



Minutes of the Special Meeting of the Board Supply Contract Proposals

January 4, 2024

10:00am – 3:00pm

Held at Cascade’s Office and Via Zoom

Time	Agenda Item	Board Action
10:00 am	<p>Call to Order, Roll Call, and Approval of Agenda Penny Sweet, Board Chair</p> <p><u>Board Members Present:</u> City of Kirkland (Sweet), City of Redmond (Birney), Sammamish Plateau Water & Sewer District (Warren), and Skyway Water and Sewer District (Ault)</p> <p><u>Board Member Absent:</u> City of Issaquah (Joe)</p> <p><u>Board Alternates Present:</u> City of Bellevue (Stokes), City of Kirkland (Pascal), Sammamish Plateau Water & Sewer District (Hooshangi), Skyway Water and Sewer District (Schultz)</p>	
	<p>Update on Cascade Shortage Management Plan Ray Hoffman, CEO, Cascade</p> <p><u>Recap:</u> Ray Hoffman reported that Seattle ended Voluntary Curtailment on December 11, 2024. Immediately following this, Cascade ended its Voluntary Curtailment stage of its Shortage Management Plan.</p>	
	<p>Tacoma’s Proposed Water Supply Contract Scott Dewhirst, Superintendent, Tacoma Water (No materials in packet)</p> <p><u>Recap:</u> Scott Dewhirst presented Tacoma’s proposal and took questions from the Board. Tacoma’s presentation is attached.</p>	Presentation
	<p>Seattle’s Proposed Water Supply Contract Andrew Lee, General Manager, Seattle Public Utilities (No materials in packet)</p> <p><u>Recap:</u> Andrew Lee presented Seattle’s proposal and took questions from the Board. Seattle’s presentation is attached.</p>	Presentation

	<p>Discussion based on presentations</p> <p><u>Recap:</u> There was no further discussion in the morning session.</p>	Discussion
	<p>Executive Session (if needed)</p> <p><u>Recap:</u> There was no Executive Session.</p>	
	<p>Announcement of Next Board Meeting – January 24, 2024, at 3:30 p.m. held at Cascade’s office and via Zoom</p> <p>Penny Sweet, Board Chair</p>	
12:00 pm	Lunch (optional)	
1:00 pm	<p>Contract Proposals Debrief (optional)</p> <p><u>Recap:</u> The Board discussed the two presentations by Tacoma and Seattle, and staff responded to the Board’s questions. Staff also presented a summary of the proposed contract terms and staff’s current recommendation. The staff presentation is attached.</p>	Discussion
3:00 pm	Adjourn	

APPROVED BY:



Penny Sweet, Chair



Angela Birney, Vice-Chair

Tacoma Water: A Proven Partner

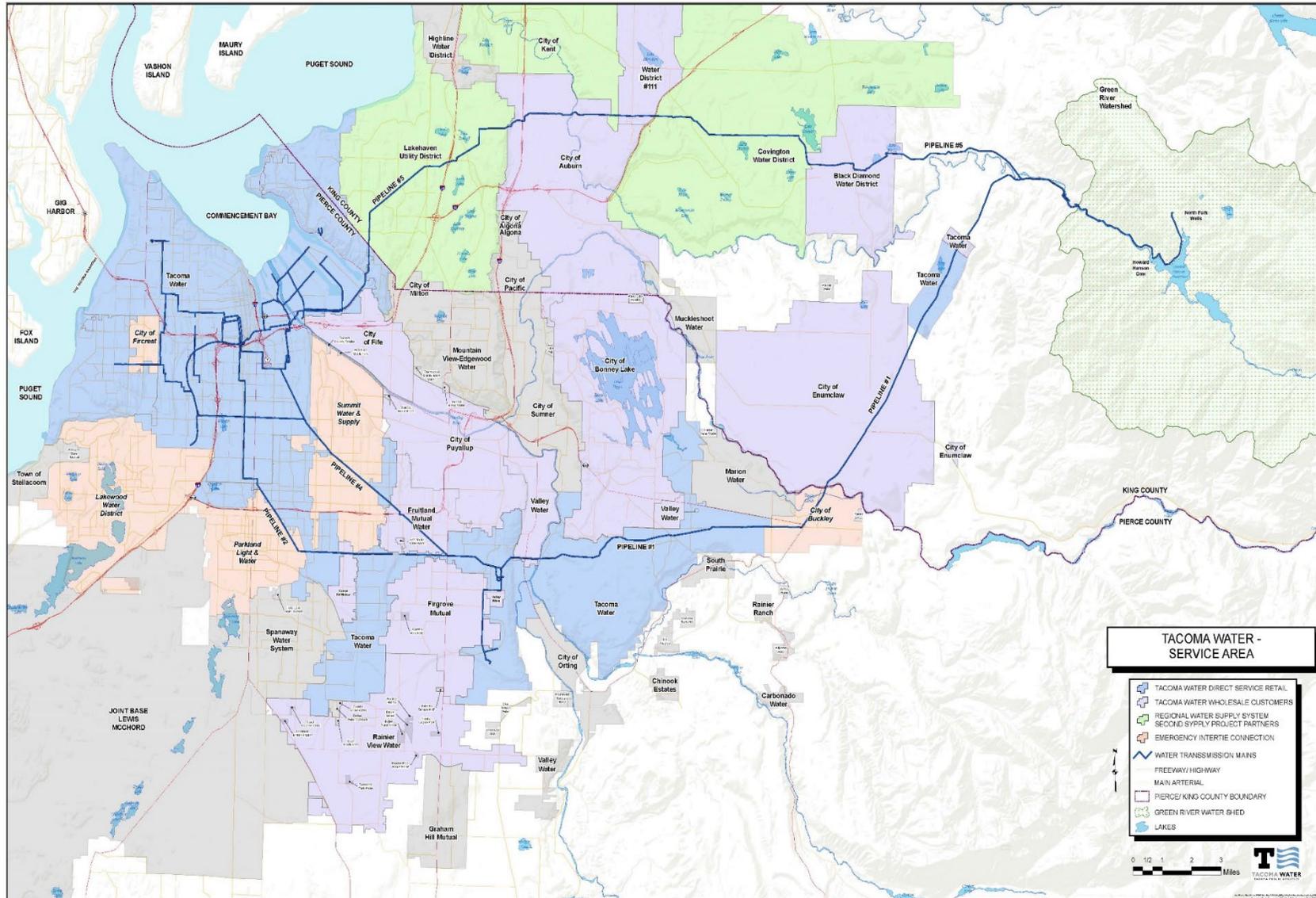
Cascade Water Alliance Board

January 4, 2024

Agenda

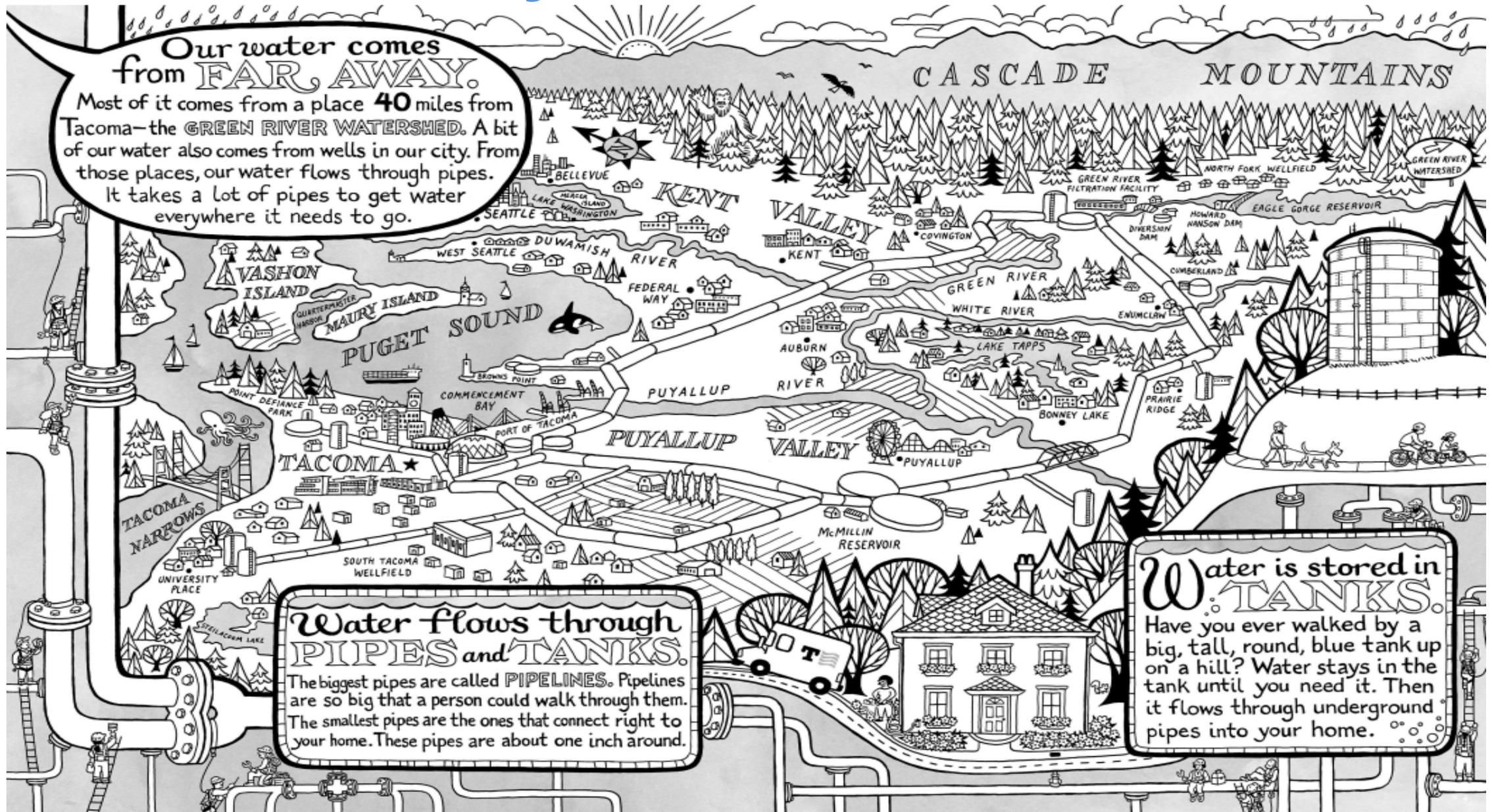
- Tacoma Water System Overview
- Tacoma Water Proposal
- Tacoma's Supply and Infrastructure
- Regional Water Supply System
- Risks and Mitigations

Tacoma Water System Overview



- **City purchased Tacoma Light & Water in 1893**
- **350,000+ people directly served by Tacoma Water**
- **221,000+ people are served in Partner service areas**
- **1400+ miles of water main**
- **Average daily use of ~35 million gallons per day (MGD) (~45 MGD with Partners included)**
- **Summer Peak demand of ~ 80-90 MGD (84 MGD with Partners included)**
- **95% Green River, 5% groundwater wells**

Tacoma Water System Overview



Our water comes from **FAR AWAY**. Most of it comes from a place **40 miles** from Tacoma—the **GREEN RIVER WATERSHED**. A bit of our water also comes from wells in our city. From those places, our water flows through pipes. It takes a lot of pipes to get water everywhere it needs to go.

Water flows through **PIPES** and **TANKS**. The biggest pipes are called **PIPELINES**. Pipelines are so big that a person could walk through them. The smallest pipes are the ones that connect right to your home. These pipes are about one inch around.

Water is stored in **TANKS**. Have you ever walked by a big, tall, round, blue tank up on a hill? Water stays in the tank until you need it. Then it flows through underground pipes into your home.

