# Long Term Marketing Strategy Update: Contract Resolution

Shawn Smith

12/20/21

No Board action requested today.

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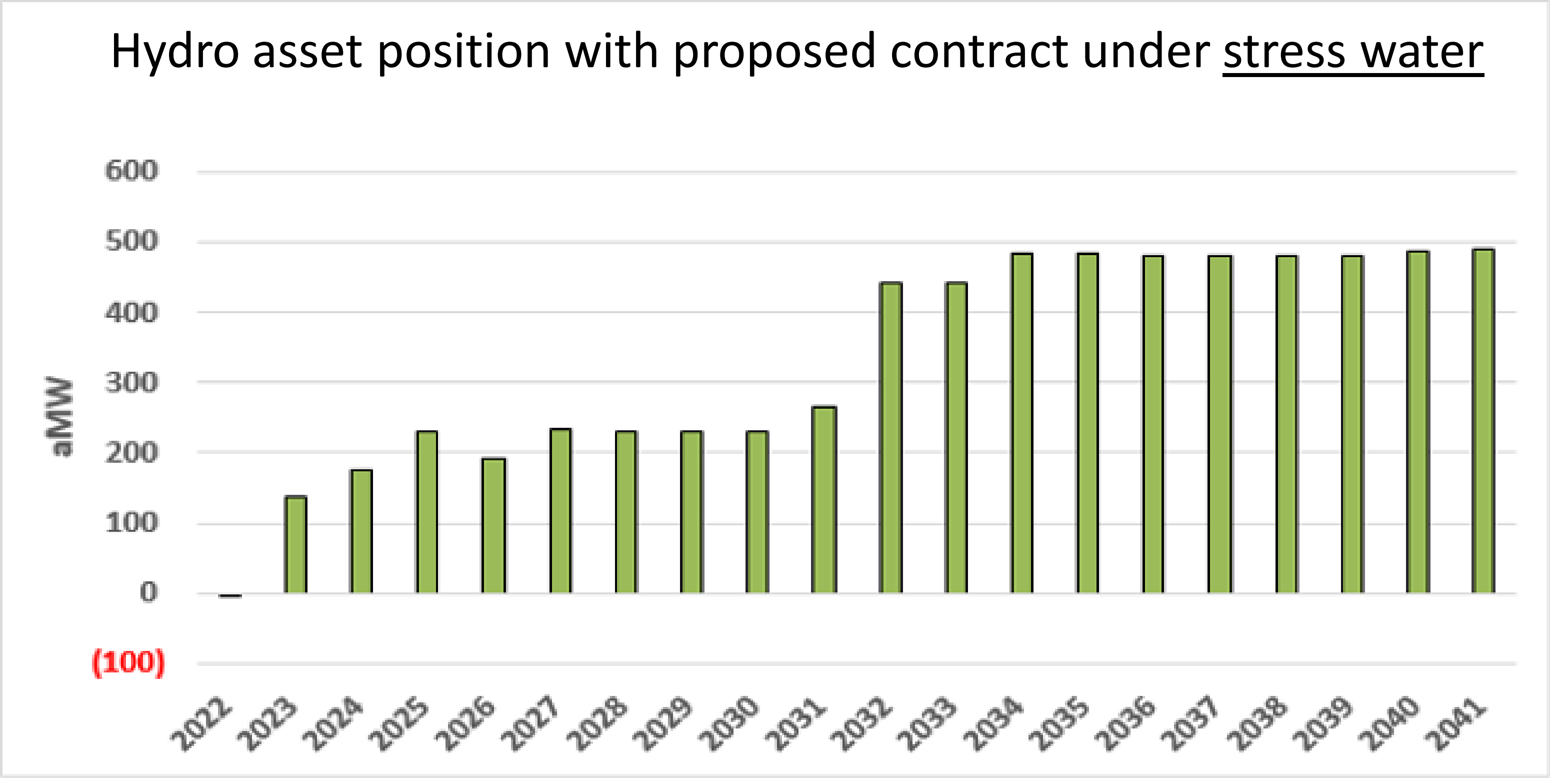
# Why We Are Here

- Update Board on long term marketing strategy cost of production plus (COP+) contract principles
- Introduce resolution seeking authorization to enter into a proposed power sales agreement that is consistent with the strategy
- Seek Board feedback
- Introduce resolution and provide at least 10 days before approval, consistent with state statute

