

# EIM OFFER RULES WORKSHOP Default Energy Bids Yochi Zakai | April 30, 2018



Total generation capacity is over 2,014 MW All owned generation is hydroelectric

Cascading hydroelectric system with multiple dams including different operational restrictions

Multiple plants in multiple basins



## INPUTS AND OPERATING CONSTRAINTS

- Inflow forecasts
- Flood control
- Flow and ramp constraints to support fish habitat for multiple species
- Total dissolved gas constraints

- Reservoir managed for recreation
- Cascading hydro system coordination requires management of each of these inputs and variables for multiple dams, reservoirs, and river systems.



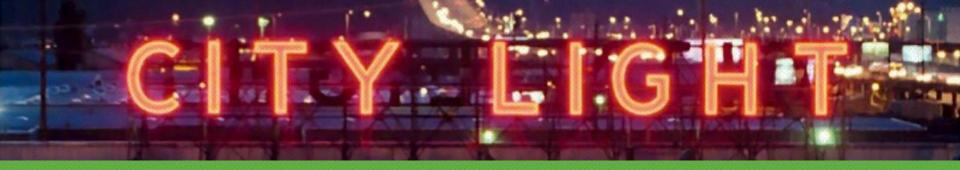
### ESTIMATES OF VALUE A MOVING TARGET

- Estimates of value include all of the previous inputs and constraints, plus estimates of future:
  - inflows, constraints, reservoir levels, precipitation and its characteristics, snowpack, snowmelt, loads, prices in various bilateral and organized markets
- Load service comes first, only residual capacity sold into other markets



- Operating costs are not sufficient to reflect Seattle's marginal opportunity costs in bilateral markets.
- It is problematic to have water used and reservoirs depleted for generation in hours when Seattle would choose not to generate.
- The value of water changes over the course of a day; a fixed daily value presents challenges as a reasonable estimation of marginal opportunity cost.
- It would be very challenging for any third party to come up with a formula or number that will match a hydroelectric operator's valuation of its water.





#### **OUR MISSION**

Seattle City Light is dedicated to delivering customers affordable, reliable and environmentally responsible electricity services.

#### **OUR VISION**

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We resolve to provide a positive, fulfilling and engaging experience for our employees. We will expect and reinforce leadership behaviors that contribute to that culture. Our workforce is the foundation upon which we achieve our public service goals and will reflect the diversity of the community we serve.

We strive to improve quality of life by understanding and answering the needs of our customers. We aim to provide more opportunities to those with fewer resources and will protect the well-being and safety of the public.

We aspire to be the nation's greenest utility by fulfilling our mission in an environmentally and socially responsible manner.

#### **OUR VALUES** Safety, Environmental Stewardship, Innovation, Excellence, Customer Care

