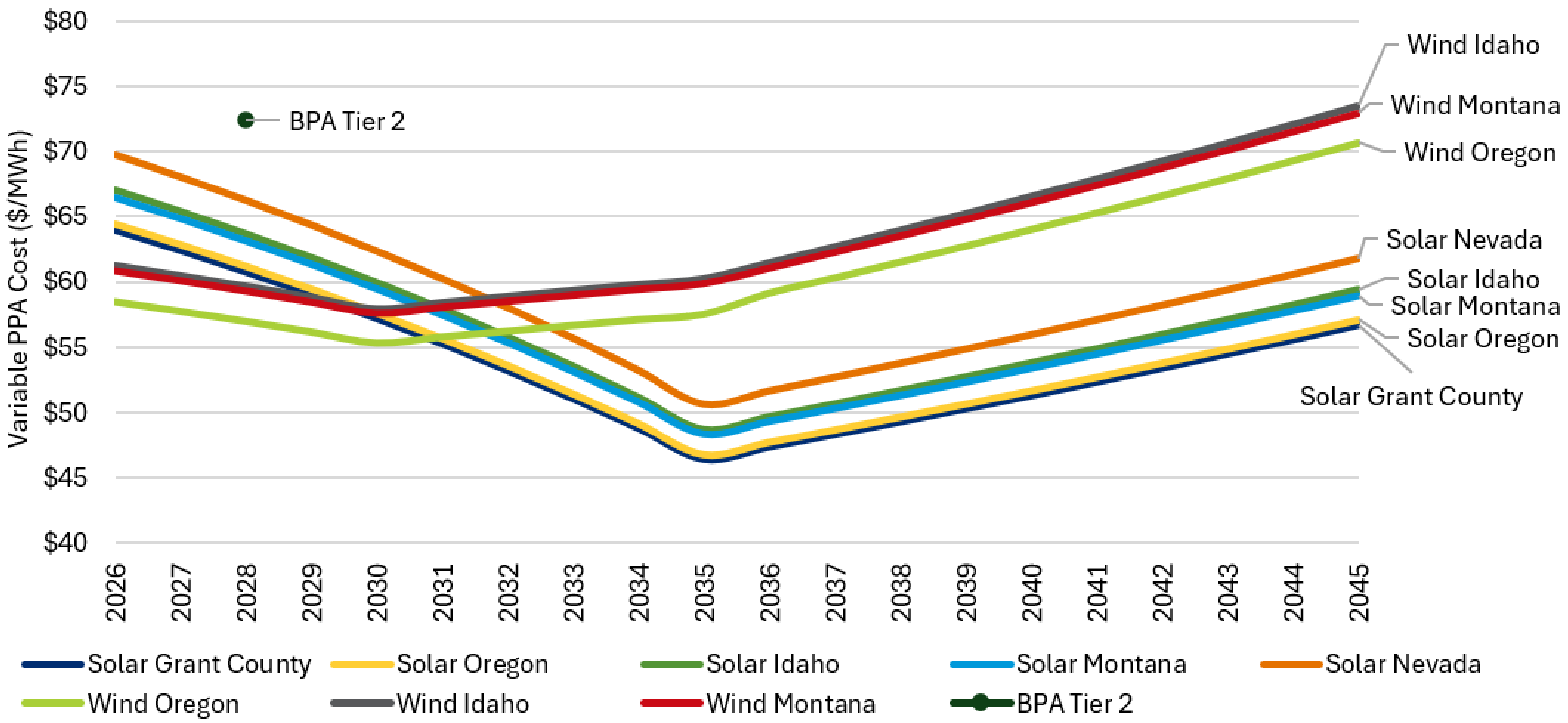


Figure 56. PPA candidate resource variable costs, determined at year of contract agreement, $/MWh, 2024 dollars