Tacoma Water Proposal

- Up to 20 MGD-Average and 30 MGD-Peak Through 2065
 - Possible increase in delivery if pipeline capacity becomes available
- Up to 10 MGD-Average and 15 MGD-Peak from 2066 to 2085
- Pricing based on Utility-Based rate methodology using 3rd party consultant
- Rate structure will reflect 25% of allocated costs (based on full utilization of contract capacity) recovered through fixed charges and 75% through volumetric charges
- For the period between when the contract is executed and water delivery to Cascade begins, Tacoma may initiate a Capacity Rental Charge (CRC) to Cascade
 - Methodology of the CRC will be determined at a future date and Tacoma Water is committed to reviewing and giving consideration to input from Cascade
- Term sheet provides additional details

Tacoma Water Resources

Green River

- Tacoma's primary water source
 - First and Second Diversion Water Rights
 - Regional Water Supply System (RWSS) Partnership
 - Additional Water Storage Project – Howard Hanson Dam
- Pristine water supply in Cascades
- North Fork well field available for blending
- Conventional treatment in rainy season; direct filtration in dry season
- Mostly gravity flow to customers



Groundwater

- 25 wells with 55 MGD of capacity
- Generally used seasonally but can provide up to 40-50% of summer demand if needed
- Provides drought resiliency; valuable diversity
- On-site hypochlorite generation



Green River Watershed



- Over 147,000 acres extending 25 miles upstream of intake
- Tacoma owns ~11% of area primarily along river and main tributaries
- Access controlled in proximity to filtration plan and intake; limited access in upper reaches of watershed
- Muckleshoot Settlement Agreement signed in 1995 – settles claims for water withdrawal and sets in-stream flow requirements for Green River
- Fish trap and haul facility to support fish passage located downstream of intake and diversion dam

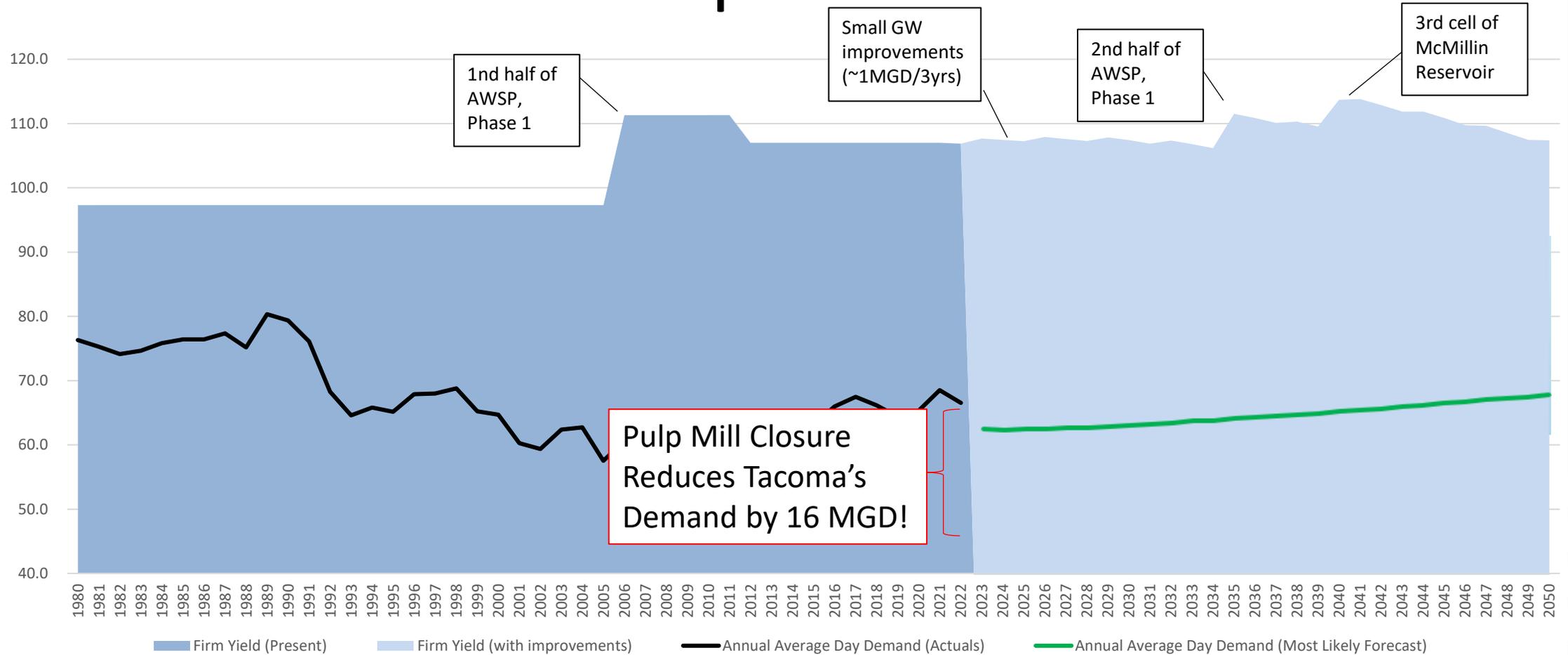
Green River Filtration Facility

- Completed May 1, 2015 - Construction Cost ~\$185 million
- Filtration at the source to meet surface water treatment regulatory requirements
- Winter capacity of 90 MGD (conventional treatment mode)
- Summer capacity of 150 MGD (direct filtration mode)
- Recipient of the Washington State Department of Health Bronze and Silver Awards for Treatment Performance (2015-2020)
- Zero liquid discharge facility
- Solids generated are landfilled



Green River Filtration Facility
April 5, 2015

Tacoma's Supply & Demand Status with Pulp mill demand



Regional Water Supply System (RWSS)

- Established in 2002
- Partnership created to share in delivery of Tacoma's 2nd diversion water right
- Partners are Tacoma, City of Kent, Lakehaven Water and Sewer District and Covington Water District.
- RWSS assets include Pipeline 5 & Additional Water Storage Project
- Shared assets include Green River Filtration Facility & Tacoma's watershed
- Tacoma is the project owner and lead communicator
- Governed by agreement
 - Administered by Project Committee
 - Staffed with representatives from each utility
 - Partner utilities have voting power

Risks & Mitigations

Risk

- Water Supply:
 - Climate change
 - Decrease in yield
 - Increase in demand

Mitigation

- Additional Water Storage Project (AWSP)
 - 20,000 acre-feet once complete, Shared with RWSS partners
- Forecast Informed Reservoir Operations (FIRO)
 - Allows flexibility when filling Howard Hanson Reservoir
- New/enhanced sources
 - Tacoma holds 65 individual ground water rights
 - Wells Master Plan
- 3rd Cell at McMillin Reservoir
- Integrated Resource Plan

Risks & Mitigations

Risk

- Tribal Concerns

Mitigation

- Water would be delivered while maintaining minimum in-stream flows
- Cascade agreement would be term-limited and have predictable delivery
- Tacoma has a good relationship with the MIT.
 - MIT is a key stakeholder in the AWSP
- Tacoma expects to meet with MIT in 1st quarter of 2024 to further discuss this project

PFAS Timeline at Tacoma Water

- In 2015 Tacoma Water sampled for 6 PFAS chemicals as part of the Third Unregulated Contaminant Monitoring Rule (UCMR3) – NO DETECTIONS, but
 - Samples were blends of multiple sources collected entering the system
 - Laboratory Minimum Reporting Levels (MRLs) higher than current
- In 2018 Tacoma Water proactively sampled all sources for 14 PFAS chemicals at lower lab reporting limits
 - Two South Tacoma wells with levels near EPA's 2016 Health Advisory Level (HAL) of 70 parts per trillion (ppt) were removed from service
 - All other detections were below new 2021 State Action Levels (SALs)
- In June/July 2023 Tacoma Water sampled individual sources for 29 PFAS chemicals

Tacoma Water PFAS Sampling - 2023

- Lab analyzed 28 samples for 29 different PFAS chemicals
- Green River and North Fork Wells (in watershed) continue to have no detections for the proposed regulated PFAS chemicals
- All wells, except those in Deep Aquifer, had detections for one or more PFAS chemicals
- Aside from wells taken out of service in 2018, all other representative well samples were below WA State Action Levels
- Several key wells had samples just above proposed EPA limits
- Preparing overall PFAS management strategy for our groundwater sources – expected by the end of 2024

Why Tacoma?

- Large Water Supply Surplus
- Green River supply
 - 2 large surface water rights
 - Green River Filtration Facility
 - Protected Watershed
- Large well portfolio
- 2 transmission mains
 - Pipeline 5 runs North of Lake Tapps
 - Pipeline 1 runs South of Lake Tapps
- Competitive Pricing
- Experience partnering with water utilities on large, regional infrastructure projects
- Pro-active communicator
- Pro-active PFAS/regulatory response
- Good working relationship with area tribes
- Contract flexibility
 - Cascade agreement will be a bespoke agreement specific to Cascade.
 - Start and end-dates are negotiable.
- Moody's rating Aa1(recently upgraded!)
- S&P rating AA+

Questions?

Seattle Public Utilities Contract Amendment Proposal with the Cascade Water Alliance

January 2024



Our Region's Water Supply Future

- We have a shared goal of future supply development and regional connections that assures adequate and resilient water supply for our region.
- Maximizing the use of Seattle water is the best first step.
- We do not believe now is the right time to expend resources on infrastructure to support inter-county regionalization, but we should consider options for future planning and investment.



Agenda

- **Review Seattle Public Utilities' (SPU) offer for a contract amendment**
- **Discuss basis for proposal**
- **Present top reasons for extending with Seattle**
- **Compare SPU's proposal to Tacoma's proposal**
- **Answer questions and respond to input from the Cascade Water Alliance Board (Cascade)**

Background

- Cascade signed a long-term contract with SPU in 2003
- Cascade requested extensions twice, in 2008 and 2013
 - Cascade and SPU came to mutual agreement on terms
 - These extensions benefitted Cascade, SPU, and other wholesale customers
- SPU sees maximum use of its future surplus supplies as the most efficient next step(s), following "The Path Along The Ridge"
- SPU would like to find a way to meet Cascade's third request for a contract extension



SPU's Proposal

10-year extension

- Extends declining block from 2039 to 2049.
- Water priced to match wholesale rate of other cities and districts; gradual ramp-up to minimize customer rate impact.
- Includes transition payment of \$14M.

5-year

- Extends declining block to 2054.
- Cascade can unilaterally exercise in 2034 if specified supply and demand conditions are met.
- Otherwise, Cascade can unilaterally extend with 25% premium pricing to account for potential cost risks.

5-year

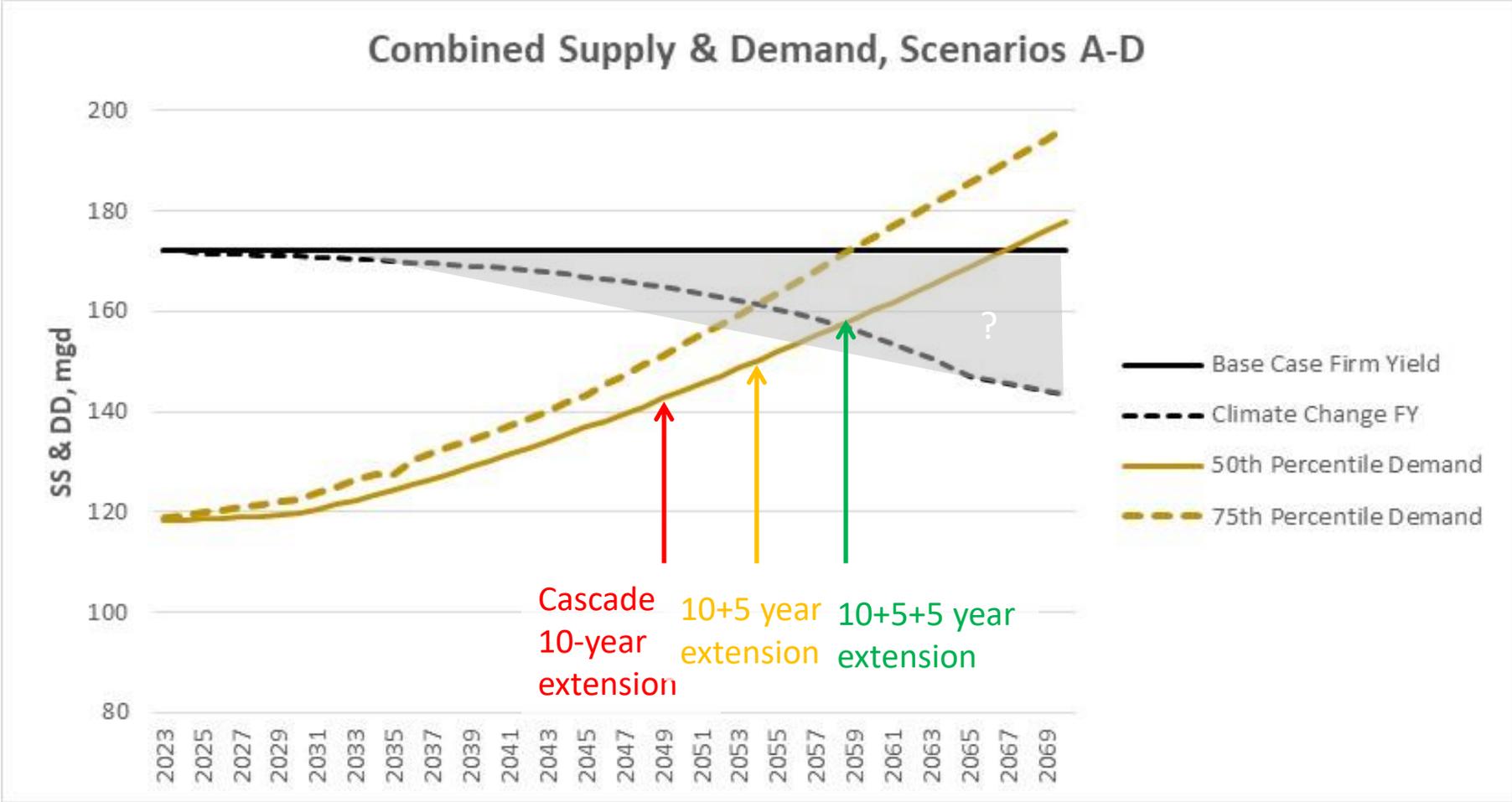
- Extends declining block to 2059.
- Cascade can unilaterally exercise in 2039 if specified supply and demand conditions are met.