# Portfolio Updates Adding COP+ Contract




- Sufficient inventory for local load growth and resource adequacy
- Flexibility to maintain long term marketing strategy percentages
- Diversify COP+ purchaser base

# COP+ Contract Highlights

- Proposed contract consistent with March 15 and July 6, 2021, Long Term Marketing Strategy Update Board presentations (Appendix) that covered
  - Portfolio Guiding Principles
  - Cost Plus Guiding Principles
  - Major Template Concepts
- Implementation of the contract principles, concepts, and path forward consistent with Board feedback and direction

# COP+ Contract Highlights

- Slice of System
  - "System" includes RR and RI
  - 20-year term
  - Up to 10% share 2026-2045
- Cost portions of the contract mimic the existing contract with modest updating
- Pricing is competitive, but below market for today's carbon-free energy and capacity markets without taking additional risk
- Added value represents roughly 30 percentage points above the "plus" value in the existing contracts because of today's carbon and capacity market increases

# Contract Highlights (cont.)

- Contract provides right to output consistent with operating requirements of RR/RI
- Purchaser takes risk of improved or degraded hydro capability from actions such as Columbia River Treaty entitlement return reductions or environmental regulatory impacts
- District retains:
  - All operational decisions
  - All investment decisions while providing a contribution to capital commensurate with the ratio of size of purchase to RR/RI capacity
  - Discretion to join EIM/RTO



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# Contract Highlights (cont.)

- Payment for a share of District costs for hydropower production
- Recovery of transmission costs
- Commitment to pay for capital consistent with existing contract
- Essentially the same provisions for capital and debt recovery charges
- Committing purchaser to support District in seeking to maintain and enhance the value of RR/RI

# Contract Highlights (cont.)

- If purchaser doesn't take power anymore, what happens?
  - While in default we can sell energy – keep surplus revenue, purchaser makes up deficiency
  - Collateral draw if market prices are not high enough
  - Roughly 3 months of operating and maintenance (O&M) costs
  - Option to terminate other agreements with purchaser

# Next Steps

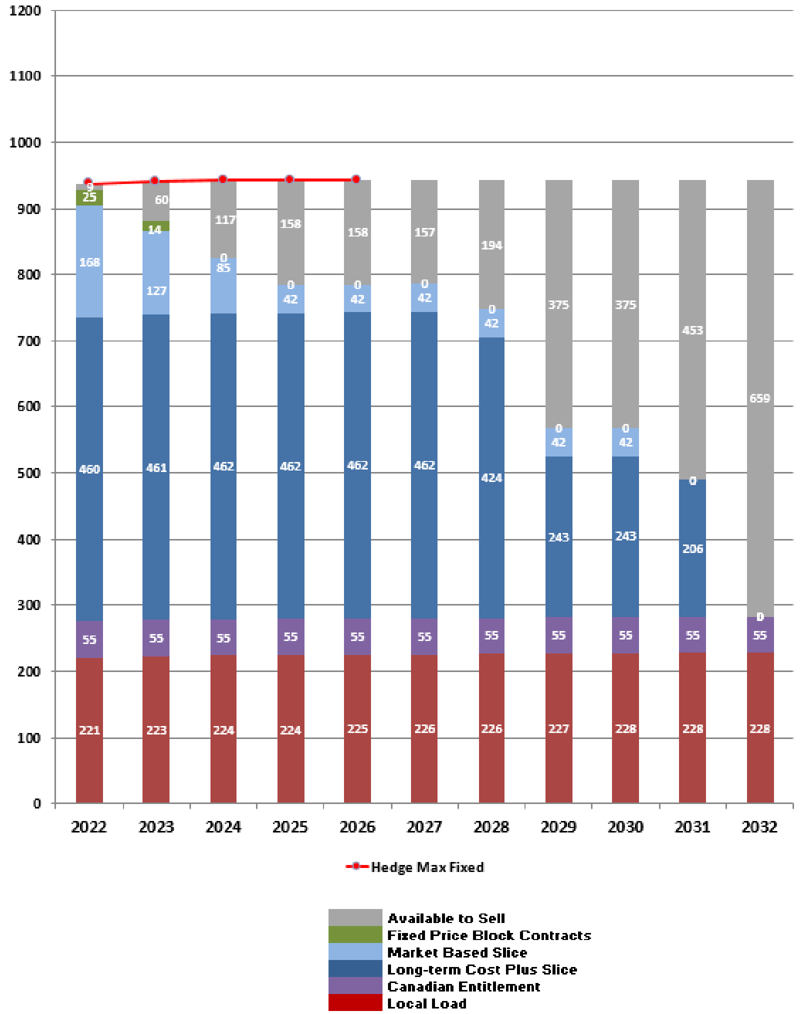
- Provide at least 10 days before resolution approval, consistent with state statute
- Return to Board requesting approval of resolution
- Current plan is Dec. 30, 2021

