Cowlitz Restoration and Recovery Program (CRR Program)

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Natural Resources / Generation Public Utility Board – Study Session *April 24, 2019*



Today's Discussion

- In Lieu of Fish Passage Decision
- Cowlitz Restoration and Recovery Program (CRR)
- Proposed CRR implementation Strategy
- Principles of the PUB Resolution to enable the CRR



Upstream Fish Passage – Hotly Contested

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Cowlitz Tribe and Friends of the Cowlitz

- Wanted "gravel to gravel" fish passage
- Fish Ladders or Elevators
- Many Failed Fish Ladders in Northwest (e.g. Deschutes River)
- Industry was moving towards Trap and Haul



Bonneville Ladder

Pelton Ladder



Resulting FERC License Article Upstream Fish Passage

March 2002, FERC License Issuance

Requires trap and haul and/or volitional passage

In Lieu of Fish Passage

- Place \$15 million into an Interest bearing account by 2003
- Conduct Fish Survival Studies for 14 years







CRR Program Development Timeline





CRR Requirements

Fund Recovery of Endangered Species Act-listed salmon and steelhead in the upper basin:

- Habitat restoration and protection projects
- Hatchery-associated production projects







Habitat Restoration and Protection





Hatchery-Associated Production Examples





CRR Program Elements

- Grant based
- Uses existing state processes to select projects
- Promotes and maintains <u>partnerships</u>
- Encourages sustainability
- Considers value of hatchery programs along side habitat programs



Grant Program



washington state recreation and conservation office Salmon Recovery Funding Board

Leverage existing Fish Habitat Program

Salmon Recovery Funding Board Process (SRFB)

- ✓ Funds fish habitat projects for Washington State
- ✓ Annual open solicitation process
- ✓ Relies on Lead Entities to conduct technical reviews

Lower Columbia Fish Recovery Board

- ✓ Lead Entity for the Cowlitz River
- ✓ Created Salmon and Steelhead Recovery Plans
- Composed of local governments, tribes and natural resource management agencies
- Proposed projects go through rigorous technical review and ranking
- ✓ Agreed to incorporate Tacoma Habitat Projects





Habitat Project Selection

Criteria include:

Fit to Salmon Recovery Strategy

✓ Alignment with recovery plan

Certainty of Success

- ✓ Scope and approach
- ✓ Coordination, sequence of events, uncertainties
- ✓ Qualifications, community support and stewardship

Benefit to Fish

- ✓ Target population & stream reach
- ✓ Protection, access and restoration

Cost & Benefit

- ✓ Reasonable cost
- ✓ Match greater than 15%





Grant Program Benefits

Tacoma's CCR Fund has grown to \$17.8 M

Expands SRFB Program in Cowlitz Basin

- ✓ Matching funds for SRFB projects 15% minimum
- ✓ Encouraging larger more comprehensive projects

Projects have demonstrated regional support

- ✓ Fosters partnerships
- Program coordination

Considers hatchery-related projects

✓ Not in SRFB process





🖕 COWLITZ INDIAN TRIBE













Grant Program

Novel Hatchery Production Program

Hatchery Associated Production Team (HAP)

- ✓ WDFW & Tacoma Power soliciting NOAA and Tribes
- ✓ Use selection criteria and rank
- ✓ Make recommendation to FTC-CRR Subcommittee

Fisheries Technical Committee's – CRR Subcommittee

 Assure LCFRB and HAP recommendation are in alignment with our priorities

Fisheries Technical Committee

- ✓ Reviews and agree on final list
- ✓ Created Cowlitz Salmon and Steelhead Recovery Plans



Sustainable Use of Funds

Anticipate expenditure rate of \$2-3 million per biennium

- Funds budgeted as part of biennial budget process
- Allows for development of high-quality, large multi-year projects
- Promotes ecosystem enhancement economy
- Ensures sustainable funding for sponsor organizations

Ability to fund large projects exceeding \$3 million

- Example: land procurement project
- Requires additional Board approval





Program Administration

Board Approve Biennial Budget

- Typically \$3 million
- **Project Selection Process:**
 - Cowlitz Fisheries Technical Committee and the Lower Columbia Fish Recovery Board
 - Technical merit and FERC directives
- **TPU Director Executes Contracts**
 - Fund projects selected by FTC





TPU Director Delegation Rational

Benefit

- ✓ FTC authorized by FERC to select projects
- Limits project proponent motivation to escalate and create controversy for Tacoma
- ✓ Avoids disruption to extensive selection process
- Risk
 - ✓ Tacoma lose control over Habitat vs. Hatchery project selection process
 - ✓ Administrative and/or legal constraints
 - ✓ Board approves funds, not the work or contractor