Join SPU as Full and Partial purveyors

- Extends contract to 2099.
- Cascade members can rejoin as Full & Partial (F&P) contract holders in 2044 if specified supply and demand conditions are met.
- Includes water supply capital charge to help account for future water supply costs.
- Seattle bears future water supply needs for Cascade members.



Basis for Seattle Proposal



Reasonable and Predictable Pricing of Seattle Water

- **Water priced to match wholesale rate of other cities and districts**
 - Cascade members will see incrementally higher costs for SPU water
 - Gradual ramp in pricing to minimize customer impact
 - SPU is willing to discuss a more gradual ramp
- **Current extension includes \$14m in transition charges**
 - Future extensions will not include transition charges
 - No facility charges for 10-year or 5-year extensions, but facility charges will apply if Cascade members rejoin as F&P purveyors



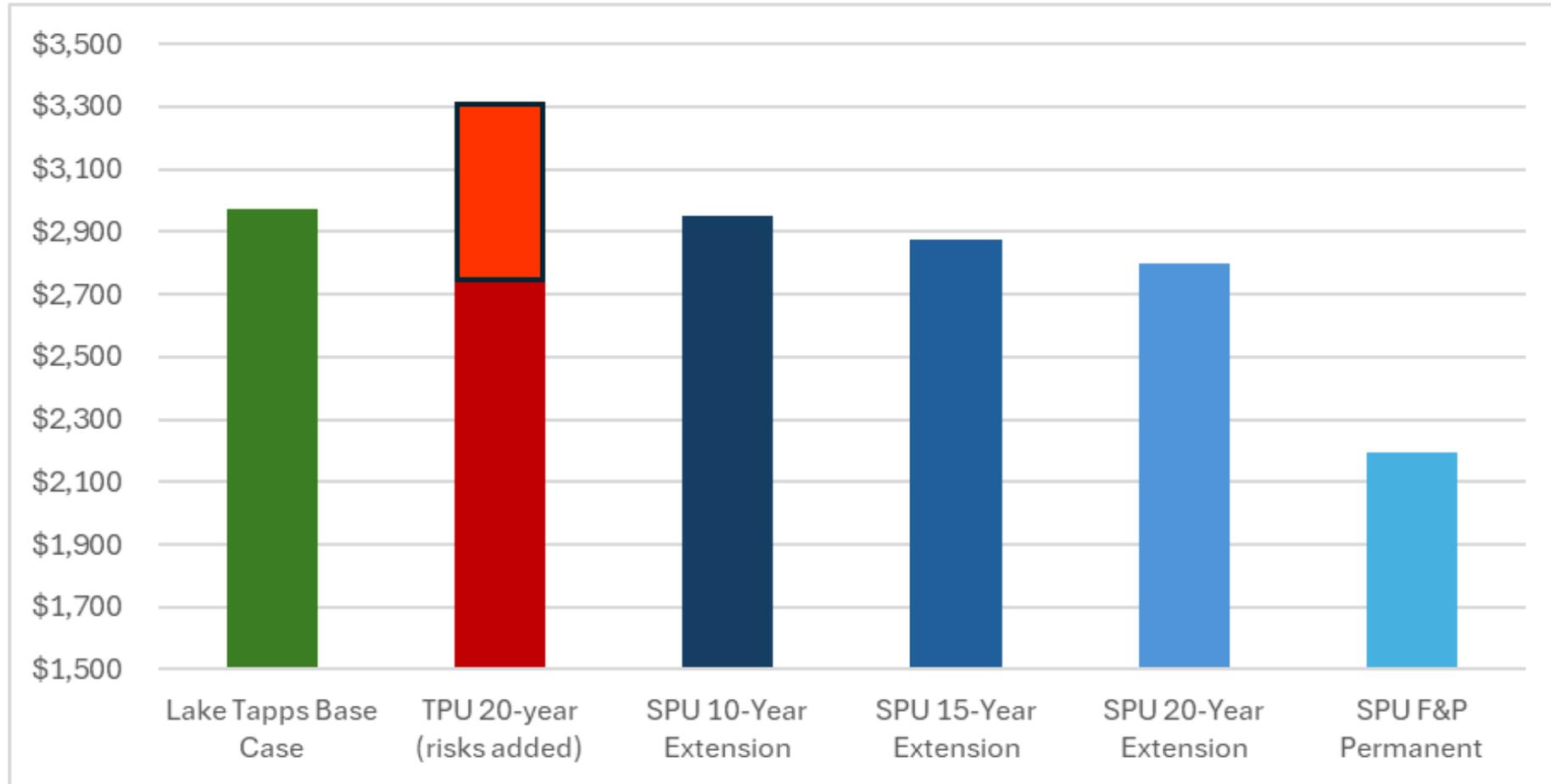
Top Reasons to Extend Contract with Seattle

1. Avoids potentially costly risks of Tacoma offer
2. Preserves and enables the lowest rate path outcome for rate-payers as long as possible
Seattle's offer is the only one that defers significant capital investment for at least the next 15-20 years
3. Meets Cascade's contract objectives
4. Maintains Cascade's access to and use of the high-quality Seattle water their customers expect

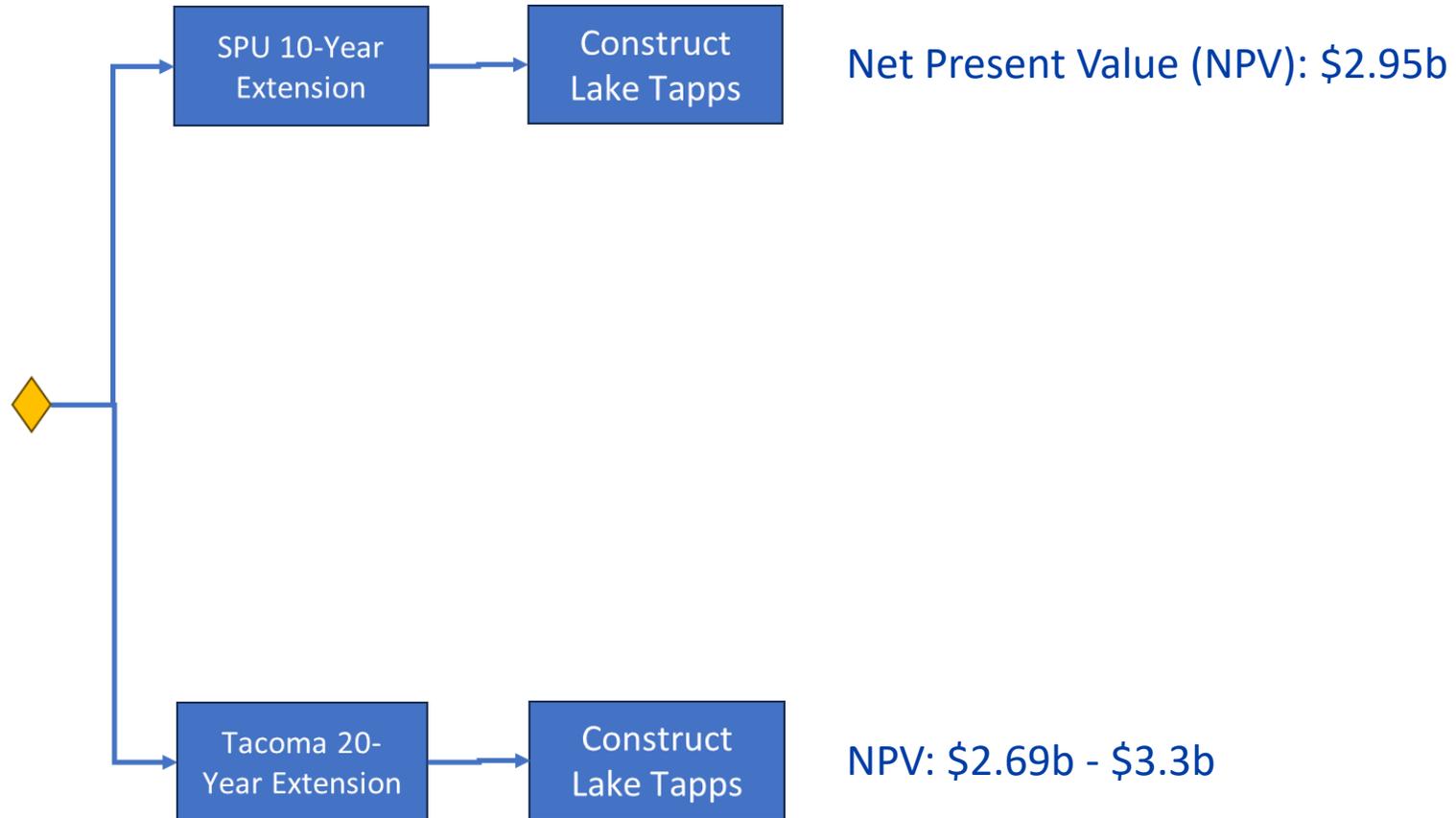
Potential Financial Risks of Tacoma Offer

Risk	Financial Impact (\$ NPV)
Cost increases (25-50%) on pipeline to Tacoma	~\$150m-\$300m
Tacoma water supply costs increase faster than 3% per year	~\$ 50m
New pump station required for peak summer flows	~\$ 50m
Lower Tacoma peaking factor requires additional water supply during summer months	NOT QUANTIFIED
Tacoma may not guarantee supply for full 20 years (advance Lake Tapps by 10 years)	\$325m
TOTAL:	\$575-\$725m

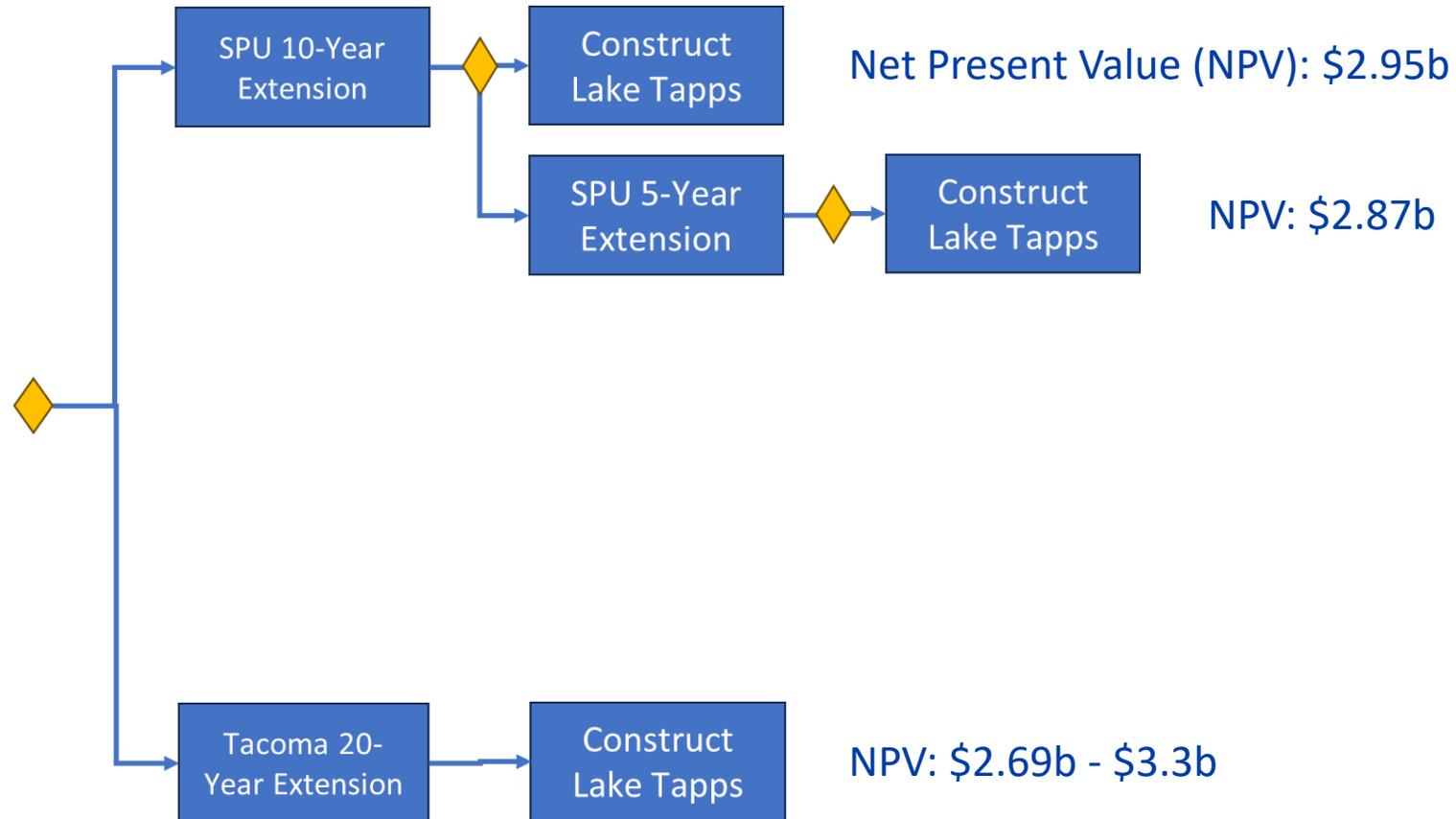
Tacoma Proposal (Risks incl) Cost vs. SPU Proposal