# Appendix

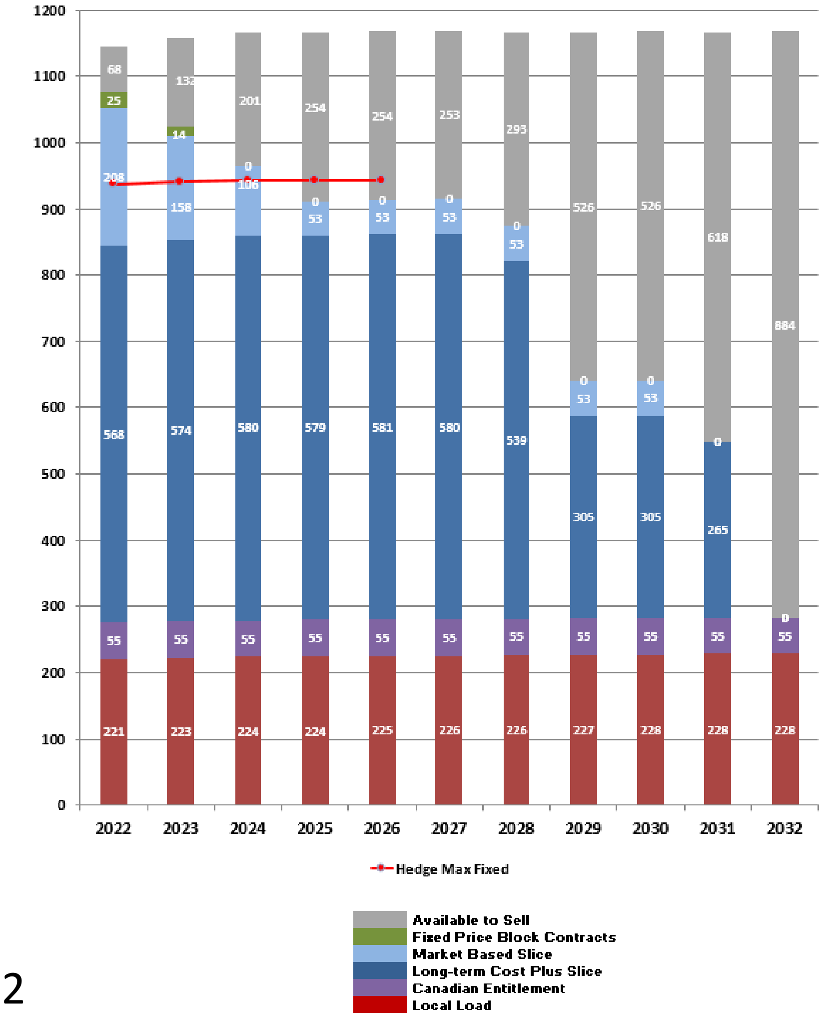
# Long-Term Marketing Strategy

# Chelan PUD Inventory

## Stressed Water




## Average Water



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# Marketing Overview

- Current Marketing 50/30/20:
  - After meeting retail load uncertainty, reserves and Canadian Entitlement obligations
  - 50% long-term cost based with upfront capacity reservation payment
  - 30% 5-10-year market-based slice contracts
  - 20% retail

Diversifies between cost-based and market-based contracts

# 50/30/20 Results

- Cost-based slice contracts produced steady margins, mitigate risk of rising hydro system costs
- Market-based slice contracts produced healthy revenues, amounts vary depending on wholesale market conditions
- Cost-based and market-based slice contracts reduce streamflow and outage risk
- Retail revenue increasingly separating from retail cost (net gap nearing 50%)
- Revenue 2020:
  - Market-based slice - $34.11/MWh
  - Cost-based slice - $29.46/MWh

# Situational Awareness

- Strategic plan seeking retail load growth for economic development with modest (<5%) retail impact
- Declining energy values, but increasing environmental and capacity values
  - Longer-term contracts likely to capture highest value
  - Capacity and environmental values may equal or exceed energy values in the future
- Increased volatility in energy markets - long periods of low energy prices interspersed with bursts of high prices
- Carbon and capacity may provide more stable revenues, but too early to tell