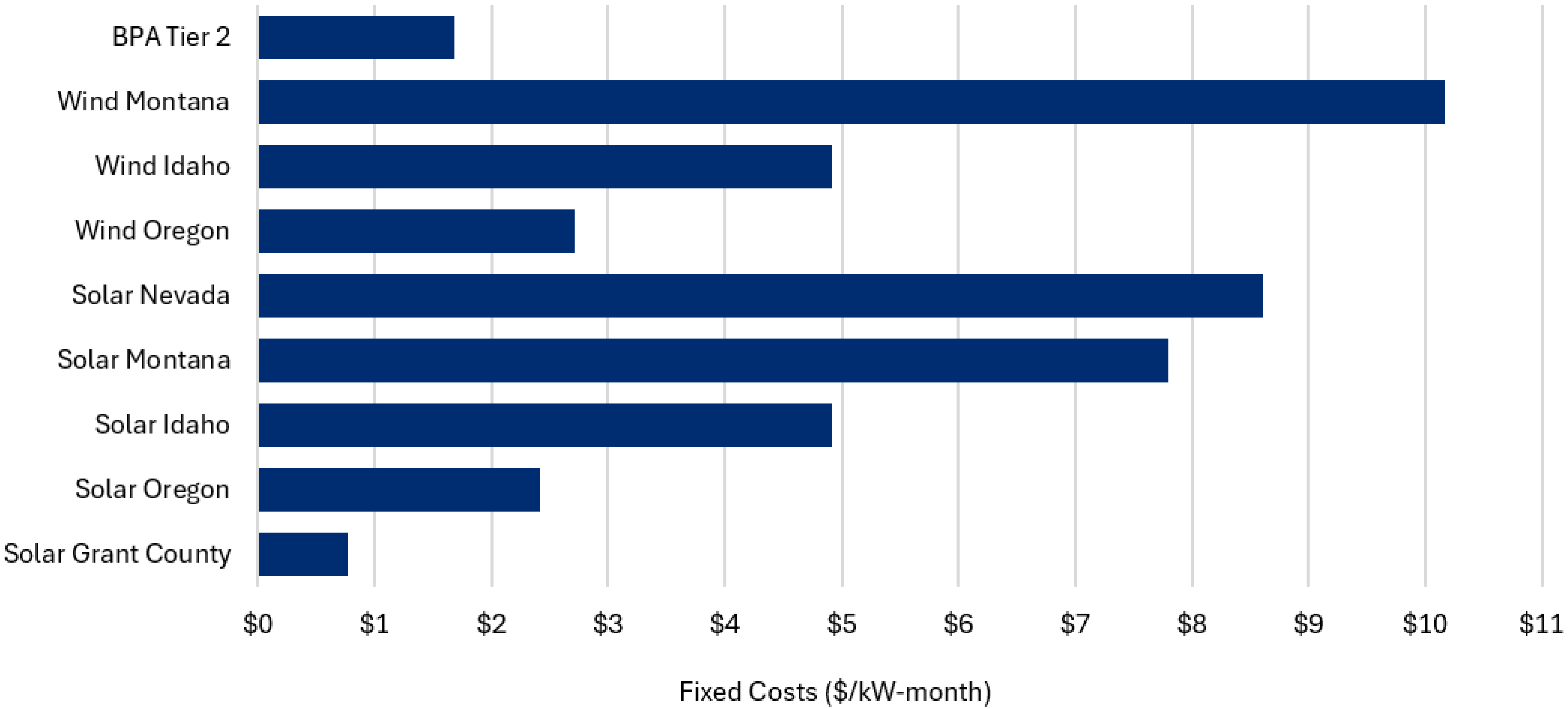


Figure 57. PPA candidate resource fixed costs, $/kW-month, 2024 dollars