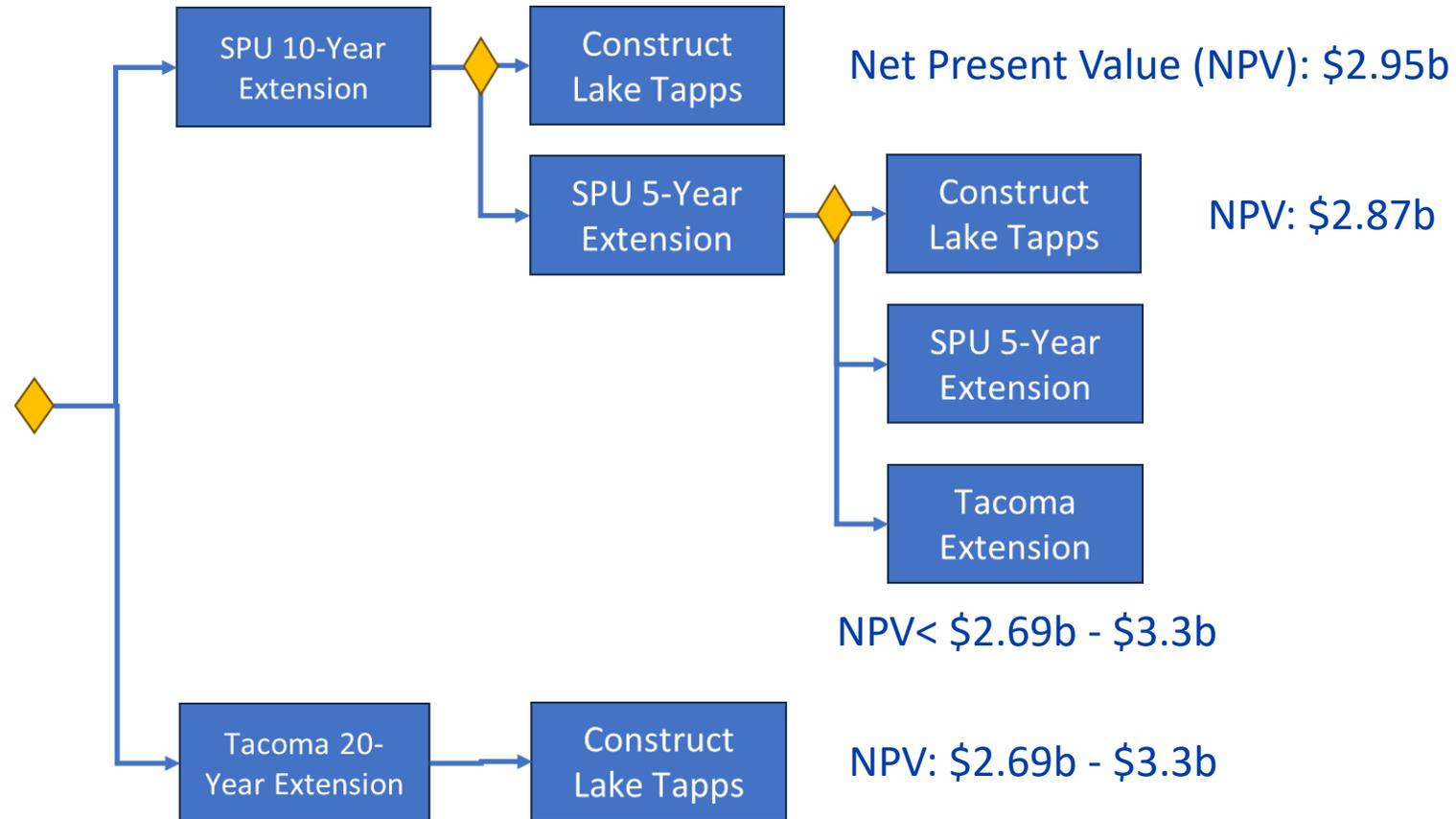
"Path Along The Ridge" Successive Cascade Choices



"Path Along The Ridge" Successive Cascade Choices

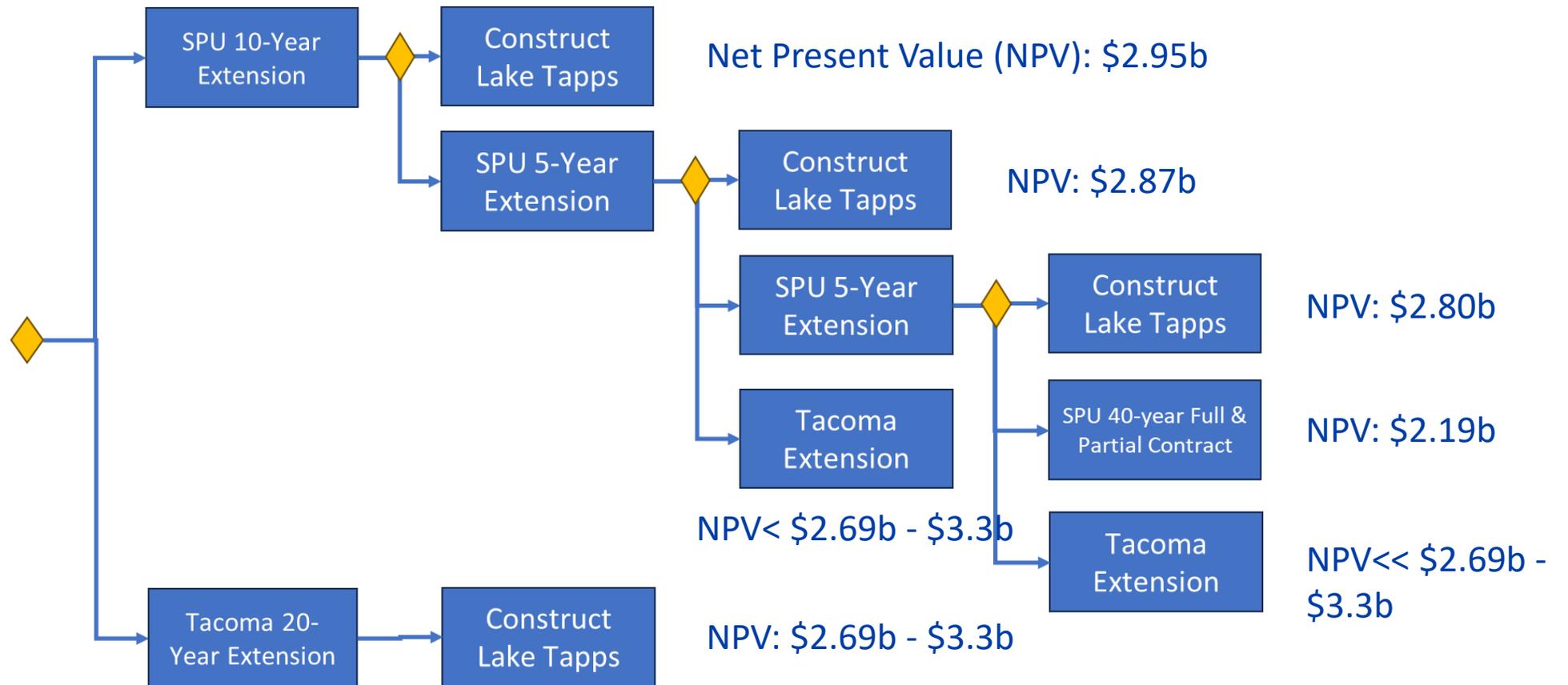


"Path Along The Ridge" Successive Cascade Choices

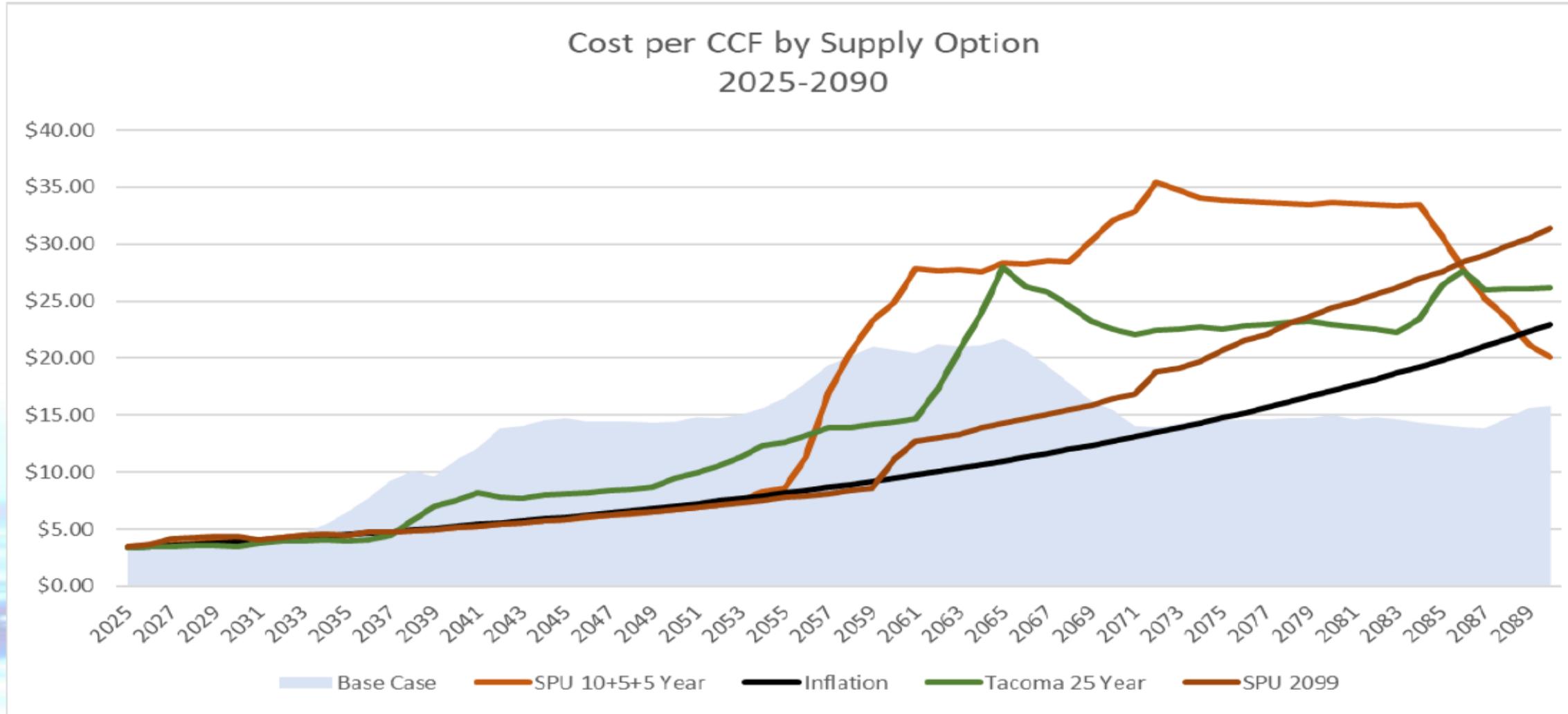


"Path Along The Ridge"