# Situational Awareness

- Retail load changes
  - Establishment of HDL rate allows retail load growth at cost of production. Rates established by PUD.
  - Roughly 1% (2 aMW) annual load growth due in part to energy efficiency programs cost-effectively keep retail load growth low
  - Have made progress to develop solar/green product to sell to a large retail load
  - Possibility of developing wholesale pricing options for large new loads in Chelan County
- Resource adequacy
  - Capacity value increasing
  - Uncertainty about how RA will be calculated
  - May increase Chelan's need to retain capacity
  - Reducing value of variable streamflow hydropower
- Independent hydropower operations impacts flexibility and value



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# Why Market Long-Term Now?

- End of existing long-term contracts in sight
- Market for longer term is good now
  - State mandates increase need for clean capacity
  - Current resource adequacy challenges
  - CETA drives planning now for post-2030
- Potential for government mandates may reduce hydropower value. Efforts to create renewable subsidy parity for hydropower unsuccessful so far.

# Contract Risks to Consider

- Reliance on short-term, market-based contracts
  - Market prices may decrease
    - Growth of solar/wind and decline of natural gas leads to low energy prices
    - Market structure doesn’t reward hydropower value
    - Resource adequacy standards and mandated use of storage (batteries) creates oversupply of capacity
  - Chelan output may decrease
    - Environmental restrictions limit output of Chelan dams
    - Natural disaster exposure (i.e., earthquake)
  - Revenue not tied to costs
  - Less likely to capture capacity value without longer term
- Reliance on long-term, cost-based contracts
  - Market value may increase
    - Growth of solar/wind and decline of natural gas leads to substantial clean capacity shortfall
    - Higher regulatory standards leads to increase in carbon value
    - Lack of technology development leads to increase in capacity value
  - Longer term contract captures more capacity value, but reduces flexibility for large retail load growth in Chelan County



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# Current Market Environment

| Market Segment | Segment Challenge |
|---|---|
| PNW IOUs | Procurement process |
| PNW publics | Not competing on price with BPA<br>Accustomed to supplier relationship with BPA |
| Marketers | Long-term counterparty risk |
| California utilities | Transmission access<br>Regulatory structure |
| External retail entities | Lack of retail access, would need partner |

Every option is on the table

# Should 50/30/20 Change?

- Growing retail loads for Economic Development
  - Not possible with current retail rate and still meet rate objectives
  - HDL rate is better than retail rate, but likely below current market value creating some impacts to retail rates. 5% rate limit based on constantly-changing market pricing.
  - May be possible to offer wholesale pricing to new Chelan County load using hydro priced the same as to wholesale market or allowing imported power
- Cost-plus, longer-term contracts
  - Provides combination of value (produces margin) and stability (revenues tied to PUD generation costs)
  - Pricing could be structured to capture more, but not all, of the difference between market and cost
  - Cost-plus contracts could be modified to require greater commitment by purchasers to support state/federal actions that affect hydropower value (Treaty, TMDL, oil, etc.)
- Market-based, shorter-term contracts
  - Potentially highest value, but more volatility
  - Could test market acceptance of longer (10-year) slice contracts to capture greater capacity value
  - Retains flexibility to translate market-based contract into retail sale

# Proposal ~40-50/20-30/20-30

- Cost-plus contracts (40-50%) – Maintain cost of production payment contract structure - make it above cost but below market. Could be made available for new large load in Chelan County.
- Market-based slice contracts (20-30%) – Explore extending term to 10 years. Amount of aMW could be reduced in future to serve unanticipated retail load growth.
- Retail loads (20-30%) – Assume to increase due to traditional load growth and some use of HDL. HDL use limited to no more than 5% retail rate impact.
  - Choose between reducing cost-plus and market-based slice to accommodate non-HDL load growth
  - Serve new large loads with Chelan hydropower at wholesale price/contract structure or green, non-Chelan supply
- Planning and operational reserves (taken off top)
  - Plan for stressed water conditions
  - Plan for resource adequacy requirements
  - Account for contingency reserves
  - Account for Columbia River Treaty commitments
- Protect against market volatility - create minimal exposure to being short
- Develop market for variable hydropower product