Accountability

Annual presentation to the Board

- All new and currently funded CRR projects
- Anticipated expenditure rate of funds for upcoming year
- Program changes





Project Review and Approval Process



PUB Resolution Principles Enabling CRR

- CRR Program is grant-based
- Funding rate constrained to \$3 million per biennium unless special approval from the Board
- TPU Director is delegated signature authority for grantee contracts
- Board oversight occurs as part of an annual program report





Tacoma Public Utilifish

SurvivetheSound.org: May 6-10



Tacoma Power

Energy Risk Management/Operations & Trading Update

Ying Hall Energy Risk Manager

Todd Lloyd Assistant Power Manager, Resource Operations & Trading



Resource Operations & Trading

Section 1

Graph 1: Tacoma System Flows Have Been Below Adverse



(Tacoma System Hydro Flows, Water Year 1929 – 2019)

Graph 2: Federal System Flows Have Been Below Average



(Federal System Hydro Flows, Water Year 1961 – 2019)

Graph 3: Last 10 Years of Flows Have Been Good

(Tacoma System Flows Annual Avg., Water Year 1929 - 2019)



Graph 4: Current Snowpack is Below Average

(Current Snowpack Conditions, % of Normal)



Graph 5: Current Cowlitz Elevation Is Well Below Normal

(Cowlitz Elevation, Current vs. Historic)



Graph 6: Market Prices Have Been Above Budget Since Q3'18 (Market vs. Budget Prices, 2018 – 2022)



Graph 7: We've Been Selling Less than Budgeted, Purchasing More



Wholesale Net Revenues

Section 2

Wholesale Net Revenues

Graph 8: Q1'19 Actuals Below Budget, But Still Have Time to Recover

(Cumulative Actual vs. Budget Wholesale Net Revenues, 2019 - 2020)



Wholesale Net Revenues

Graph 9: Estimated 70% Probability of Making Budget (Risk Model Simulation of Biennial Net Revenues, 2019 – 2020)



Wholesale Net Revenues

Graph 10: \$6M Below Budget Due to Poor Hydro, Purchases

(Cumulative Wholesale Net Revenue Variance, Jan – Mar 2019)



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Hedging Program & Credit Risk Management

Section 3

Hedging Program

Overview

Hedging Program Objective

A hedging program is part of Tacoma Power's energy risk management policy.

The objective of the hedging program is to:

- ✓ Stabilize net revenues from wholesale operations
- Protect against very low wholesale revenue outcomes

Hedging Program Design

The hedging policy enforces dollar cost averaging of surplus sales and prohibits holding deficit positions.

The program has a two year horizon, and utilizes physical forward contracts.

Allowable hedge ratio governed by "hedging bands" that:

- ✓ Limit the maximum amount hedged far into the future
- Require progressively more surplus be hedged as time to delivery gets closer

Hedging Program

Graph 11: Current Hedging Program Performance Is Not Typical (Hedging Program, 2017 – 2020)



Credit Risk Management

Overview

Background

- Tacoma Power frequently sells electricity to wholesale trading partners or "counterparties"
- ✓ Tacoma Power incurs credit exposure money that the utility could lose in the event of a counterparty default

Credit Risk Management Program

Tacoma Power manages credit risk by:

- Extending credit to investment grade counterparties only
- ✓ Setting exposure limits based on creditworthiness
- ✓ Daily monitoring of credit quality
- ✓ Daily monitoring of exposure
- Actions include stopping trading with a specific counterparty, requesting collateralization

Wholesale Credit Exposures

Graph 12: Current Credit Exposures Are Low

(Top 15 Counterparty Credit Exposures)

Rank	Counterparty	Internal Model Rating	Letter of Credit Collateral	Loss in Event of Default
1	Brookfield Energy Marketing LP	BBB-	\$2,500,000	\$0
2	Sacramento Municipal Utility District	AA-		\$679,071
3	Avangrid Renewables, LLC	A-		\$454,728
4	Puget Sound Energy, Inc.	BBB		\$405,158
5	Portland General Electric Co.	BBB		\$385,565
6	Calpine Corporation	B+	\$2,750,000	\$0
7	Exelon Generation Company, LLC	BBB+		\$237,444
8	Morgan Stanley Capital Group, Inc.	A+		\$225,626
9	EDF Trading Limited	BBB+		\$171,121
10	Powerex Corp.	A+		\$34,793
11	BP Energy Company	A-		\$19,040
12	DTE Energy Company	BBB		\$10,000
13	Eugene Water & Electric Board	AA-		\$4,769
14	CP Energy Marketing Inc.	BBB+		\$3,600
15	Black Hills Power, Inc.	A-		\$1,025