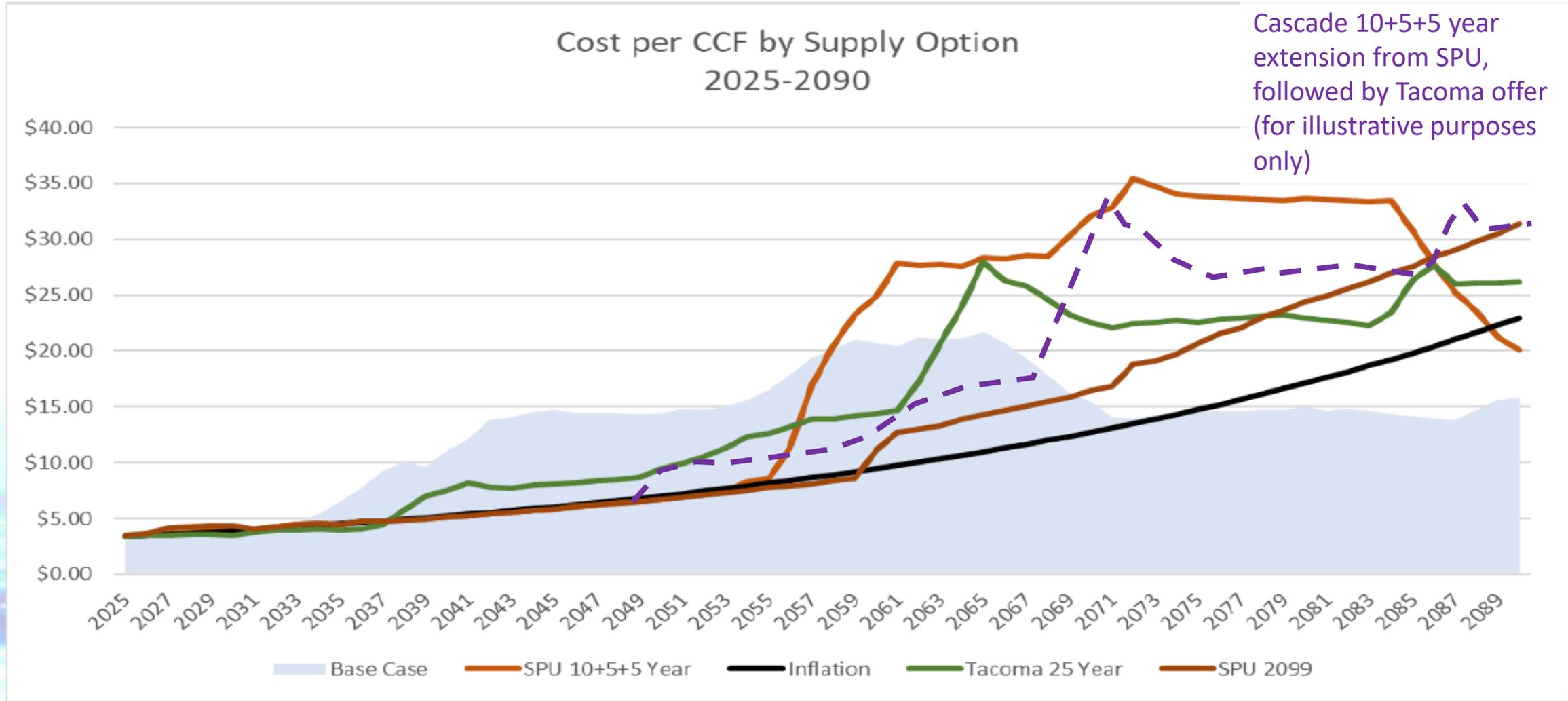
Successive Cascade Choices



Cascade Rate Trends: SPU & TPU Compared



Cascade Rate Trends: SPU & TPU Compared



SPU Meets CWA's Contract Objectives

Cascade Contract Objective	SPU Contract Extension Offer	Tacoma Contract Offer
20 Year (or longer) extension of contract supply	Guaranteed 15-year extension; likely 20-year extension. Potential for 60-year extension through 2099.	Tacoma may include terms that allow them to unilaterally shorten their 20-year term with 10 years' notice.
Extension sufficient to defer Lake Tapps development	<ul style="list-style-type: none"> Guaranteed Lake Tapps deferral of 17 years; possibility of deferring Lake Tapps investment 22 years or indefinitely. Proposal allows for ample notice to Cascade to develop Lake Tapps if desired. 	Guarantees only 10-year deferral.
Reasonable and predictable costs	<ul style="list-style-type: none"> Lowest rate path option for the next 20 years. 20-year history of rate increases averaging 3% per year. SPU willing to discuss a more gradual ramp/timeline to match F&P rates between now and 2039. Cascade would not be required to pay transition costs after the first 10-year extension and would not pay Facility Charges under the extensions. 	<ul style="list-style-type: none"> Steep ramp-up of rates from 2037 to 2055 Rate may increase more than the 3% assumed by Cascade Rate may increase even more due to the need for pumping or potential increased costs of a pipeline



SPU Meets CWA's Contract Objectives

Cascade Contract Objective	SPU Contract Extension Offer	Tacoma Contract Offer
Possible further extensions if mutually beneficial given supply and demand status	Seattle proposal defines objective, trackable and measurable criteria which, if met, would give Cascade the unilateral right to elect additional future extensions.	Tacoma open to extensions if supplies are adequate but does not provide specific criteria or parameters.
Possible partnership opportunities for assets of regional significance	Seattle shares a vision of a resilient water supply for our region, focused on reliance on the best options first. SPU is open to discussing opportunities for the future that do not shift financial obligations but meet water supply needs.	Would allow for a connection through new Cascade pipeline.

SPU Meets CWA's Contract Objectives

Cascade Contract Objective	SPU Contract Extension Offer	Tacoma Contract Offer
<p>Net economic and/or rate benefit versus current Lake Tapps development plans</p>	<ul style="list-style-type: none"> • Each step in the Seattle offer would result in net economic benefits to Cascade, with benefits increasing for each extension. Conversion to Seattle F&P customers would result in the largest economic benefit. • Seattle believes Cascade's financial models make pessimistic assumptions about Seattle rate escalation (3.84%/yr) and optimistic assumptions about Tacoma rate escalation (3.0%/yr). This difference alone suggests assumed increases in Seattle rates 22% above the increases in Tacoma rates over a 25-year period. 	<p>Tacoma rates may increase more than the 3% assumed by Cascade</p> <p>Tacoma offer carries significant financial risks (\$575-\$725m)</p>
<p>Flexibility in contract term and/or quantity to allow for future variation in supply and demand</p>	<p>The <u>key rationale</u> underlying the Seattle offer is to provide flexibility beyond the initial 10-year extension. This allows the parties to track the now-uncertain changes in supply and demand over time, and tailor Seattle supplies to provide Cascade as much water as prudently possible as circumstances evolve.</p>	<p>Tacoma's offer includes uncertainty by allowing Tacoma to shorten the term with 10 years' notice.</p>

Ongoing Access to Seattle's High-Quality Water

- Cascade members currently enjoy the benefits of highest-quality water from Seattle
 - Higher degree of watershed protection (100% ownership and control of the Cedar and significant ownership and control in the South Fork Tolt closed watersheds)
 - Water sources managed for water supply and water quality as the first priority
- Commitment to provide needed water, including during peak periods
- Infrastructure is already in place to provide access to Seattle water



**Happy to answer questions
or discuss aspects of our proposal.
Thank you.**



Brief Recap on Water Contract Supply Options

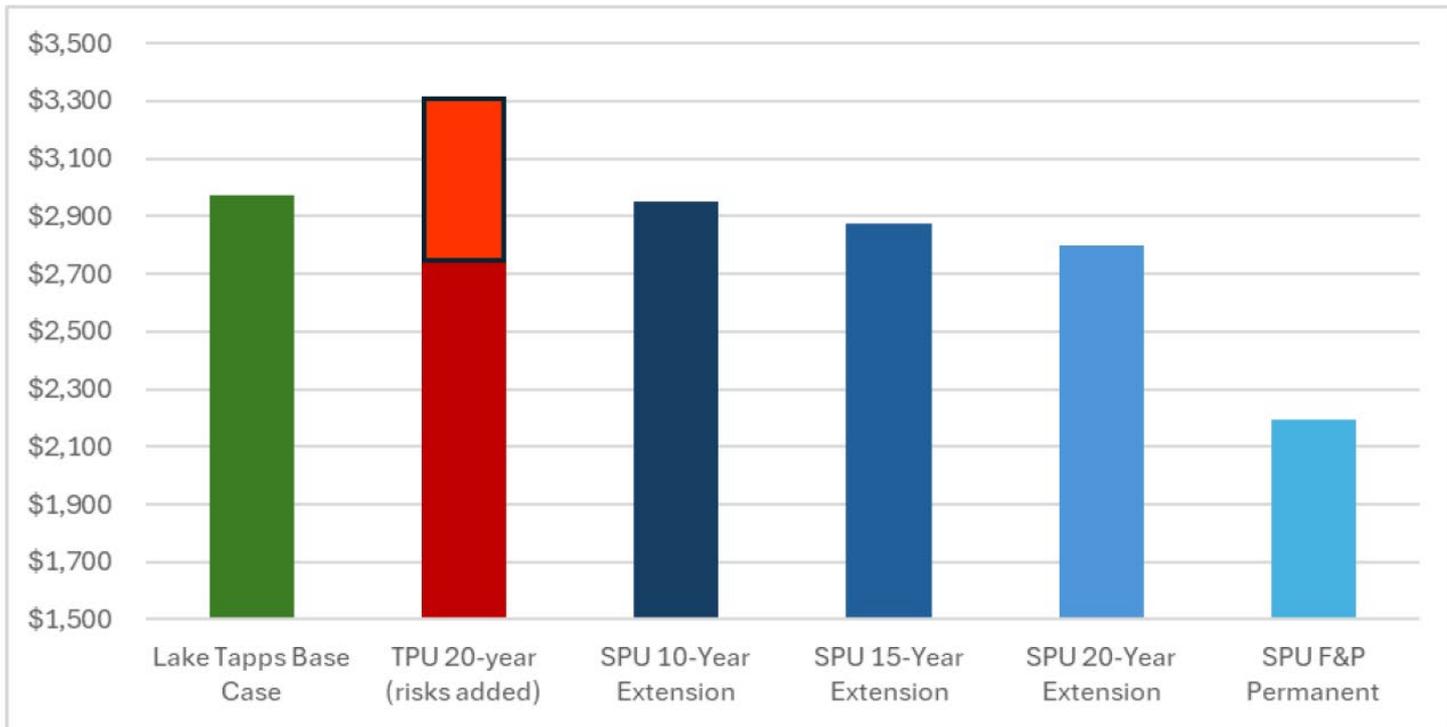
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Potential Financial Risks of Tacoma Offer

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New pump station required for peak summer flows	~\$ 50m
Lower Tacoma peaking factor requires additional water supply during summer months	NOT QUANTIFIED
Tacoma may not guarantee supply for full 20 years (advance Lake Tapps by 10 years)	\$325m
TOTAL:	\$575-\$725m



Tacoma Proposal (Risks incl) Cost vs. SPU Proposal



Response to Seattle Assessment of Risk

1) Construction cost risk is very high

- a) All construction cost estimates have already been increased to include substantial contingencies
- b) All scenarios including Seattle's increase materially if higher costs are assumed
- c) Even the conversion leaves the potential risk for new supply in 2099: \$500m NPV
- d) We separately examined construction cost risk; no material shifting between contract options

2) Wholesale cost assumptions are inconsistent

- a) Not True: All wholesale rates are escalated at 3.0% per year in current comparisons
- b) Higher SPU rate (3.84%) might be more realistic given their avoidance or deferral of significant capital costs
- c) Both options have a moderating effect on rate trends caused by Cascade payments

3) Pump Station adds cost

- a) Tacoma supply can be met by gravity
- b) Even so, all scenarios include a pump station at point needed

