DEVELOPING A CRYPTOCURRENCY RATE CLASS

JULY 9, 2018

Today's discussion

- Challenges of existing Schedule 35 definition

- Characteristics of cryptocurrency and similar loads
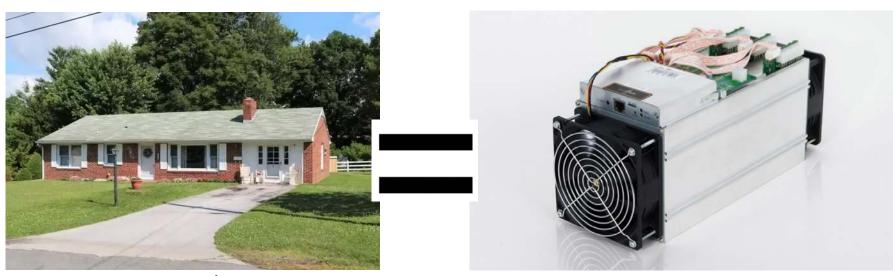
- Draft definition for new rate class

Information & discussion only
No Board action required today

Schedule 35 – Jan. 1, 2017

AVAILABILITY: This Schedule applies to server farms and similar technological operations with an energy use intensity (EUI) of 250 kWh/ft2/year or more and with average electrical loads up to and including 5 annual aMWs at a single Point of Delivery, where:

- "Energy Use Intensity" or "EUI" means the annual kilowatt-hours of Energy usage divided by the operating space square footage used by the Energy consuming activity as determined by the District; and

- "Server farm" means an entity whose Energy use serves mostly one or more computer server machines and any ancillary loads including HVAC, UPS, power systems, and lighting.

Energy Use Equivalent

Average US home

An ASIC machine

Major Characteristics of Cryptocurrency and Similar Loads

- ✓ High energy use density,
- ✓ High load factor,
- ✓ Requires abnormal alterations to Electric Service Facilities in order to maintain safety,
- ✓ Units of load that are portable and distributable,
- ✓ Volatile load growth and load reduction as an individual customer and in aggregate with similar customers in the District's service area,
- ✓ Able to relocate quickly in response to short-term economic signals,
- ✓ High exposure to volatile commodity or asset prices, or
- ✓ Part of an industry with potential to become a large concentration of power demand in the District's service area.

Challenges & Costs of Cryptocurrency and Similar Loads

- Risk of not recovering costs of new infrastructure over long-term due to volatility and unpredictability

- Risk of stranded assets due to volatility and unpredictability

- Premature aging of line and transformer capacity caused by heat from high load factor

- Reliability and safety where excessive load damages equipment

- Planning for load growth over time due to volatility and unpredictability

- Long-term energy resources planning, including hedging and marketing strategies due to volatility and unpredictability

- Availability of transmission and distribution capacity both for cryptocurrency loads and for organic (traditional) load growth due to tendency to seek all available capacity

- Delaying of certain District Performance Plan goals caused by stretching staff resources across the PUD to address these issues

Draft New Class Definition

Cryptocurrency and Blockchain Processing and Similar Loads

This Schedule applies to any amount of computing or data processing load related to cryptocurrency mining, Bitcoin, blockchain, proof-of-work or other loads having, in the District's determination, similar characteristics including any of the following: high energy use density, high load factor, requires abnormal alterations to Electric Service Facilities in order to maintain safety, units of load that are portable and distributable, volatile load growth and load reduction as an individual customer and in aggregate with similar customers in the District's service area, able to relocate quickly in response to short-term economic signals, high exposure to volatile commodity or asset prices, or part of an industry with potential to become a large concentration of power demand in the District's service area.

Next Steps

- Staff recommends continuing development of a new rate schedule for Cryptocurrency and Blockchain Processing and Similar Loads, using the draft definition, with differences from Schedule 35 – High Density Load including:

    - Eliminating the EUI threshold

    - Specifying characteristics of impact that would constitute a "similar load"

- Next Board update: July 23, 2018

- Next Moratorium Hearing: August 6, 2018