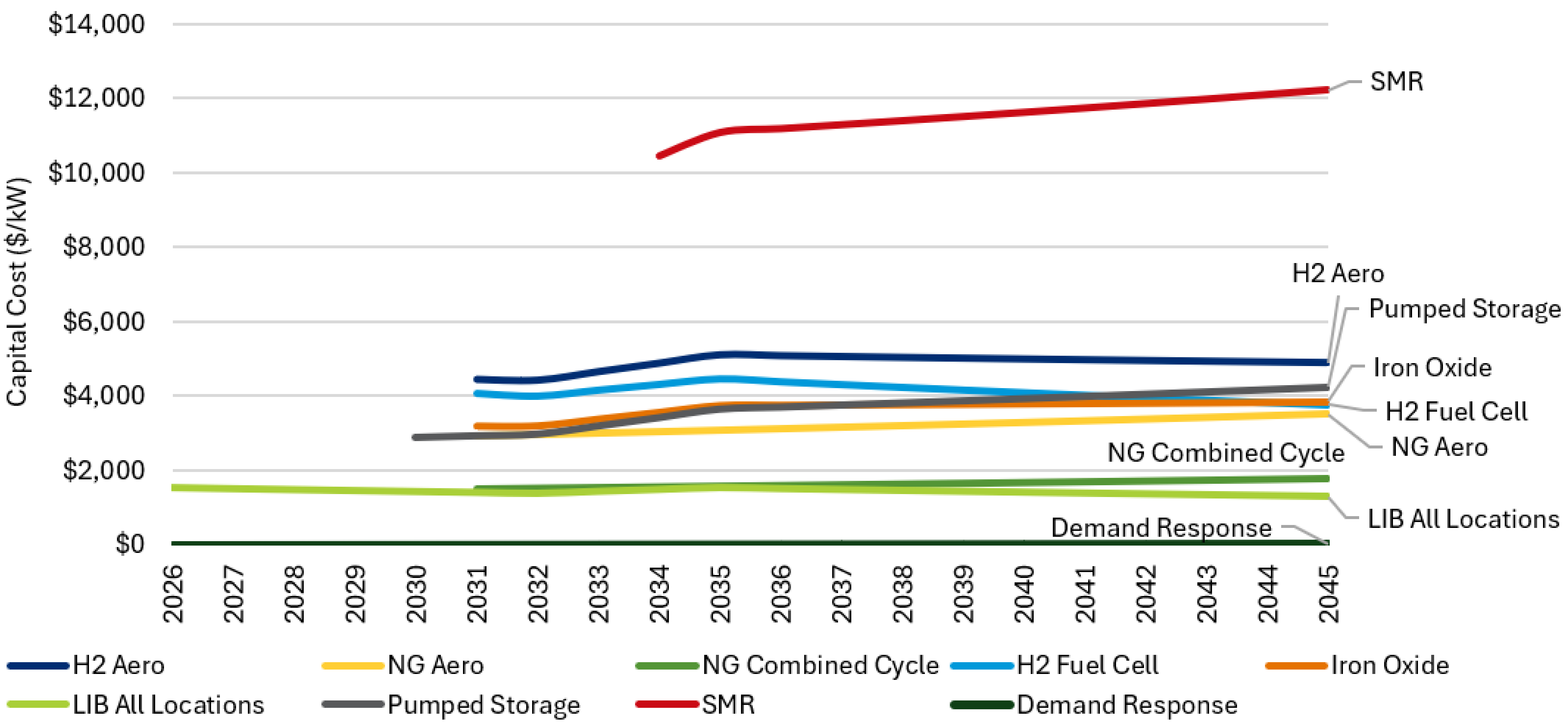


Figure 58. Candidate resource capital costs, determined at time of commercial operation date, $/kW, 2024 dollars