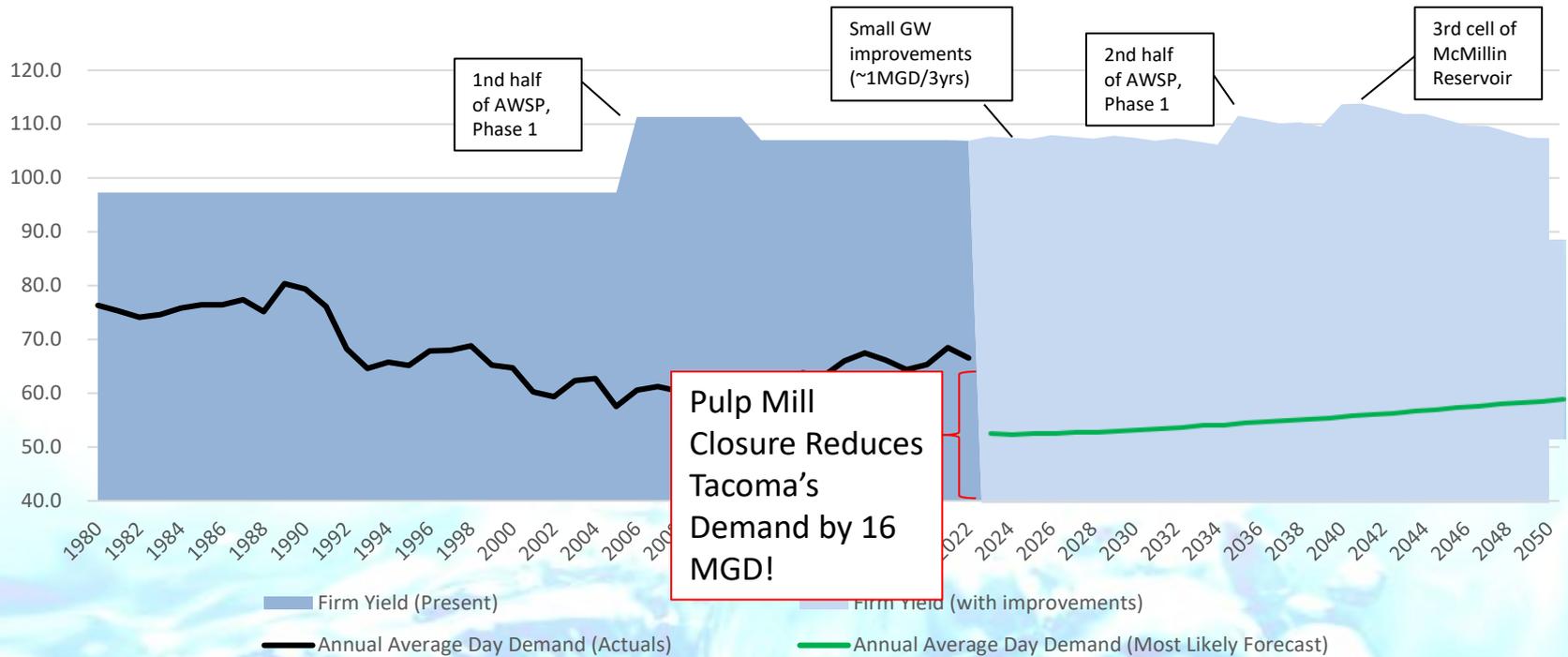
4) Peak Factor for Tacoma contract is inadequate

- a) The negotiating target was 30 mgd capacity to meet 2060 demands; the annual average was actually increased to provide Cascade greater flexibility
- b) That said, by 2060 the 30 mgd becomes inadequate without supplemental commitments or sources (as previously noted).

5) Tacoma supply commitment is at risk

- a) There is an absolute 25 year offer; we had suggested it for flexibility for both agencies

Tacoma's Supply & Demand Status with Pulp mill demand



Preliminary Staff Recommendations

We recommend that the Board direct staff to:

1) Develop a supply contract with Tacoma

- a) 20 year assured term and capacity beginning 2041 (through 2060)
- b) Options for 5- or 10-year extensions if added capacity can be secured
- c) Extended term through 2085 at reduced (50%) capacity
- d) Defined and reliable terms for payment and performance

2) Conduct engineering planning, financial and rate planning studies of transmission and supply options

- a) Single vs. multiple pipelines
- b) Single vs. multiple corridors
- c) Phasing of treatment development
- d) Storage and pumping elements

3) Develop an organizational plan for expansion of Cascade activities

- a) Establish staffing levels, positions needed and timing of additions
- b) Estimate funding needed and cost/rate impacts

4) Initiate activities for Right-of-Way and franchise acquisition for Central and North segments

5) Work with Tacoma and Seattle to optimize value of regional interconnection and explore cooperative approaches to regional supply delivery

6) Integrate this strategy and these activities into the upcoming biennial budget

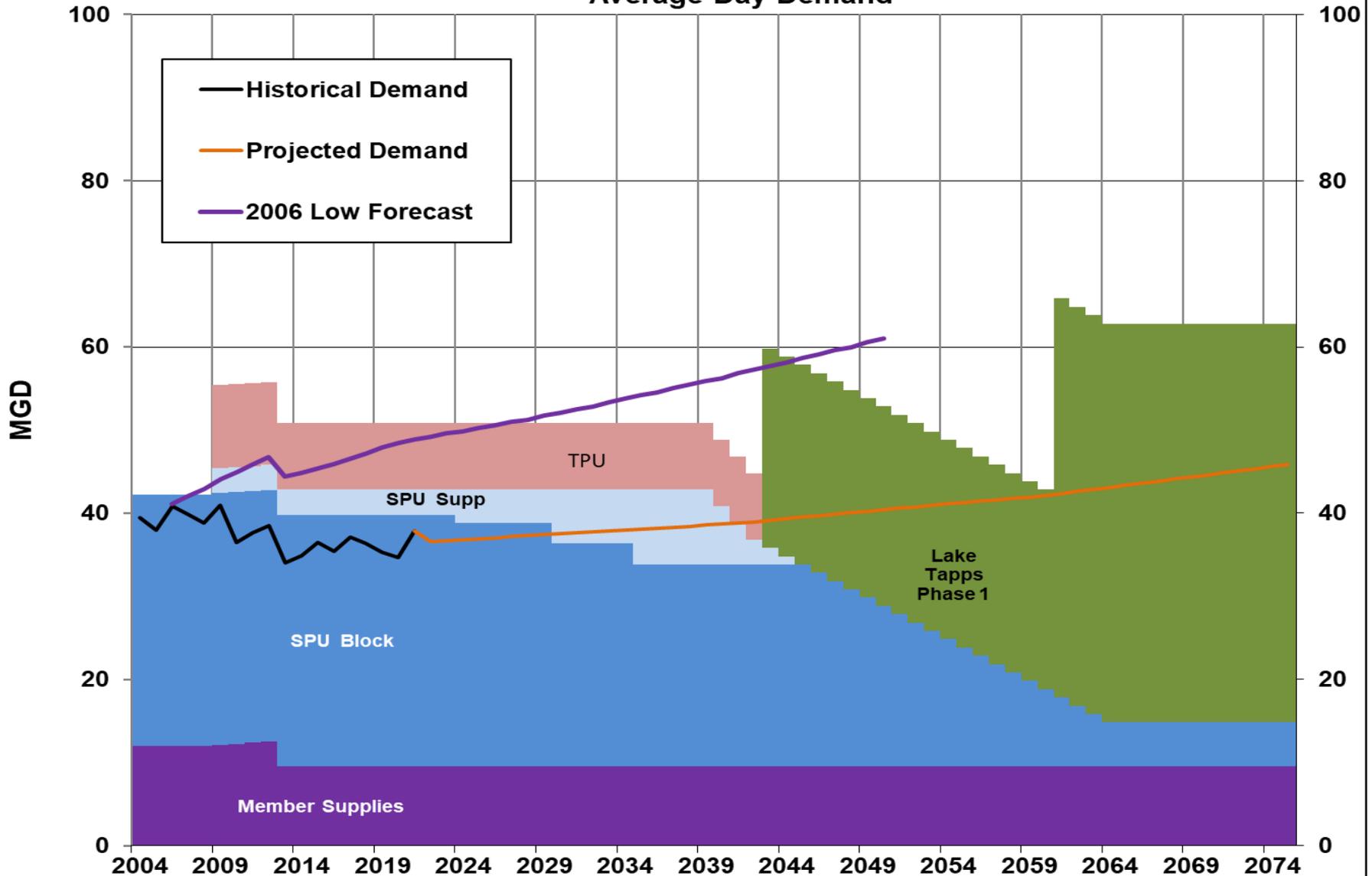
- a) Adapt the financial plan for the Tacoma supply scenario
 - i. Adjust the long-term CIP and RCFC to reflect this scenario
 - ii. Adjust rate and WSDF planning to reflect this scenario
- b) Incorporate study costs and initial staffing additions into the upcoming biennial budget



Cascade Supply & Demand Forecast

Base Scenario: Lake Tapps 2042

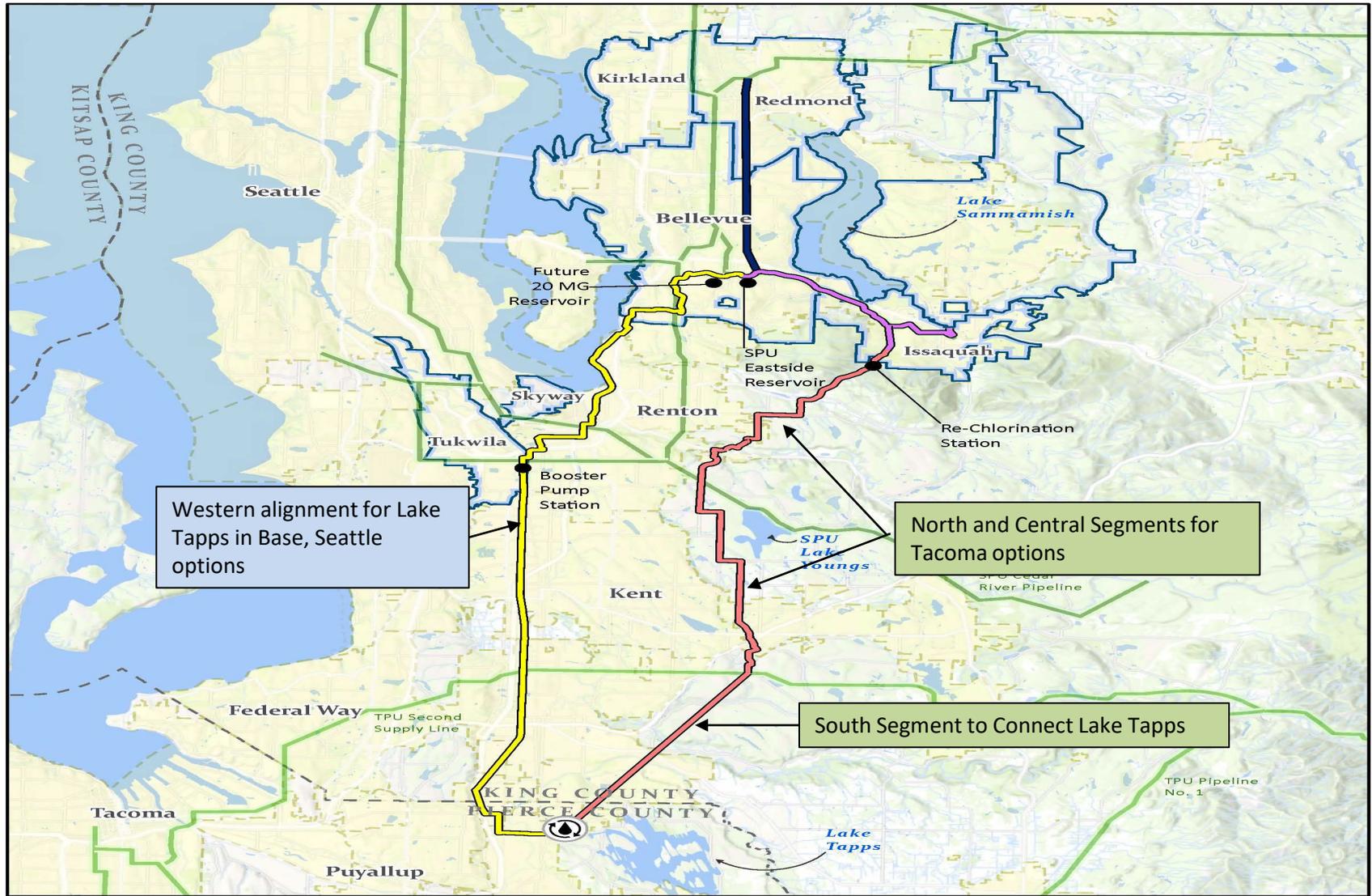
Average Day Demand



Base Scenario

- **Current contract terms with Seattle:**
 - 33.3 MGD average block and 63 MGD peak
 - Block declines from 2039 through 2063
 - Starting 2064, can purchase up to 5.3 MGD
- **Base scenario requires developing Lake Tapps Reservoir by 2042, in two phases:**
 - Phase 1: By 2042, treatment and transmission in place
 - Phase 2: By 2062, treatment expansion completed
- **Water Supply Development Fund (WSDF):**
 - Board approved in November 2021
 - Accumulates cash for 20% minimum equity requirement and to mitigate rate increases

Potential Supply System



Western alignment for Lake Tapps in Base, Seattle options

North and Central Segments for Tacoma options

South Segment to Connect Lake Tapps

Date: 4/19/2023
 Sources:
 PCS: NAD 1983 2011 StatePlane Washington North FIPS 4601
 FT US
 Disclaimer: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes.