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# Actions

- Define principles and explore market for post-2027 Alcoa and post-2031 Puget using long-term, cost-plus terms
  - Include commitment to support hydropower (e.g. markets, tax/carbon policy, CRT)
  - Strong provisions Chelan controls investment (capital and O&M) decisions, strong credit provisions
  - Seek to capture a portion, but not all, of the difference between cost and projected market
- Explore market-based sales for 5-10 years
- Create room for retail economic development load growth (out of either slice and/or long-term contract allocations)
  - Keep retail rate impact to 5% or less due to serving economic development loads
- Plan to reduce market-based, 10-year or less, sales to accommodate unanticipated retail load growth
- Offer wholesale priced hydro and create solar/green product. Market to larger new loads.
- Develop market for variable streamflow product
- Retain small amount (1%) in short-term variable market for comparison purposes

# Chelan County PUD Portfolio Guiding Principles

1. Retain sufficient power for Chelan County's current and long-term needs for retail load growth for under 5 MW loads
2. Provide power products to support larger than 5 MW loads within strategic plan guidance to support economic development without raising retail rates by more than 5% cumulative related/resulting to/from economic development
3. Seek to provide adequate revenue to support stable and predictable retail rates that reasonably assures increases do not exceed inflation through 2035, while achieving strategic goals for hydro system capability, distribution reliability and safety
4. Create take or pay contract templates that will be used for all fixed market price and cost of production plus contracts for ease and consistency of administration and understanding
5. Have high assurance of not being short to meet District obligations during wholesale price spikes.
6. Provide a mix of fixed market price and cost of production based contracts that reduces streamflow and outage risk
7. Concentration of wholesale sales should be limited by counterparty and geography

# Chelan County PUD Cost of Production Guiding Principles

1. Maintain District flexibility and control of all operations and maintenance decision making for hydro systems and network transmission systems
2. Maintain District flexibility / control of all asset investment and financing decision making related to the District's hydro systems and network transmission systems
3. Ensure the costs of power reflect all costs of the District's production and delivery of energy, capacity and other ancillary services products
4. Include the ability to pay for capital improvements as we go as determined by the District
5. Ensure that all contractual commitments align with independent operations and potential future coordination
6. Cost of production contracts should include all costs associated with hydropower generation and transmission including contributions towards "pay as you go" capital investment and debt related costs
7. Ensure counter-party support on legislative and regulatory issues of mutual interest to protect and enhance the value of hydro and network transmission systems
8. "Future proof" the template to the extent possible regarding legislative and/or regulatory changes that could negatively impact, or enhance, the value of the District's finances and operations
9. Seek to capture a portion, but not all, of the difference between cost-based and market-based pricing creating value for the District's customer-owners and power purchasers to promote long-term collaborative partnerships and revenue stability

# Long Term Marketing Strategy Update: Cost Plus

Erik Wahlquist, Kelly Boyd, Kirk Hudson and Shawn Smith

7/6/21

No action is required

# Why We Are Here

- Follow up on Long Term Marketing Strategy (LTMS) efforts from 3/15/21 meeting re: Cost Plus Contract Template Development



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# 3/15/21 Presentation on LTMS

- Shift of 50/30/20 to 40-50/20-30/20-30 – cost plus/market/retail load
- Still significant emphasis on longer term Cost Plus Contract's
- Consistent with LTMS presentation – begin to implement Cost Plus work
- End of cost plus in sight –
  - Post 2028 for Alcoa
  - Post 2031 for Puget Sound Energy (PSE)
- Actions – Define principles and Explore Market for Post Alcoa/Puget
- Identified "cost plus working group" – broad cross section of District
  - Objectives:
    1. Review/Define principles – portfolio/cost plus
    2. Update cost plus contract template in preparation for negotiations
    3. Look at market opportunities for cost plus and begin discussions with interested counterparties

# Portfolio Guiding Principles

1. Retain sufficient power for Chelan County's current and long-term needs for retail load growth for under 5 MW loads.
2. Provide power products to support larger than 5 MW loads within strategic plan guidance to support economic development without raising retail rates by more than 5% cumulative related/resulting to/from economic development
3. Seek to provide adequate revenue to support stable and predictable retail rates that reasonably assures increases do not exceed inflation through 2035, while achieving strategic goals for hydro system capability, distribution reliability and safety
4. Create take or pay contract "templates" that will be used for all fixed market price and cost of production plus contracts for ease and consistency of administration and understanding
5. Have high assurance of not being short to meet District obligations during wholesale price spikes
6. Provide a strategic mix of fixed market price and cost of production based contracts that reduces streamflow and outage risk
7. Concentration of wholesale sales should be diversified by counterparty and geography