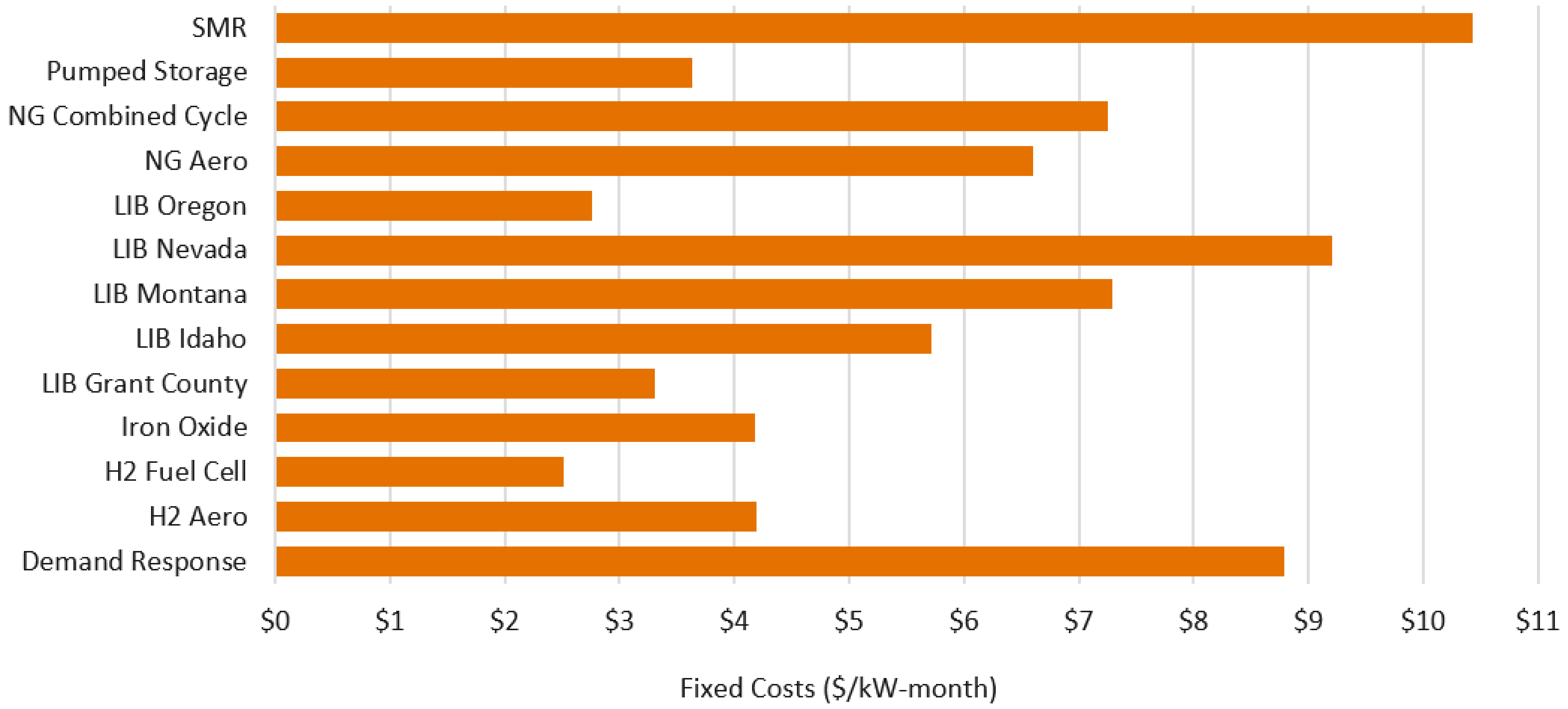


Figure 59. Ownership candidate resource fixed costs, $/kW-month, 2024 dollars

Table 16. Transmission costs by service, by location of generating resource

Transmission Service and Loss Accounting	Internal Grant BA	Eastern Washington Oregon and Northern Idaho	Southern Idaho	Western Montana	Eastern Montana	Desert Southwest
Point to Point transmission service ($/kw month)	2.510	1.648	4.761	2.172	6.220	7.852
Scheduling, system control and dispatch ($/kW month)	0	0.316	0.158	0.316	0.158	0.158
Reactive supply and voltage control	0	0	0	0	0	0.134
Spinning reserves ($/kW on 1.5% of hourly integrated generation)	0.000215	11.05	6.53	11.05	14.59	0.1677
Supplemental reserves ($/kW on 1.5% of hourly integrated generation)	0.000215	7.22	6.53	7.22	13.412	0.4677
Regulating reserves	0	0.358	0	0	0	0
Flex reserves	0	0	0	0	2.369	0
Solar integration ($/kW-month)	0.762	0.456	0	0.456	1.415	0.4653
Wind integration ($/kW-month)	1.2573	0.753	0	0.753	1.415	0.5577
Non-VER integration ($/kW-month)	0	0	0	0	0.112	0.2624

Table 18. Monthly generator electric load carrying capacity as percentage of nameplate capacity , by resource type, by location

Candidate Resource	Jan	Feb	Mar	Jun	Jul	Aug	Sep	Nov	Dec
Solar Grant County, and OR	3.3	3.1	5.1	84.4	57.9	48.5	29.6	1.3	3.1
Solar Oregon	3.3	3.1	5.1	84.4	57.9	48.5	29.6	1.3	3.1
Solar Idaho	2.2	3.1	3.1	17.4	20.6	14.6	16.1	0.9	1.9
Solar Montana	3.3	3.1	5.1	84.4	57.9	48.5	29.6	1.3	3.1
Solar Nevada	15.2	15.2	10.8	30.3	27.2	21.2	17.4	5.2	10.4
Wind Oregon	5.6	8.6	13.7	13.0	10.8	10.8	11.5	8.3	7.3
Wind Idaho	21.2	27.6	27.9	23.5	24.3	20.4	25.6	21.6	23.6
Wind Montana	30.5	23.1	36.2	21.1	13.4	19.7	34.0	47.1	46.2
Lithium-ion battery Grant County, OR, ID and MT	86.2	82.1	100.0	100.0	77.0	100.0	100.0	100.0	100.0
Lithium-ion battery Nevada	63.2	67.2	60.6	84.8	90.0	85.1	100.0	64.0	71.1
Pumped storage	86.2	82.1	100.0	100.0	77.0	100.0	100.0	100.0	100.0
Iron-oxide battery	86.2	82.1	100.0	100.0	77.0	100.0	100.0	100.0	100.0
Hydrogen Fuel cell	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
Hydrogen fueled aeroderivative	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0	96.0
Natural gas fuel aeroderivative	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
Natural gas fueled combined cycle	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0	97.0
Small modular reactor	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0	95.0
BPA Tier 2 contract	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Demand Response	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0