- Cascade Service Area
- Water Treatment Plant
- West Alignment 48" Pipeline
- East Alignment 48" Pipeline

- Bellevue - Issaquah Pipeline
- Bellevue - Kirkland - Redmond Pipeline
- Seattle Public Utilities Existing Pipeline
- Tacoma Public Utilities Existing Pipeline



Dual Lake Tapps Cascade Pipeline



Summary of 12/11/23 Proposals

	Seattle 10 Year plus 2 5-Year Extensions	Seattle 10 plus 10 plus 40 years	Tacoma 20 Year plus 5 year Extension
Term	<p>Declining block through 2073</p> <p>Requires 2 extensions</p> <p>Conditional extensions not assured</p>	<p>Block through 2059</p> <p>Requires 3 extensions</p> <p>Conditional extensions not assured</p>	<p>Requires added capacity for 5 or more years (multiple options, assumed at TPU pricing)</p> <p>Extension not assured but multiple options available; likelihood high</p>
Capacity	33.3 MGD Average	33.3 MGD Average, 63 MGD Peak through 2059	20 MGD Average/30 MGD Peak through 2065
	63 MGD Peak	No limit after 2059	
	Annual decline of 1 mgd 2059-2061, then ~2.1 mgd through 2072		2065-85 10/15 MGD
Rate / Financial Features	Rapid transition to higher cost wholesale rates	Rapid transition to higher cost wholesale rates	Cost-Based rate defined; roughly 20% below Seattle
	Added transition payments of \$5 million in 2026, 2028, 2030 and 2033	Transition payments remain Assumed 30% rate premium after 2059 (new supply charge)	Rate structure includes ready to serve and volume charge (25%/75%)



1/2/2024 Updates for Seattle

	Seattle 10 Year plus 2 5-Year Extensions	Seattle 10 plus 10 plus 40 years	1/2/2024 Seattle Updates
Term	<p>Declining block through 2073</p> <p>Requires 2 extensions</p> <p>Conditional extensions not assured</p>	<p>Block through 2059</p> <p>Requires 3 extensions</p> <p>Conditional extensions not assured</p>	<p><u>5-year extensions conditions:</u></p> <ul style="list-style-type: none"> The difference between SPU system firm yield and projected combined SPU-Cascade average annual demand in 2054 (or 2059) must be no less than 15 mgd. First extension exercised in 2034 and second in 2039. For only the first 5-year extension, if the supply and demand conditions are NOT met in 2034, Cascade may extend the contract but at a 25% rate premium. <p><u>40-year conversion conditions to be met by 2044:</u></p> <ul style="list-style-type: none"> First two 5-year extensions exercised; Difference between SPU system firm yield and projected combined SPU-Cascade average annual demand in 2064 is no less than 7 mgd and SPU has secured new supplies through intertie access of at least 15 mgd. <p>Members pay 25% rate premium</p>
Capacity	33.3 MGD Average	33.3 MGD Average	
	63 MGD Peak	63 MGD Peak through 2059	
Rate / Financial Features	Annual decline of 1 mgd 2059-2061, then ~2.1 mgd through 2072	No limit after 2059	
	Rapid transition to higher cost wholesale rates	Rapid transition to higher cost wholesale rates	
	Added transition payments of \$5 million in 2026, 2028, 2030 and 2033	Transition payments remain Assumed 30% rate premium after 2059 (new supply charge)	

Key Unknowns

Seattle:

1. Whether threshold criteria for 5-year extensions and 40-year conversion would be met
2. If additional lump sum transition payments would be due
3. If (or when) facilities charge payments would become applicable

Tacoma:

1. Where added capacity after 2060 would be found
 - a) *Best Case: Available from Tacoma and/or its partners*
 - b) *Worst case: back to the 20-year contract schedule for Lake Tapps development*
2. Terms for capacity reservation payment
3. Potential benefits from regional interconnection (including financial)

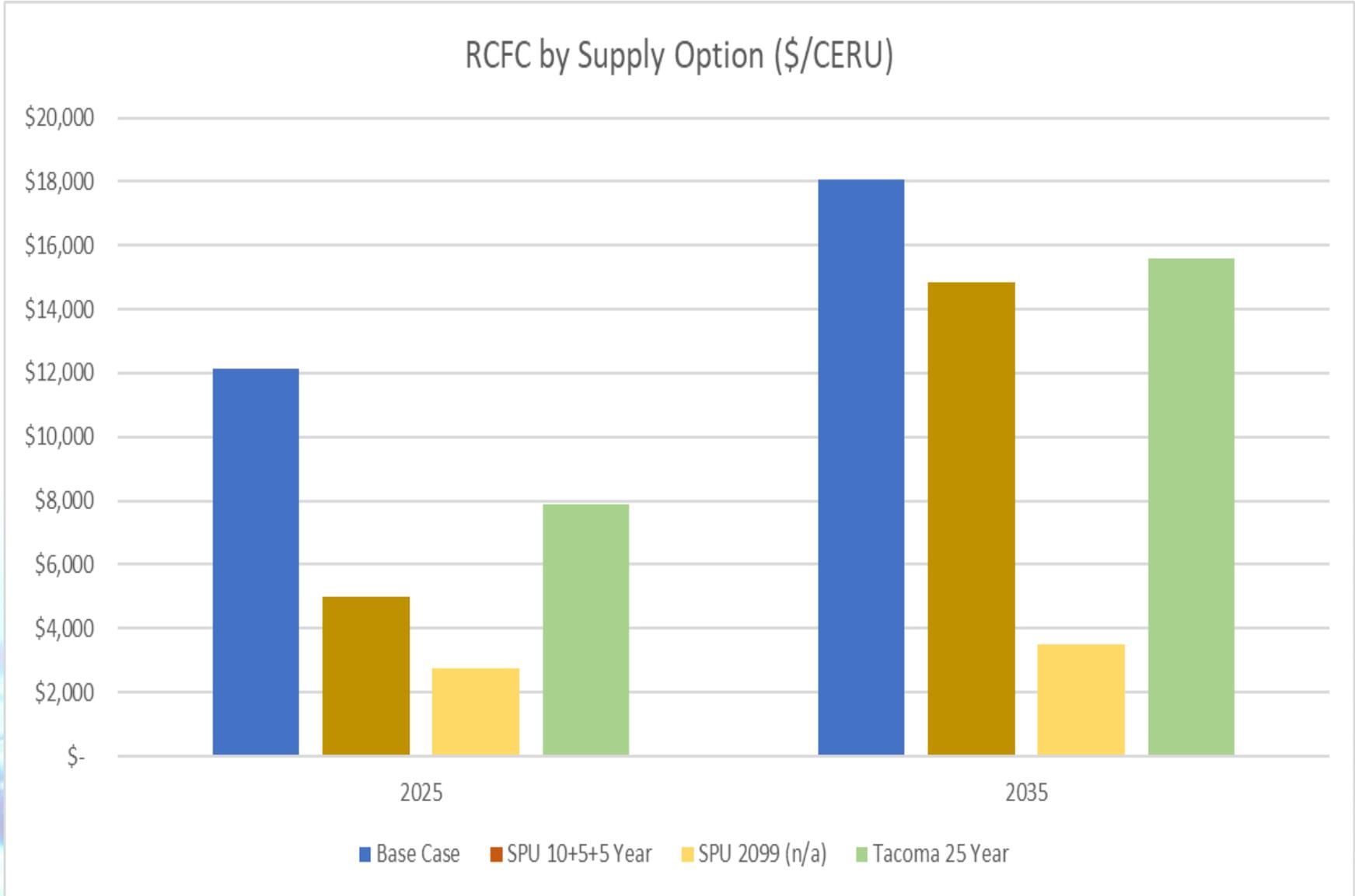
Both Seattle and Tacoma Systems:

1. How future capital projects/costs may impact wholesale rates
2. Potential impacts on supply yields due to climate change
3. Possible impacts of deferral on Lake Tapps supply development

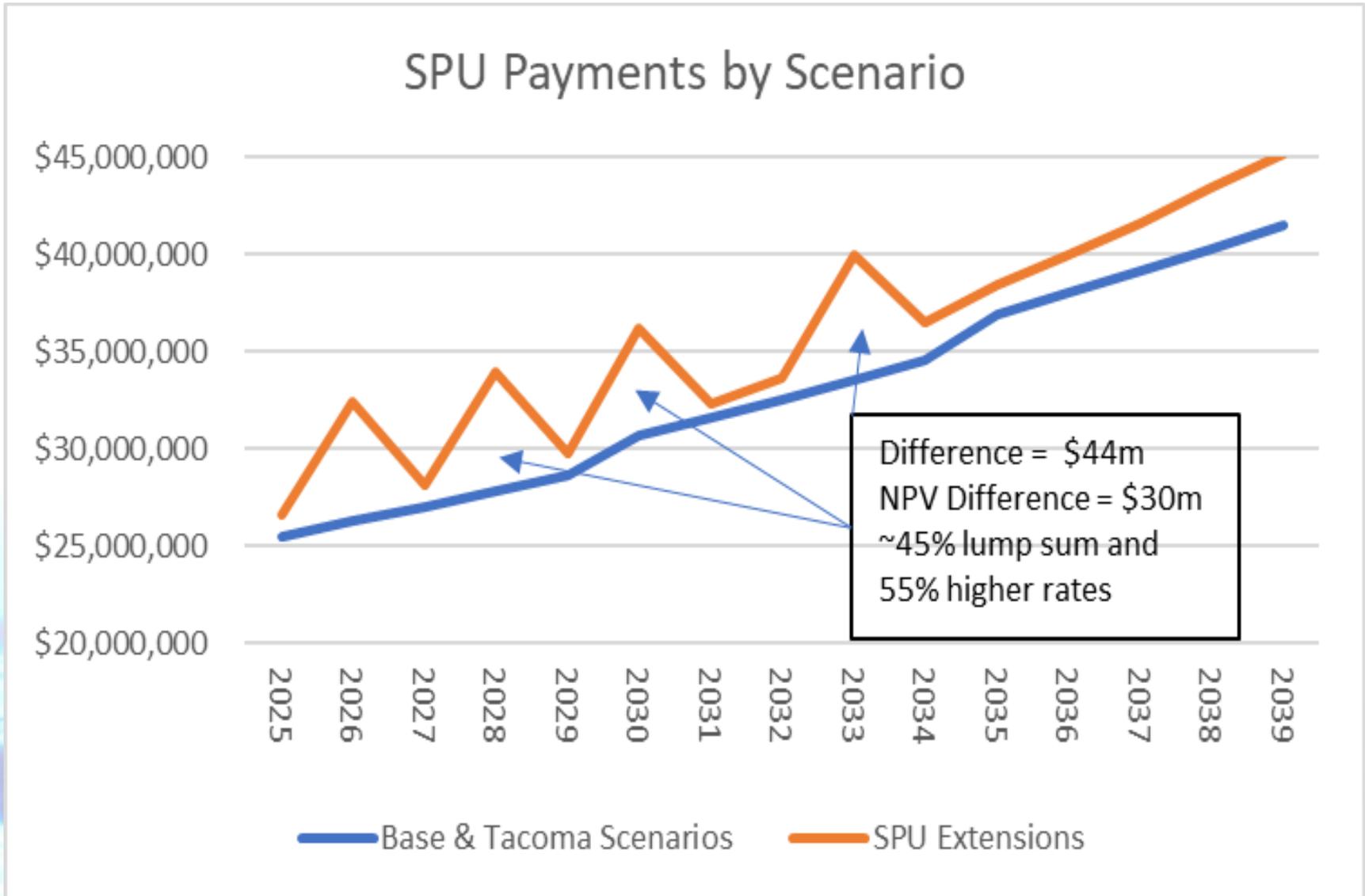
Summary of Financial Results

Economic Criterion	Seattle 10+5+5	Seattle 2099	Tacoma 25 Year
Total Cost (NPV 2023-2100)	\$132M savings vs. Base	\$907M savings vs. Base	\$299M savings vs. Base
Unit Cost (Levelized \$/CCF 2023-2100)	\$8.37 per CCF	\$6.82 per CCF	\$7.90 per CCF
Rate Profile	Major rate spike in 2050s during LT construction	No major rate spikes but steady upward trend	Moderate rate increases spread out over more time
Financial Performance	78% debt Ph 1 77% total project Significant rate spike in 2050s	N/A; no major CIP No major rate spikes	77% debt Ph 1 64% total project Small rate spike in 2030s & moderate in 2050s
Stability of Results	In general, sensitivity analyses do not alter relative findings for either Seattle or Tacoma.		
Other	Increased Seattle payments of \$320M (NPV) Higher SPU payments reduces use of WSDF and increases rates	Increased Seattle payments of \$731M (NPV) Avoids roughly \$2B in CIP (unless LT is needed in 2099)	Tacoma payments of \$184M (NPV) CIP spread out over longer period, reduced rate spikes and greater benefit from WSDF