# Cost Plus Contract Guiding Principles

1. Maintain District flexibility and control of all operations and maintenance decision making for hydro systems and network transmission systems
2. Maintain District flexibility and control of all asset investment and financing decision making related to the District's hydro systems and network transmission systems
3. Ensure the costs of power reflect all costs of the District's production and delivery of energy, capacity and other ancillary services products
4. Include the ability to pay for capital improvements as we go as determined by the District
5. Ensure that all contractual commitments align with independent operations and potential future coordination
6. Cost of production contracts should include all costs associated with hydropower generation and transmission including contributions towards "pay as you go" capital investment and debt related costs
7. Ensure counter-party support on legislative and regulatory issues of mutual interest to protect and enhance the value of hydro and network transmission systems
8. "Future proof" the template to the extent possible regarding legislative and/or regulatory changes that could negatively impact, or enhance, the value of the District's finances and operations
9. Seek to capture a portion, but not all, of the difference between cost-based and market-based pricing creating value for the District's customer-owners and power purchasers to promote long-term collaborative partnerships and revenue stability



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# Cost Plus Contract Template Update

- Want to keep you updated on our progress along the way
- Started with the PSE cost plus contract and continued template approach from Board Resolution 06-12830
- Task to update the template terms with guiding principles in mind
- Developed "working team" comprised of Energy Resources, Finance, Risk and Middle Office, Legal, Generation, Transmission
  - Completed bulk of work end of May
  - Some work left to do:
    1. "Punch list" items for cleanup and references
    2. Consult with internal subject matter experts (SMEs) – Treasury, Strategic Financial Planning, Accounting/Taxes
    3. Consult with outside resources – including legal and marketing
- Have begun to share drafts with interested potential counterparties

# Benefits of Cost Plus

| Benefit | District | Purchaser |
|---|---|---|
| 1. Hedge against market | X | X |
| 2. Keeps interests aligned between District & Purchaser | | |
| a. Ensures cost recovery | X | X |
| b. Columbia River Treaty | X | X |
| c. Relicensing | X | X |
| d. Hydro value – provides and preserves economic and environmental value of hydro for region (dam removal, renewables/carbon free, climate, environmental) | X | X |
| 3. Lock in value of hydro for parties (environmental attributes, capacity and carbon) | X | X |
| 4. Protects District against purchasers walking away from or selling contract | X | |
| 5. Provides for significant market structure changes, RTO, EIM | X | X |
| 6. Provide Resource Adequacy value to purchaser | | X |
| 7. Provides capacity, pond, and storage value | X | X |
| 8. Provides a below market price product | | X |
| 9. District is covered against steamflow, outage and cost risk | X | |



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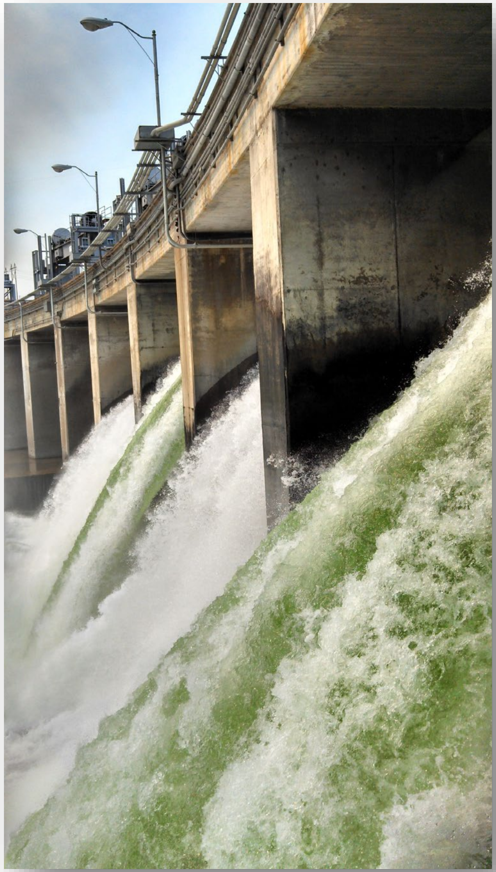
# Major Template Concepts

1. Contemplates Slice of System – like we have now
   a. "System" includes RR and RI
   b. Flexibility as to percentage share
   c. Targeting 20 years duration
   d. Thinking about concentration issues – volumetric/geographic