Projected RCFC

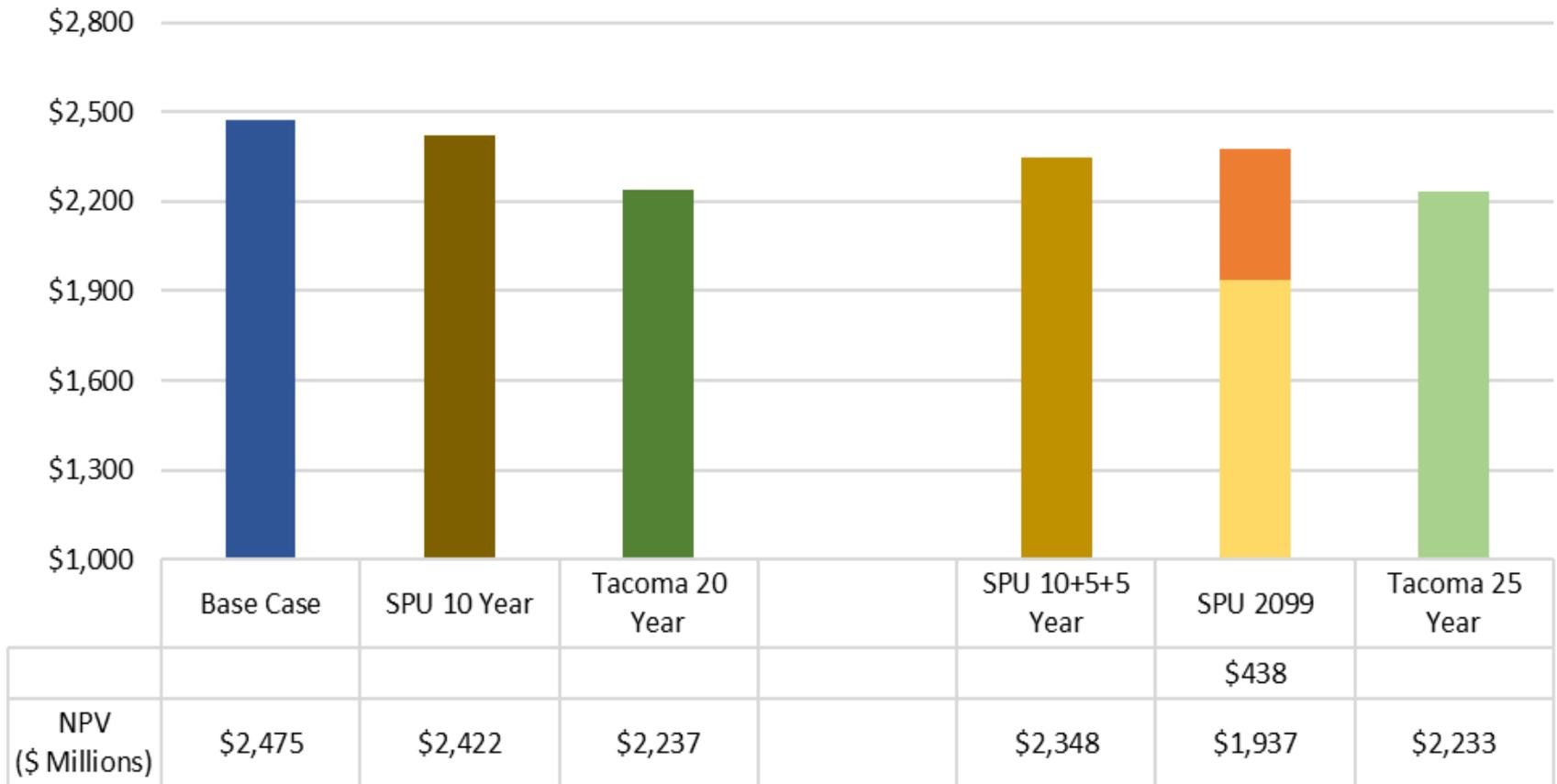


Cascade Payments to Seattle 2025-2039

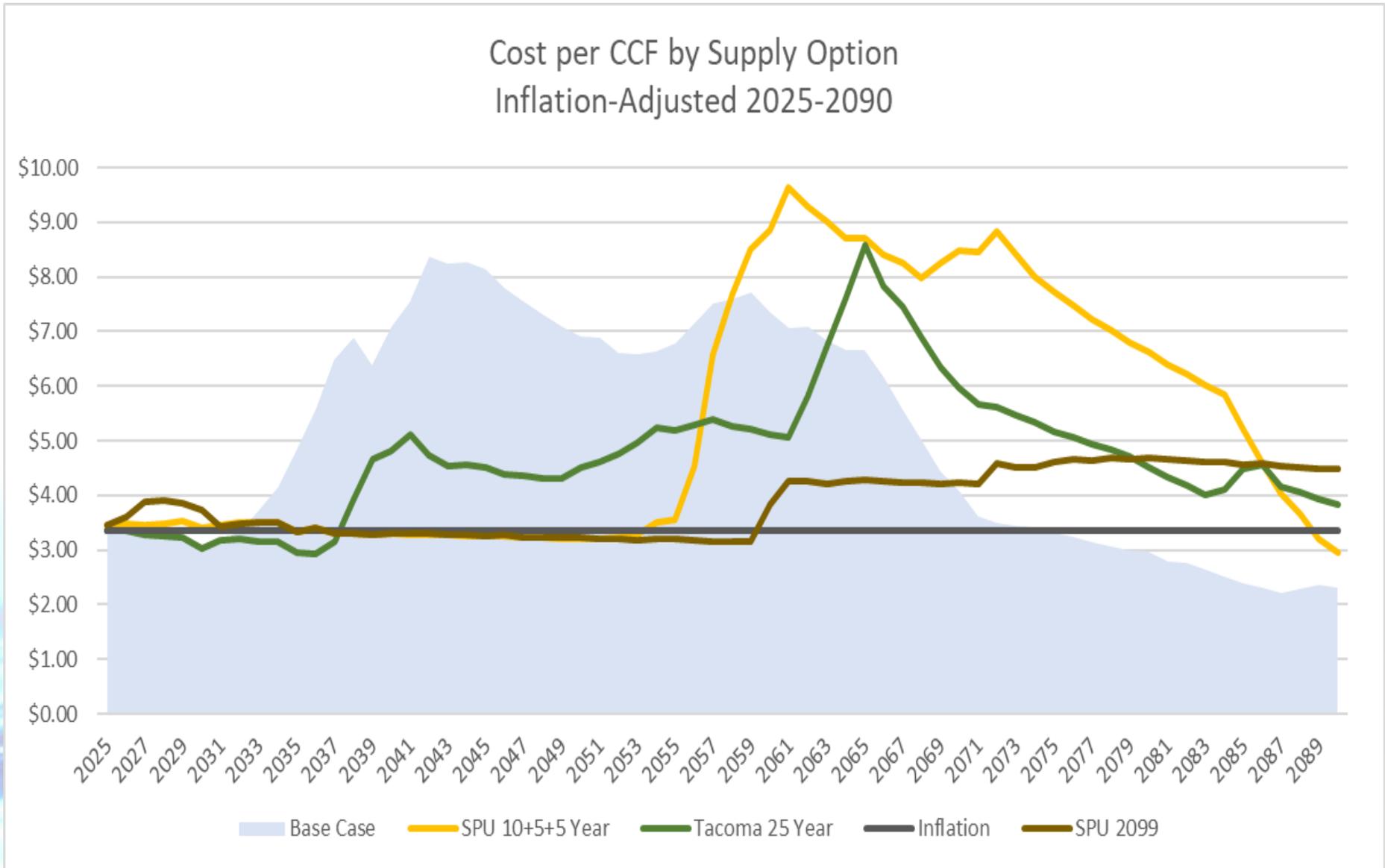


Net Present Value of Supply Scenarios

Comparison of Net Present Value by Supply Option
 Member Charges ***excluding RCFCs***
 2023-2100 (\$ millions)



Cascade Rate Trends: SPU & TPU Compared



Findings Regarding New Proposals

A. Seattle extensions can provide significant savings

- Dependent on elimination of Lake Tapps supply development
- Savings are entirely at risk due to conditional thresholds for extensions
 - Subject to conservative standard for supply availability and Seattle performance
 - Disrupts financial planning and RCFC basis
- Conversion to wholesale contracts
 - Only available to individual members
 - Revises Cascade vision and purpose
 - Contingent on securing intertie access by 2044 for 15 mgd
 - Added layers of new supply costs
- If not extended, concentrates Lake Tapps development due to limited lead time on extension availability
 - Inhibits WSDF and other financial tools
 - Adequate access to debt markets is unlikely
 - Adds \$500m to NPV results for scenario

Findings Regarding New Proposals

B. Tacoma extension can provide added savings and benefits

- Requires increased contract supplies to get past 2060
 - Not available from Tacoma via Second Supply pipeline
 - Numerous options for augmenting supply for limited term
- Extension of reduced capacity allows further deferral of Lake Tapps expansion
 - Moderate rate trends spread out over more time
- Regionalization and improved resiliency & reliability
- Greater flexibility of supply and transmission options now and in the future
 - Can consider 2 pipeline options with improved rate outcomes and system reliability
 - With transmission in place, multiple options for future supplies
- Best financial performance of options examined
 - When considering reliability of outcomes as well as financial results

Preliminary Staff Recommendations

We recommend that the Board direct staff to:

1) Develop a supply contract with Tacoma

- a) 20 year assured term and capacity beginning 2041 (through 2060)
- b) Options for 5- or 10-year extensions if added capacity can be secured
- c) Extended term through 2085 at reduced (50%) capacity
- d) Defined and reliable terms for payment and performance

2) Conduct engineering planning, financial and rate planning studies of transmission and supply options

- a) Single vs. multiple pipelines
- b) Single vs. multiple corridors
- c) Phasing of treatment development
- d) Storage and pumping elements

3) Develop an organizational plan for expansion of Cascade activities

- a) Establish staffing levels, positions needed and timing of additions
- b) Estimate funding needed and cost/rate impacts

4) Initiate activities for Right-of-Way and franchise acquisition for Central and North segments

5) Work with Tacoma and Seattle to optimize value of regional interconnection and explore cooperative approaches to regional supply delivery

6) Integrate this strategy and these activities into the upcoming biennial budget

- a) Adapt the financial plan for the Tacoma supply scenario
 - i. Adjust the long-term CIP and RCFC to reflect this scenario
 - ii. Adjust rate and WSDF planning to reflect this scenario
- b) Incorporate study costs and initial staffing additions into the upcoming biennial budget

Major Project Delivery Activities for Tacoma and Seattle Proposals

(assumes Seattle's first 5-year extension not exercised)

Planning Work*

- Overall project planning
- Engineering planning assessment
- ROW, property acquisition
- Environmental review
- Permit analysis and application
- Staffing plan
- Financial planning

Project Delivery Prep*

- Continued planning and permitting
- Design management (including an operations lead to ID requirements)
- Procurement, contracting
- Project management & controls
- Stakeholder engagement
- Funding Assistance & Financing

Project Delivery

- Design
- Construction
- Commissioning
- Prep for operations and maintenance

*Cascade will need to bring on new staff and will begin to transition to a project delivery organization.

Estimated Project Delivery Timelines for Tacoma and Seattle Proposals

Tacoma (assumes 25-year contract with short-term supply 2060-65)



*Cascade will need to bring on new staff.

Estimated Project Delivery Timelines for Tacoma and Seattle Proposals

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*Cascade will need to bring on new staff.

Seattle (assumes first 5-year extension not exercised)



Real Property Summary

Central and North Segments	Public ROW	Cascade Owned or has Real Property Rights	Non-Public ROW and No Real Property Rights by Cascade
Length	12.75 miles	1.54 miles (8,127 ft.)	0.75 miles (3,965 ft.)
% of Length	85%	10%	5%
Degree of Risk	L	L	M
Degree of Control	M	H	L

Segment	Cascade Owned or has Real Property Rights (# of parcels)	Non-Public ROW and No Real Property Rights by Cascade (# of parcels)
Central	11	3
North	3	8
Total	14	11



Cascade Board Draft Schedule for Contract Deliberations and Decisions

	Q1			Q2			Q3			Q4			
	2024 Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov		2025
SPU and TPU Offers – Jan. 4 Special Board Mtg	■												
Member Governing Bodies Briefings	■	■											
New Board Member Onboarding and Briefings	■	■											
Regular Board Meetings - Contract Updates as Needed			■	■	■	■	■		■	■	■		
Board Direction on Contract for SEPA and Direction to CEO to Negotiate				■									
SEPA Responsible Official - preliminary research work	■	■	■										
SEPA Checklist Determination and Comment Period				■	■	■	■	■					
Contract Negotiations				■	■	■	■	■	■				
Board Authorization for Contract										■	■		