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# Major Template Concepts

2. Take or Pay Obligation
   a. Counterparty to pay share of costs equal to the slice percentage regardless of actual amount of Output produced or received
   b. No guarantee of amount of Output produced (but much higher capacity value than other carbon free resources)
   c. District retains right and discretion to interrupt service or curtail output for operational and reliability reasons
   d. Clear that the amount of Output produced is subject to limiting conditions, including, but not limited to:
      i. Availability of water
      ii. Operability of units
      iii. Reliability requirements
      iv. Compliance requirements and commitments
      v. Jurisdictional laws, regulations, rules and/or orders
   e. Output delivered to "points of delivery" on the edge of District system

# Major Template Concepts

3. Output –
   a. Includes deliverable slice percentage of energy produced, net of adjustments for:
      i. Encroachment obligations
      ii. Transmission losses
      iii. Columbia River Treaty obligations/Canadian Entitlement
      iv. Other agreements and obligations – FERC Licenses, coordinating agreements, habitat conservation plans, etc.
   b. Capacity
   c. Pond/Storage
   d. Environmental Attributes

# Major Template Concepts

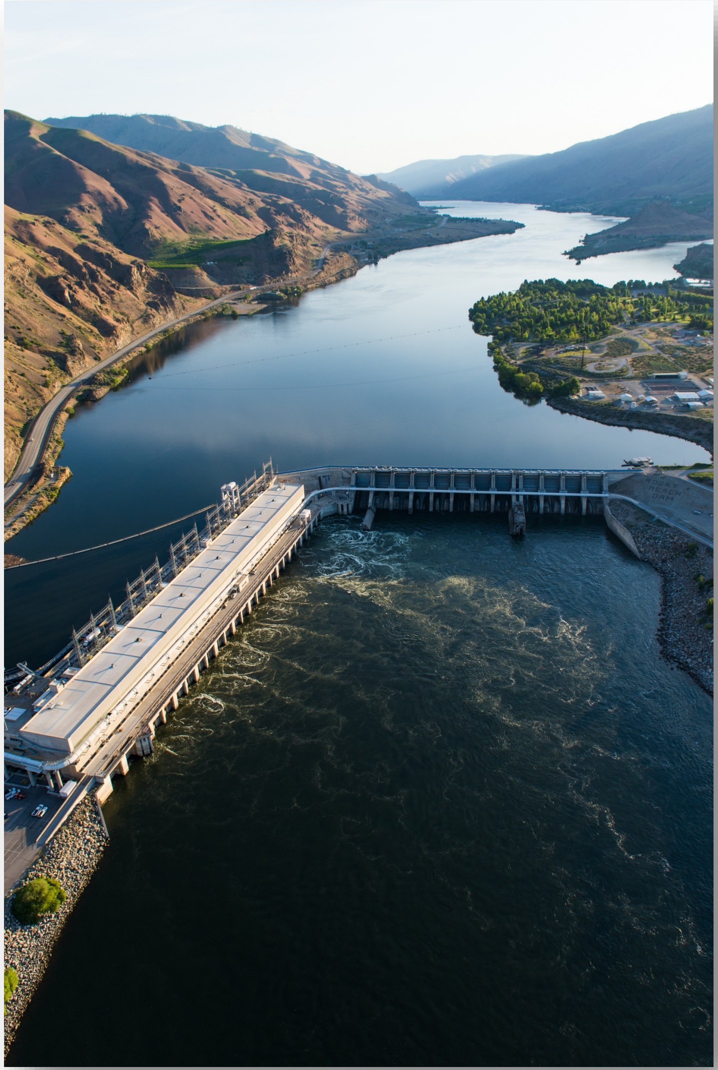
4. Cost Plus Pricing
   a. Costs - Purchaser to pay share of costs equal to percentage of all costs and expenses of any kind, direct and indirect, paid or accrued by the District with respect to its ownership, operation, maintenance, repair and improvement of and the production, sale and delivery of output, including:
      i. Operation and Maintenance
      ii. Working capital
      iii. Coverage Fund
      iv. Capital recovery
      v. Debt reduction
      vi. Transmission charges
   b. "Plus" – The additional amount to be paid not tied to District costs representing the additional hydro values
      i. Fixed annual charge

# Major Template Concepts

5. Operational Control
   a. District retains right to make all operational decisions in its sole discretion using prudent utility practices
6. Payments –
   a. Fixed Annual Charge –
      i. Payable monthly in 12 equal installments
      ii. Working on calculations with consultant assistance
      iii. represents value of environmental attributes, capacity, carbon and other non-energy elements of Output
   b. Working Capital Charge –
      i. Due on project availability date
      ii. Roughly 3 months of operating and maintenance (O&M) costs
      iii. Used to pay for O&M prior to purchaser payments
      iv. Annual charge to increase with inflation

# Major Template Concepts

6. Payments – cont.
   c. Net Costs
      i. Paid monthly
      ii. Calculated by district based on actual O&M and taxes and defined debt service
   d. Coverage fund charge
      i. Due on availability date
      ii. To provide coverage for debt obligations
      iii. Calculated based on 15% of highest annual principal and interest and reset if needed when new debt issued
   e. Transmission charges
      i. Monthly
      ii. Per transmission tariff





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# Major Template Concepts

6. Payments – cont.
   f. Debt reduction charge (DRC)
      i. Paid monthly
      ii. Calculated annually
      iii. 3% of total debt obligations at beginning of year
      iv. Used for fund capital improvements or pay down hydro debt
      v. Charge may be limited in last 5 years of contract based on unspent DRC fund balance
   g. Capital recovery charge (CRC)
      i. Paid monthly
      ii. Calculated annually
      iii. 50% of capital base (30-yr average annual capital improvements) increased annually for inflation
      iv. Used to fund capital improvements or pay down hydro debt
      v. Charge may be limited in last 5 years of contract based on unspent CRC fund balance
   h. Debt admin charge
      i. Paid monthly
      ii. Calculated annually
      iii. Percentage charge based on purchaser’s credit rating
      iv. Recognize District’s high credit rating and administration of debt portfolio



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# Major Template Concepts

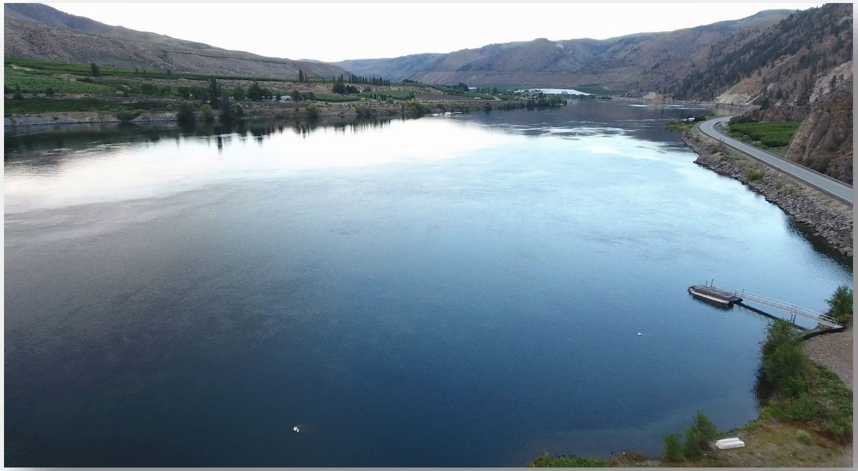
6. Payments – cont.
   i. District may use funds for any lawful purpose when not specified
   j. District retains funds at termination
   k. Purchaser pays own taxes associated with purchase

# Major Template Concepts

7. Miscellaneous Provisions
   a. EIM/RTO – District has discretion to join. Costs shared with purchaser proportionate to share. Purchaser's Output subject to terms of EIM/RTO agreement.
   b. Columbia River Treaty and Canadian Entitlement – purchaser allocated their contribution proportionate to share
   c. No interest in system – purchaser has no ownership rights in District system or assets
   d. Assignment – no assignment without consent
   e. Collateral – added collateral annex similar to market-based slice contracts

# Major Template Concepts

7. Miscellaneous Provisions, cont.
   f. Support and Cooperation – purchaser must support
      i. Relicensing
      ii. Columbia River Treaty
      iii. Regulations
      iv. Hydro value



   g. Insurance
      i. Required
      ii. Self insurance suffices
   h. Default and Termination
      i. Well defined reasons
      ii. District discretion to declare
      iii. Remedies at District election
      iv. While in default we can sell – keep surplus – purchaser makes up deficiency
      v. One way termination – District's discretion

# Next Steps

- Share template concepts in draft with interested potential Counterparties
- Complete remaining work
- Develop final costs estimates and calculations for specific charges
- Finalize concentration limits
- If successful – back with agreement in principle and seek Board feedback